



**UNDERGRADUATE
CATALOG**

2020–2022

The University of Texas at San Antonio™

June 2020

Spring 2020 Addendum Due to COVID-19

April 14, 2020. Updated April 2022.

Spring break was extended by one week to March 21, 2020. All courses were taught online when classes resumed after spring break.

Course Drops

The Spring 2020 deadline to drop a course is April 13, 2020.

All courses dropped in the Spring 2020 semester will be considered “non-academic” and will not count toward the students’ six-drop limit.

Students will receive a grade of “W” for courses dropped in Spring 2020.

Instructor-Initiated Drops

The Instructor-Initiated Drop process will be suspended for Spring 2020.

Spring 2020 Adjustments to the CR/NC Option

UTSA will adopt an optional Credit/No Credit (CR/NC) "pass/fail" grading system for undergraduate and graduate courses for the Spring 2020 semester. The process is as follows:

- Each faculty instructor will determine if his or her course (not section) is suitable for a CR/NC grade (i.e., "pass/fail").
- Students will be notified the week of April 6–10 by your instructor whether their course has been designated as eligible for this grading option.
- Finally, for those designated courses, beginning April 20, 2020, each student will decide whether they want to receive a letter grade or CR/NC for the course; the tentative deadline to make this decision is May 8, 2020, by 5 p.m. CST, the last day of classes. If a student does not respond, the default will be the traditional grading scale.

Spring 2020 Policies

During the spring semester, student coursework and examinations, etc. will continue to be graded in the traditional format (A, B, C, etc.), the traditional final grade will be posted in Blackboard.

For Undergraduate students, Credit/no-credit courses appear on the permanent record as a grade of “CR” if the student’s grade is an “A+,” “A,” “A-,” “B+,” “B,” “B-,” “C+,” “C,” “C-,” “D+,” “D,” or “D-” or as a grade of “NC” if the student’s grade is “F.” For Graduate students, Credit/no-credit courses appear on the permanent record as a grade of “CR” if the student’s grade is an “A+,” “A,” “A-,” “B+,” “B,” “B-,” “C+,” “C” or as a grade of “NC” if the student’s grade is “C-,” “D+,” “D,” or “D-,” “F.”

Both “CR” and “NC” grades will not be computed into the students’ grade point average.

Students earning an “CR” grade will receive the course credit(s), and the CR grade will not be computed into grade point average.

Students earning a “NC” grade will not receive the course credit(s), but the NC grade will not be computed into grade point average.

A grade of “CR” in a course will be considered successful completion of the course, including counting the course towards the core curriculum and degree requirements, as well as satisfying prerequisites for sequel courses.

CR/NC does not impact academic standing. A student’s academic standing is suspended for the Spring 2020 term; therefore, it will not impact academic warning, probation or dismissal student’s status. Students who are graduating in Spring 2020 must still meet the UTSA overall GPA of 2.0 and degree requirements.

A “NC” grade will not be counted as an attempt for a Gateway course.

Transfer students who transfer to UTSA for their last 30 semester credit hours may count the UTSA Spring 2020 credit/no-credit courses toward their 30-hour minimum UTSA residency requirement.

In order to be eligible for Dean’s or President’s list, students must earn a letter grade for all Spring 2020 courses and cannot opt-in for CR/NC “pass/fail” for any course.

Credit in Honors College courses for Spring 2020 will count toward meeting Honors College requirements, though in some instances (contracts and non-HON prefixed courses) the honors designation may not appear on the transcript. The cumulative GPA for Good Standing depends on the student’s specific Honors College program.

A course taken for credit/no-credit may not replace a letter grade.

The credit/no-credit option is not available if the student has previously received a letter grade in a course.

Students who are unsatisfied with any of their final grades may file a grade appeal in accordance with the regular University policy.

How to opt-in for CR/NC “pass/fail” for a class

Students will see the course(s) with CR/NC “pass/fail” option in ASAP and will need to make their choice to opt-in by 5 p.m. CST, May 8, 2020, the last day of classes; otherwise, they will receive the traditional letter grade you earned.

Academic Standing and CR/NC

A student’s academic standing is suspended for the current Spring 2020; therefore, it will not impact academic warning, probation or dismissal status for students. Students who are graduating in Spring 2020 must still meet the UTSA overall GPA of 2.0 and meet major requirements.

Student repeating a course to replace the grade

Students should not opt-in for the CR/NC “pass/fail” option for a class which is being repeated because it will not replace a letter grade.

Gateway Course Policy

The Gateway Course policy will not be enforced for “NC” grades for Spring 2020.

Updates

The Gateway Course process of removing students from their major after two failed attempts at a Gateway Course was suspended through Summer 2022.

The Instructor-Initiated Drop process was suspended through Summer 2022.

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UNDERGRADUATE CATALOG

2020–2022

The University of Texas at San Antonio

Published June 29, 2020

The online version of The University of Texas at San Antonio Undergraduate Catalog is the official version. This catalog was last updated on October 20, 2021 (p. 4).

Disclaimer

The provisions of this document do not constitute a contract, expressed or implied, between any applicant, student, staff or faculty member and The University of Texas at San Antonio or The University of Texas System. This document is a general information publication only, and it does not contain all regulations that relate to students.

The University of Texas at San Antonio reserves the right to withdraw courses at any time and to change fees, tuition, rules, calendar, curriculum, degree programs, degree requirements, graduation procedures, and any other requirement affecting students, staff and faculty. The policies, regulations, and procedures stated in this catalog are subject to change without prior notice, and changes become effective whenever the appropriate authorities so determine and may apply to both prospective students and those already enrolled. University policies are required to be consistent with policies adopted by the Board of Regents of The University of Texas System and are in compliance with state and federal laws.

Students are held individually responsible for meeting all requirements as determined by The University of Texas at San Antonio and The University of Texas System. Failure to read and comply with policies, regulations, and procedures will not exempt a student from whatever sanctions and/or penalties they may incur.

Students should refer to *UTSA Student Policies* for additional policies, procedures, and information directly related to their enrollment at UTSA.

Oct. 20, 2021: Added Certificate in Public Policy and Data Analysis (p. 158).

Sept. 1, 2021: The B.B.A. in Management Science renamed B.B.A in Operations and Supply Chain Management (p. 58).

Sept. 1, 2021: The B.A. and B.S. in Geology were renamed to Geosciences (p. 270).

Sept. 1, 2021: The Department of Geological Sciences was renamed Earth and Planetary Sciences (p. 270).

June 2, 2021: Added Certificate in Data Science (p. 297).

Nov. 2, 2020: Added Certificate in Heating, Ventilation and Air-Conditioning (p. 132).

Oct. 22, 2020: Added 100 percent online option for B.A. degree in Communication (see Online Degree Programs (p. 19)).

Oct. 22, 2020: Added Data Science (DS) courses (p. 378).

GENERAL INFORMATION

The University's Main Campus address is The University of Texas at San Antonio, One UTSA Circle, San Antonio, TX 78249. The address of the Downtown Campus is 501 César E. Chávez Boulevard, San Antonio, Texas 78207. The main telephone number is (210) 458-4011. Visit UTSA on the Web at www.utsa.edu.

The Alma Mater

"Hail UTSA"

From our hills of oak and cedar
To the Alamo,
Voices raised will echo
As, in song, our praises flow.
Hail Alma Mater!
Through the years our loyalty will grow.
The University of Texas
San Antonio.

The Mascot

The roadrunner, a bird representative of the Texas Hill Country and the Southwest, was voted the UTSA mascot in 1977.

The School Colors

Official colors of The University of Texas System are orange and white. Upon recommendation from the UTSA Student Representative Assembly, the Board of Regents approved the addition of blue to the orange and white for UTSA's school colors.

Statement of Equal Educational Opportunity

No person shall be excluded from participation in, denied the benefits of, or be subject to discrimination under any program or activity sponsored or conducted by The University of Texas System or any of its component institutions on any basis prohibited by applicable law, including, but not limited to, race, color, national origin, religion, gender, age, veteran status, or disability. Discrimination on the basis of sexual orientation, gender identity and gender expression are also prohibited pursuant to University policy.

Institutional Accreditation

The University of Texas at San Antonio is accredited by the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) to award baccalaureate, master's, and doctoral degrees. Questions about the accreditation of The University of Texas at San Antonio may be directed in writing to the Southern Association of Colleges and Schools Commission on Colleges at 1866 Southern Lane, Decatur, GA 30033-4097, by calling (404) 679-4500, or by using information available on SACSCOC's website (www.sacscoc.org (<https://www.sacscoc.org/>)).

University Publications

The *UTSA Undergraduate Catalog* provides information about degrees offered by the undergraduate departments and lists the faculty. The chapter for each college describes the degree requirements for all majors offered by the college and lists the college's undergraduate courses. *UTSA Student Policies* gives important information about academic policies and procedures that apply to all students, regardless of the catalog under which they are seeking their degree. It includes the official

academic calendar, admission procedures, and residence requirements. *Student Policies* contains policies on grades and the grade point average, credit by examination, and scholastic probation and dismissal. This annual publication also gives historical and current information about the University's organization and physical facilities.

Academic Advising

The University of Texas at San Antonio recognizes that academic advising is an essential and critical component of our students' educational experience and success. Academic Advising is a partnership between students and academic advisors. Every student is assigned a professional academic advisor to guide them through their journey at UTSA. Advisors engage students in their educational planning, teach them how to navigate the University system, and encourage them to take responsibility for their decisions.

It is Academic Advising's mission to support the holistic development of students by cultivating trusting and collaborative relationships. It is an interactive and student-focused process. As a partnership, it is important for students to understand the responsibilities for themselves and their academic advisor.

Student Responsibilities

- Read your e-mail communications from your academic advisor.
- Learn and know where to find information about curriculum requirements, academic policies, and university procedures.
- Schedule and prepare for your academic advising appointment.
- Accept responsibility for decisions and actions that affect your educational progress and goals.
- Understand the importance of registering early.

Academic Advisor Responsibilities

- Communicate curriculum requirements, academic and state policies, and university procedures.
- Refer students to applicable support resources.
- Encourage and guide students as they define and cultivate goals.
- Teach decision-making skills and how to take responsibility for education progress.
- Engage in training facilitated by the department to stay current and knowledgeable of department, college and university-wide programs and requirements.

Students are encouraged to meet with their assigned academic advisor at least once a semester to ensure they remain on track with their intended degree plan. To schedule an appointment, students may call or visit.

Website: <https://www.utsa.edu/advising/>

Phone: 210-458-4900

E-mail: advising@utsa.edu

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Degree Requirements

Overall Requirements

In order to receive a bachelor's degree from UTSA, a student must meet these minimum requirements:

1. Complete a minimum of 120 semester credit hours, at least 39 of which must be upper-division level.
2. Complete the University Core Curriculum requirements outlined in this chapter.
3. Complete the major and support work requirements and the free elective requirements for the desired degree. Free electives refer to any semester credit hours accepted by UTSA in transfer or awarded by UTSA that, for degree purposes, are not applied to Core Curriculum,

major, minor, or support work requirements. The only restrictions placed upon courses used as free electives are as follows:

- a. that a specific number of free elective credits must be at the upper-division level for some degree programs
 - b. that a maximum of 6 semester credit hours of physical activities courses can be applied to the free electives allowed for any UTSA degree program.
4. Meet all requirements for a degree as put forth by the Texas State Education Code, including the following:
 - a. All students must complete 6 semester credit hours of American or Texas history.
 - b. All students must complete 6 semester credit hours of government or political science, including the Constitution of the United States and constitutions of states, with special emphasis on Texas.
 5. Meet the minimum UTSA residence requirements.
 6. Achieve an overall 2.0 grade point average in all work attempted at UTSA and a 2.0 grade point average in all work included in the major.
 7. Be in good academic standing at UTSA.
 8. Apply formally for the degree before the deadline in the Office of the Registrar.

Minimum UTSA Residence Requirements

The following minimum UTSA residence requirements are in accordance with requirements established for all institutions in The University of Texas System and are requirements for all bachelor's degrees:

1. A minimum of 25 percent of the total number of semester credit hours required for a bachelor's degree must be completed at UTSA before a degree can be conferred.
2. Twenty-four of the last 30 semester credit hours applied to the degree program must be completed in residence, with the exception that among University of Texas System components, a student may, with the approval of the appropriate dean, transfer additional coursework to the program at the degree-granting institution.
3. Of the minimum 39 upper-division semester credit hours required in all degree programs, 18 must be earned in UTSA courses.
4. At least 6 semester credit hours of upper-division coursework in the major must be completed at UTSA. Additional hours in the major sequence may be required under individual UTSA degree plans.

Core Curriculum

The Core Curriculum is the part of each student's degree program in which he or she has the opportunity to develop transferrable skills that meet requirements common to all UTSA undergraduates. Candidates for a bachelor's degree must achieve core objectives by completing the Core Curriculum.

Transfer of Core Curriculum Courses

In accordance with the Texas Education Code, Chapter 61, Subchapter S, the UTSA Core Curriculum consists of 42 semester credit hours of coursework. If a student successfully completes the entire core curriculum at another public institution of higher education in Texas, that block of courses may be transferred to any other public institution

of higher education in Texas and must be substituted for the receiving institution's core curriculum. Students will receive academic credit for each of the courses transferred and may not be required to take additional core curriculum courses at the receiving institution.

Students who have completed a portion of the Core Curriculum at another Texas public institution of higher education may use that coursework to satisfy UTSA Core Curriculum requirements if:

- the course is designated as meeting a Core Curriculum requirement at the sending institution, and
- the course fits within the UTSA Core Curriculum.

For transfer purposes, the designated Texas Common Course Numbering (TCCN) System courses will be accepted in transfer in lieu of these courses.

Students should consult with an academic advisor to determine the sequence of courses in the Core Curriculum and the major.

Resolution of Transfer Disputes for Core Curriculum Courses

Public institutions of higher education must follow these procedures in the resolution of credit transfer disputes involving lower-division courses:

1. If an institution of higher education does not accept course credit earned by a student at another institution, the receiving institution will give written notice to the student and to the sending institution that the transfer of course credit is denied. At the request of the sending institution, the receiving institution will also provide written notice of the reasons it denied credit for a particular course or set of courses.
2. A student who receives notice may dispute the denial of credit by contacting a designated official at either the sending or the receiving institution.
3. The two institutions and the student shall attempt to resolve the transfer of the course credit in accordance with Texas Higher Education Coordinating Board rules and guidelines.
4. If the transfer dispute is not resolved to the satisfaction of the student or the sending institution within 45 days after the date the student received written notice of denial, the institution that denied the course credit for transfer will notify the Commissioner of Higher Education of its denial and the reasons for the denial.
5. The commissioner or the commissioner's designee will make the final determination about the transfer of course credit and give written notice of the determination to the involved student and institutions.

The Texas Higher Education Coordinating Board will collect data on the types of transfer disputes and the disposition of each case the commissioner considers.

If a receiving institution believes that a course that a student presents for transfer is not of acceptable quality, it should first contact the sending institution and try to resolve the problem. If the two institutions cannot come to a satisfactory resolution, the receiving institution may notify the Commissioner of Higher Education, who may investigate the course. If its quality is found to be unacceptable, the Texas Higher Education Coordinating Board may discontinue funding for the course.

Goals of the Core Curriculum

The UTSA Core Curriculum provides learning inside and outside of the classroom that builds upon students' previous experience. This program is designed to help students of all backgrounds develop the knowledge, skills, and attitudes to be responsible community members who are successful in their educations, lives, and careers.

Students will have the opportunity to develop marketable and transferrable skills through the Core Curriculum learning objectives. These components include:

- Oral, written, and visual communication
- Ethical judgement
- Teamwork
- Critical and analytical skills
- Personal and social responsibility.

The Core Curriculum helps develop broad skills that can be applied to any specific major or program and allows students to see connections between various disciplines, develop respect for other cultures and points of view, and value other fields of study.

Expectations for Entering Students

The Core Curriculum is built on the assumption that the foundations of the general part of a student's education are laid in secondary school. Appropriate levels of proficiency in important subjects have been established as prerequisites for many of the courses in the Core, especially in the areas of rhetoric, mathematics, and language. Students who are unable to demonstrate proficiency may be required to take additional coursework before qualifying to take courses that meet Core Curriculum requirements. Entering students are also expected to possess proficiency in reading, knowledge of research and library tools, and a familiarity with basic computer skills. Students unable to demonstrate such proficiency and knowledge may be required to enroll in noncredit programs developed by UTSA to correct deficiencies in these areas.

Core Curriculum Component Area Requirements

First Year Experience Requirement (3 semester credit hours)

All students must complete one of the following courses, for a total of 3 semester credit hours:

| | | |
|----------|-------------------------------------------------------------------------|---|
| AIS 1203 | Academic Inquiry and Scholarship (core component area 090) | 3 |
| AIS 1213 | AIS: Architecture, Construction, and Planning (core component area 090) | 3 |
| AIS 1223 | AIS: Arts and Humanities (core component area 090) | 3 |
| AIS 1233 | AIS: Business (core component area 090) | 3 |
| AIS 1243 | AIS: Engineering, Mathematics, and Sciences (core component area 090) | 3 |
| AIS 1253 | AIS: Interdisciplinary Education (core component area 090) | 3 |
| AIS 1263 | AIS: Life and Health Sciences (core component area 090) | 3 |

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|------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|------------------------------------------------------------------|---|
| <table> <tr> <td>AIS 1273</td> <td>AIS: Social Sciences and Public Policy (core component area 090)</td> <td>3</td> </tr> </table> | AIS 1273 | AIS: Social Sciences and Public Policy (core component area 090) | 3 |
| AIS 1273 | AIS: Social Sciences and Public Policy (core component area 090) | 3 | |

Communication (010) (6 semester credit hours)

Courses in this category focus on developing ideas and expressing them clearly, considering the effect of the message, fostering understanding, and building the skills needed to communicate persuasively. This requirement involves the command of oral, aural, written, and visual literacy skills that enable people to exchange messages appropriate to the subject, occasion, and audience.

Students must complete the following courses, for a total of 6 semester credit hours:

| | | | | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|------------------------|---|----------|-------------------------|---|
| <table> <tr> <td>WRC 1013</td> <td>Freshman Composition I</td> <td>3</td> </tr> <tr> <td>WRC 1023</td> <td>Freshman Composition II</td> <td>3</td> </tr> </table> | WRC 1013 | Freshman Composition I | 3 | WRC 1023 | Freshman Composition II | 3 |
| WRC 1013 | Freshman Composition I | 3 | | | | |
| WRC 1023 | Freshman Composition II | 3 | | | | |

Mathematics (020) (3 semester credit hours)

Courses in this category focus on quantitative literacy in logic, patterns, and relationships. They involve the understanding of key mathematical concepts and the application of appropriate quantitative tools to everyday experience.

Students must complete one of the following courses, for a total of 3 semester credit hours:

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| <table> <tr> <td>CS 1173</td> <td>Data Analysis and Visualization</td> <td>3</td> </tr> <tr> <td>MAT 1023</td> <td>College Algebra with Applications</td> <td>3</td> </tr> <tr> <td>MAT 1043</td> <td>Introduction to Mathematics</td> <td>3</td> </tr> <tr> <td>MAT 1053</td> <td>Mathematics for Business</td> <td>3</td> </tr> <tr> <td>MAT 1073</td> <td>Algebra for Scientists and Engineers</td> <td>3</td> </tr> <tr> <td>MAT 1093</td> <td>Precalculus</td> <td>3</td> </tr> <tr> <td>MAT 1133</td> <td>Calculus for Business</td> <td>3</td> </tr> <tr> <td>MAT 1193</td> <td>Calculus for the Biosciences</td> <td>3</td> </tr> <tr> <td>MAT 1214</td> <td>Calculus I</td> <td>4</td> </tr> <tr> <td>STA 1053</td> <td>Basic Statistics</td> <td>3</td> </tr> </table> | CS 1173 | Data Analysis and Visualization | 3 | MAT 1023 | College Algebra with Applications | 3 | MAT 1043 | Introduction to Mathematics | 3 | MAT 1053 | Mathematics for Business | 3 | MAT 1073 | Algebra for Scientists and Engineers | 3 | MAT 1093 | Precalculus | 3 | MAT 1133 | Calculus for Business | 3 | MAT 1193 | Calculus for the Biosciences | 3 | MAT 1214 | Calculus I | 4 | STA 1053 | Basic Statistics | 3 |
| CS 1173 | Data Analysis and Visualization | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MAT 1023 | College Algebra with Applications | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MAT 1043 | Introduction to Mathematics | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MAT 1053 | Mathematics for Business | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MAT 1073 | Algebra for Scientists and Engineers | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MAT 1093 | Precalculus | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MAT 1133 | Calculus for Business | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MAT 1193 | Calculus for the Biosciences | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MAT 1214 | Calculus I | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| STA 1053 | Basic Statistics | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Life and Physical Sciences (030) (6 semester credit hours)

Courses in this category focus on describing, explaining, and predicting natural phenomena using the scientific method. This requirement involves the understanding of interactions among natural phenomena and the implications of scientific principles on the physical world and on human experiences.

Students must complete two of the following courses, for a total of 6 semester credit hours:

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| <table> <tr> <td>ANT 2033</td> <td>Introduction to Biological Anthropology</td> <td>3</td> </tr> <tr> <td>AST 1013</td> <td>Introduction to Astronomy</td> <td>3</td> </tr> <tr> <td>AST 1033</td> <td>Exploration of the Solar System</td> <td>3</td> </tr> <tr> <td>BIO 1233</td> <td>Contemporary Biology I</td> <td>3</td> </tr> <tr> <td>BIO 1243</td> <td>Contemporary Biology II</td> <td>3</td> </tr> <tr> <td>BIO 1404</td> <td>Biosciences I</td> <td>4</td> </tr> <tr> <td>BIO 1414</td> <td>Biosciences II</td> <td>4</td> </tr> </table> | ANT 2033 | Introduction to Biological Anthropology | 3 | AST 1013 | Introduction to Astronomy | 3 | AST 1033 | Exploration of the Solar System | 3 | BIO 1233 | Contemporary Biology I | 3 | BIO 1243 | Contemporary Biology II | 3 | BIO 1404 | Biosciences I | 4 | BIO 1414 | Biosciences II | 4 |
| ANT 2033 | Introduction to Biological Anthropology | 3 | | | | | | | | | | | | | | | | | | | |
| AST 1013 | Introduction to Astronomy | 3 | | | | | | | | | | | | | | | | | | | |
| AST 1033 | Exploration of the Solar System | 3 | | | | | | | | | | | | | | | | | | | |
| BIO 1233 | Contemporary Biology I | 3 | | | | | | | | | | | | | | | | | | | |
| BIO 1243 | Contemporary Biology II | 3 | | | | | | | | | | | | | | | | | | | |
| BIO 1404 | Biosciences I | 4 | | | | | | | | | | | | | | | | | | | |
| BIO 1414 | Biosciences II | 4 | | | | | | | | | | | | | | | | | | | |

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| <table> <tr> <td>CHE 1083</td> <td>Introduction to the Molecular Structure of Matter</td> <td>3</td> </tr> <tr> <td>CHE 1093</td> <td>Introduction to Molecular Transformations</td> <td>3</td> </tr> <tr> <td>ES 1113</td> <td>Environmental Botany</td> <td>3</td> </tr> <tr> <td>ES 1123</td> <td>Environmental Zoology</td> <td>3</td> </tr> <tr> <td>ES 1213</td> <td>Environmental Geology</td> <td>3</td> </tr> <tr> <td>ES 2013</td> <td>Introduction to Environmental Science I</td> <td>3</td> </tr> <tr> <td>ES 2023</td> <td>Introduction to Environmental Science II</td> <td>3</td> </tr> <tr> <td>GEO 1013</td> <td>The Third Planet</td> <td>3</td> </tr> <tr> <td>GEO 1123</td> <td>Life Through Time</td> <td>3</td> </tr> <tr> <td>GES 2613</td> <td>Physical Geography</td> <td>3</td> </tr> <tr> <td>PHY 1943</td> <td>Physics for Scientists and Engineers I</td> <td>3</td> </tr> <tr> <td>PHY 1963</td> <td>Physics for Scientists and Engineers II</td> <td>3</td> </tr> </table> | CHE 1083 | Introduction to the Molecular Structure of Matter | 3 | CHE 1093 | Introduction to Molecular Transformations | 3 | ES 1113 | Environmental Botany | 3 | ES 1123 | Environmental Zoology | 3 | ES 1213 | Environmental Geology | 3 | ES 2013 | Introduction to Environmental Science I | 3 | ES 2023 | Introduction to Environmental Science II | 3 | GEO 1013 | The Third Planet | 3 | GEO 1123 | Life Through Time | 3 | GES 2613 | Physical Geography | 3 | PHY 1943 | Physics for Scientists and Engineers I | 3 | PHY 1963 | Physics for Scientists and Engineers II | 3 |
| CHE 1083 | Introduction to the Molecular Structure of Matter | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CHE 1093 | Introduction to Molecular Transformations | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ES 1113 | Environmental Botany | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ES 1123 | Environmental Zoology | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ES 1213 | Environmental Geology | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ES 2013 | Introduction to Environmental Science I | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ES 2023 | Introduction to Environmental Science II | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GEO 1013 | The Third Planet | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GEO 1123 | Life Through Time | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GES 2613 | Physical Geography | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PHY 1943 | Physics for Scientists and Engineers I | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PHY 1963 | Physics for Scientists and Engineers II | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Language, Philosophy and Culture (040) (3 semester credit hours)

Courses in this category focus on how ideas, values, beliefs, and other aspects of culture express and affect human experience. This requirement involves the exploration of ideas that foster aesthetic and intellectual creation in order to understand the human condition across cultures.

Students must complete one of the following courses, for a total of 3 semester credit hours:

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| <table> <tr> <td>AAS 2013</td> <td>Introduction to African American Studies</td> <td>3</td> </tr> <tr> <td>AAS 2113</td> <td>African American Culture, Leadership and Social Issues</td> <td>3</td> </tr> <tr> <td>ANT 2063</td> <td>Language, Thought, and Culture</td> <td>3</td> </tr> <tr> <td>ARC 1113</td> <td>Introduction to the Built Environment</td> <td>3</td> </tr> <tr> <td>CHN 1014</td> <td>Elementary Chinese I</td> <td>4</td> </tr> <tr> <td>CLA 2013</td> <td>Introduction to Ancient Greece</td> <td>3</td> </tr> <tr> <td>CLA 2023</td> <td>Introduction to Ancient Rome</td> <td>3</td> </tr> <tr> <td>CLA 2323</td> <td>Classical Mythology</td> <td>3</td> </tr> <tr> <td>CSH 1103</td> <td>Literary Masterpieces of Western Culture I</td> <td>3</td> </tr> <tr> <td>CSH 1113</td> <td>Literary Masterpieces of Western Culture II</td> <td>3</td> </tr> <tr> <td>CSH 1213</td> <td>Topics in World Cultures</td> <td>3</td> </tr> <tr> <td>CSH 2113</td> <td>The Foreign Film</td> <td>3</td> </tr> <tr> <td>ENG 2013</td> <td>Introduction to Literature</td> <td>3</td> </tr> <tr> <td>ENG 2023</td> <td>Literature and Film</td> <td>3</td> </tr> <tr> <td>ENG 2213</td> <td>Literary Criticism and Analysis</td> <td>3</td> </tr> <tr> <td>ENG 2383</td> <td>Multiethnic Literatures of the United States</td> <td>3</td> </tr> <tr> <td>ENG 2423</td> <td>Literature of Texas and the Southwest</td> <td>3</td> </tr> <tr> <td>ENG 2443</td> <td>Persuasion and Rhetoric</td> <td>3</td> </tr> <tr> <td>FRN 1014</td> <td>Elementary French I</td> <td>4</td> </tr> <tr> <td>FRN 2333</td> <td>French Literature in English Translation</td> <td>3</td> </tr> <tr> <td>GER 1014</td> <td>Elementary German I</td> <td>4</td> </tr> <tr> <td>GER 2333</td> <td>German Literature in English Translation</td> <td>3</td> </tr> <tr> <td>GES 1023</td> <td>World Regional Geography</td> <td>3</td> </tr> <tr> <td>GLA 1013</td> <td>U.S. in the Global Arena</td> <td>3</td> </tr> <tr> <td>GRK 1114</td> <td>Introductory Classical Greek I</td> <td>4</td> </tr> <tr> <td>HIS 2123</td> <td>Introduction to World Civilization to the Fifteenth Century</td> <td>3</td> </tr> <tr> <td>HIS 2133</td> <td>Introduction to World Civilization since the Fifteenth Century</td> <td>3</td> </tr> </table> | AAS 2013 | Introduction to African American Studies | 3 | AAS 2113 | African American Culture, Leadership and Social Issues | 3 | ANT 2063 | Language, Thought, and Culture | 3 | ARC 1113 | Introduction to the Built Environment | 3 | CHN 1014 | Elementary Chinese I | 4 | CLA 2013 | Introduction to Ancient Greece | 3 | CLA 2023 | Introduction to Ancient Rome | 3 | CLA 2323 | Classical Mythology | 3 | CSH 1103 | Literary Masterpieces of Western Culture I | 3 | CSH 1113 | Literary Masterpieces of Western Culture II | 3 | CSH 1213 | Topics in World Cultures | 3 | CSH 2113 | The Foreign Film | 3 | ENG 2013 | Introduction to Literature | 3 | ENG 2023 | Literature and Film | 3 | ENG 2213 | Literary Criticism and Analysis | 3 | ENG 2383 | Multiethnic Literatures of the United States | 3 | ENG 2423 | Literature of Texas and the Southwest | 3 | ENG 2443 | Persuasion and Rhetoric | 3 | FRN 1014 | Elementary French I | 4 | FRN 2333 | French Literature in English Translation | 3 | GER 1014 | Elementary German I | 4 | GER 2333 | German Literature in English Translation | 3 | GES 1023 | World Regional Geography | 3 | GLA 1013 | U.S. in the Global Arena | 3 | GRK 1114 | Introductory Classical Greek I | 4 | HIS 2123 | Introduction to World Civilization to the Fifteenth Century | 3 | HIS 2133 | Introduction to World Civilization since the Fifteenth Century | 3 |
| AAS 2013 | Introduction to African American Studies | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| AAS 2113 | African American Culture, Leadership and Social Issues | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ANT 2063 | Language, Thought, and Culture | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ARC 1113 | Introduction to the Built Environment | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CHN 1014 | Elementary Chinese I | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CLA 2013 | Introduction to Ancient Greece | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CLA 2023 | Introduction to Ancient Rome | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CLA 2323 | Classical Mythology | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CSH 1103 | Literary Masterpieces of Western Culture I | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CSH 1113 | Literary Masterpieces of Western Culture II | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CSH 1213 | Topics in World Cultures | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CSH 2113 | The Foreign Film | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ENG 2013 | Introduction to Literature | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ENG 2023 | Literature and Film | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ENG 2213 | Literary Criticism and Analysis | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ENG 2383 | Multiethnic Literatures of the United States | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ENG 2423 | Literature of Texas and the Southwest | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ENG 2443 | Persuasion and Rhetoric | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| FRN 1014 | Elementary French I | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| FRN 2333 | French Literature in English Translation | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GER 1014 | Elementary German I | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GER 2333 | German Literature in English Translation | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GES 1023 | World Regional Geography | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GLA 1013 | U.S. in the Global Arena | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GRK 1114 | Introductory Classical Greek I | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HIS 2123 | Introduction to World Civilization to the Fifteenth Century | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HIS 2133 | Introduction to World Civilization since the Fifteenth Century | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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| HIS 2533 | Introduction to Latin American Civilization | 3 |
| HIS 2543 | Introduction to Islamic Civilization | 3 |
| HIS 2553 | Introduction to East Asian Civilization | 3 |
| HIS 2573 | Introduction to African Civilization | 3 |
| HIS 2583 | Introduction to South Asian Civilization | 3 |
| HUM 2093 | World Religions | 3 |
| ITL 1014 | Elementary Italian I | 4 |
| ITL 2333 | Italian Literature in English Translation | 3 |
| JPN 1014 | Elementary Japanese I | 4 |
| LAT 1114 | Introductory Latin I | 4 |
| MAS 2013 | Introduction to Chicano(a) Studies | 3 |
| PHI 1043 | Critical Thinking | 3 |
| PHI 2013 | Basic Philosophical Problems | 3 |
| PHI 2023 | Introduction to Ancient Philosophy | 3 |
| PHI 2033 | Introduction to Early Modern Philosophy | 3 |
| PHI 2123 | Contemporary Moral Issues | 3 |
| RUS 1014 | Elementary Russian I | 4 |
| RUS 2333 | Russian Literature in English Translation | 3 |
| SPN 1014 | Elementary Spanish I | 4 |
| SPN 2333 | Hispanic Literature in English Translation | 3 |
| WGSS 2013 | Introduction to Women's Studies | 3 |
| WGSS 2023 | Introduction to LGBTQ Studies | 3 |

Creative Arts (050) (3 semester credit hours)

Courses in this category focus on the appreciation and analysis of creative artifacts and works of the human imagination. These courses involve the synthesis and interpretation of artistic expression and enable critical, creative, and innovative communication about works of art.

Students must complete one of the following courses, for a total of 3 semester credit hours:

| | | |
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| AHC 1113 | Survey of Art and Architecture from Prehistoric Times to 1350 | 3 |
| AHC 1123 | Survey of Art and Architecture in Europe and the New World from 1350 to 1750 | 3 |
| AHC 1133 | Survey of Modern Art | 3 |
| ARC 1513 | Great Buildings and Cities of the World | 3 |
| ARC 2413 | History of Architecture I | 3 |
| ART 1103 | Introduction to Visual Arts | 3 |
| BBL 2023 | Latino Cultural Expressions | 3 |
| CLA 2033 | Introduction to Classical Literature | 3 |
| DAN 2003 | Introduction to Dance | 3 |
| HUM 2023 | Introduction to the Humanities I | 3 |
| HUM 2033 | Introduction to the Humanities II | 3 |
| HUM 2053 | History of Film | 3 |
| MAS 2023 | Latino Cultural Expressions | 3 |
| MUS 2243 | World Music in Society | 3 |
| MUS 2633 | American Roots Music | 3 |
| MUS 2653 | Music in Culture | 3 |
| MUS 2663 | History and Styles of Jazz | 3 |
| MUS 2673 | History and Styles of Rock | 3 |
| MUS 2683 | History and Styles of Western Art Music | 3 |

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| MUS 2713 | History of Recorded Music | 3 |
| MUS 2743 | Music and Film | 3 |
| PHI 2073 | Philosophy of Art | 3 |

American History (060) (6 semester credit hours)

Courses in this category focus on the consideration of past events and ideas relative to the United States, with the option of including Texas History for a portion of this component area. These courses involve the interaction among individuals, communities, states, the nation, and the world, considering how these interactions have contributed to the development of the United States and its global role.

Students must complete two of the following courses, for a total of 6 semester credit hours:

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| HIS 1043 | United States History: Pre-Columbus to Civil War Era | 3 |
| HIS 1053 | United States History: Civil War Era to Present | 3 |
| HIS 2053 | Texas History | 3 |

Government-Political Science (070) (6 semester credit hours)

Courses in this category focus on consideration of the Constitution of the United States and the constitutions of the states, with special emphasis on that of Texas. This requirement involves the analysis of governmental institutions, political behavior, civic engagement, and their political and philosophical foundations.

Students must complete two of the following courses, for a total of 6 semester credit hours:

| | | |
|---------------------------------------|-----------------------------------|---|
| POL 1013 | Introduction to American Politics | 3 |
| and one of the following two courses: | | |
| POL 1133 | Texas Politics and Society | 3 |
| POL 1213 | Civil Rights in Texas and America | 3 |

Social and Behavioral Sciences (080) (3 semester credit hours)

Courses in this category focus on the application of empirical and scientific methods that contribute to the understanding of what makes us human. These courses involve the exploration of behavior and interactions among individuals, groups, institutions, and events, examining their impact on the individual, society, and culture.

Students must complete one of the following courses, for a total of 3 semester credit hours:

| | | |
|----------|--------------------------------------------------------------------------------------|---|
| AMS 2043 | Approaches to American Culture | 3 |
| ANT 1013 | Introduction to Anthropology | 3 |
| ANT 2043 | Introduction to Archaeology | 3 |
| ANT 2053 | Introduction to Cultural Anthropology | 3 |
| BBL 2003 | Language, Culture, and Society | 3 |
| BBL 2243 | Bilingual Families, Communities, and Schools: National and Transnational Experiences | 3 |
| BIO 1033 | Drugs and Society | 3 |
| CRJ 1113 | The American Criminal Justice System | 3 |

| | | |
|----------|----------------------------------------------|---|
| ECO 2003 | Economic Principles and Issues | 3 |
| ECO 2023 | Introductory Microeconomics | 3 |
| EGR 1343 | The Impact of Modern Technologies on Society | 3 |
| GES 1013 | Fundamentals of Geography | 3 |
| GES 2623 | Human Geography | 3 |
| HTH 2413 | Introduction to Community and Public Health | 3 |
| HTH 2513 | Personal Health | 3 |
| IDS 2113 | Society and Social Issues | 3 |
| PSY 1013 | Introduction to Psychology | 3 |
| SOC 1013 | Introduction to Sociology | 3 |
| SOC 2013 | Social Problems | 3 |
| SOC 2023 | Social Context of Drug Use | 3 |

Component Area Option (CAO) (3 semester credit hours)

The courses listed below meet the requirements specified in one of the foundational component areas above.

Students must complete either one of the following courses or any additional Core Curriculum course not previously used to satisfy a core component area requirement, for a total of 3 semester credit hours:

| | | |
|----------|--------------------------------------------------------------------------------|---|
| COM 2113 | Public Speaking (core component area 091) | 3 |
| EGR 1403 | Technical Communication (core component area 091) | 3 |
| ENG 2413 | Technical Writing (core component area 091) | 3 |
| PAD 1113 | Public Administration and Policy in American Society (core component area 097) | 3 |
| PHI 2043 | Introductory Logic (core component area 092) | 3 |

Gateway Courses

Many UTSA majors have designated certain courses as Gateway Courses. Gateway Courses are generally courses that are necessary for students to progress through their chosen major and are usually those courses which contain material in which a student needs a clear-cut comprehension in order to be successful in completing other course requirements for the major. That is, Gateway Courses often determine whether a student is a suitable candidate to pursue the indicated major.

In order to promote student success and to help ensure that students are choosing majors that are appropriate for their aptitudes and skills, a UTSA student may attempt a Gateway Course for his or her major at most twice. If the student does not successfully complete a Gateway Course in two attempts, then the student is required to change his or her major to a different major. Successfully completing a Gateway Course means achieving a grade in the course required by the major. For instance, if the major requires that all of the courses required for the major must be completed with a grade of "C-" or above, then successful completion of a Gateway Course for that major means receiving a grade of "C-" or higher in the course. However, receiving a grade of "CR" through the "Challenging a UTSA Course" process or the "UTSA Competency Examination" process will be regarded as successfully completing a Gateway Course. For the purpose of this policy, either dropping a course with a grade of "W" or taking an equivalent course at another institution of higher education counts as an attempt at taking the course.

A student may petition to attempt a gateway course a third time because of circumstances beyond the student's control that prevented the student from successfully completing the course on prior attempts. The circumstances must have been severe, ongoing, and must have directly affected the student, such as but not limited to hospitalization of the student. In addition to a letter describing the circumstances, the student must also submit a DegreeWorks Degree Audit, an unofficial transcript from ASAP showing all grades of courses attempted and documentation of the circumstances, such as a physician's statement on letterhead or stationery, with the petition form (<https://www.utsa.edu/advising/documents/forms/Gateway%20Form.pdf>).

Students should consult their academic advisor for information on gateway appeals. The Gateway courses for each major are listed in this catalog under the program requirements.

Catalog of Graduation

Undergraduate students have six years from their semester of original registration to complete a degree program under the catalog in effect when they initially registered. A student may choose a subsequent catalog under which to complete graduation requirements, provided the student completed at least one course during a semester in which the selected catalog was in effect with a letter grade other than "W," "NR," or "F." The student must complete all degree requirements under the subsequent catalog.

Choosing a new catalog begins a new four-year time limit. Students who graduate under one catalog and begin a second degree must begin the new degree under the catalog in effect at that time with a four-year time limit to complete the second degree under that catalog. A student must have an approved catalog at the time an application for graduation is filed. All continuing students requesting a catalog change must do so through their assigned advisor.

Students admitted to certain colleges or degree programs may be required to update to the catalog in effect at the time of admission. Students can confirm whether admission to a certain program will require a change of catalog by consulting their assigned advisor.

Multiple Degrees

Pursuing One Degree Covering More Than One Major

A student completing one type of baccalaureate degree at UTSA (i.e., Bachelor of Arts, Bachelor of Science) may elect to concurrently complete other majors of that type. In such cases, only one bachelor's degree, which includes all majors, is awarded.

If a student wishes to pursue more than one major, all requirements for a single degree and major, plus the additional requirements for the other major(s), must be completed. It is unlikely that a student fulfilling more than one major can complete all requirements within the same number of semester credit hours required for a single major.

Pursuing Two Degrees Concurrently

Students pursuing degrees of different types (i.e., a Bachelor of Arts and a Bachelor of Science) at the same time must satisfy the specific catalog requirements for each degree. Courses common to both degree programs

(such as Core Curriculum requirements) may be counted toward the requirements for each degree. Additional courses required in one degree program may be used as free or directed electives in the other degree program.

Pursuing Additional Degrees after Graduation

A student holding a baccalaureate degree from UTSA or another accredited institution may receive an additional bachelor's degree from UTSA as long as that degree is in a different major (regardless of the concentration) than the first degree. Such a student continues to be classified as an undergraduate and must:

1. complete a minimum of 30 semester credit hours of UTSA courses (of which at least 12 hours must be at the upper-division level in the major field) for each baccalaureate degree sought beyond the first
2. complete all requirements for the additional major(s), as set forth in this catalog
3. complete all requirements for the additional degree(s), including grade-point-average requirements, Core Curriculum requirements, support courses, elective courses, and upper-division courses, as set forth in this catalog
4. complete requirements under the catalog in effect at the time of beginning the second degree.

Minors

UTSA offers formal minors in a variety of disciplines and in several interdisciplinary fields. To receive a minor, students must complete at least 18 semester credit hours, including 6 hours at the upper-division level at UTSA, and must achieve a grade point average of at least 2.0 (on a 4.0 scale) on all work used to satisfy the requirements of a minor. Additional semester credit hours in the minor sequence may be required under individual UTSA degree plans. Students who declare minors must graduate under a catalog that includes minors and must meet any additional requirements listed in that catalog. All requirements for the minor must be met at graduation; a minor cannot be added to a student's degree program once he or she graduates. Declaration of a minor is voluntary. To declare a minor, a student must file a Change of Major or Degree Information form with their academic advisor. Students may not formally minor in more than two fields. Descriptions of minor requirements are included in the Colleges sections of this catalog.

Transferring Courses

To prevent unnecessary loss of time and credit, prospective transfer students are encouraged to research as early as possible UTSA's admission policies and degree requirements in their areas of interest. Questions regarding the transferability of courses should be addressed to the Office of Admissions.

Students attending community colleges should also note the core curricula designed and adopted by the Texas Higher Education Coordinating Board to simplify the transfer of credit. Copies of these core curricula are available through most community college counselors.

Evaluation Procedures

An official evaluation of transfer credit is completed for degree-seeking applicants at the time of admission. This evaluation shows the

equivalency of courses completed elsewhere to courses at UTSA and indicates their applicability to the UTSA Core Curriculum. Students may access their evaluations on *ASAP* (Automated Student Access Program).

The Texas Higher Education Coordinating Board has approved Field of Study (FOS) curricula that are guaranteed by state law to transfer and apply to another Texas public institution of higher education. If a student takes all of the courses in an FOS and then transfers to UTSA, the FOS is guaranteed to transfer as a block and be applied to the appropriate major. The Texas Higher Education Coordinating Board has approved FOS in the following areas: architecture, biology, business administration & management, communication, computer science, criminal justice, economics, engineering (chemical, civil, electrical, and mechanical), engineering technology, English language & literature, history, mathematics, Mexican American studies, music, nursing, political science, psychology, radio & television, social work, and sociology. Although the courses in these FOS at various institutions may not be precisely equivalent to courses in the UTSA Undergraduate Catalog, students who have successfully completed the FOS at other institutions are given full credit toward the appropriate degree at UTSA.

Students who do not receive transfer credit for specific courses may review the policies for credit by examination or contact the Office of Admissions. Grades earned at other institutions are not averaged with grades earned at UTSA to determine a student's grade point average.

Resolution of Transfer of Credit Disputes

The Texas Higher Education Coordinating Board has established the following procedure for Texas public colleges and universities to follow in resolving transfer of credit disputes for lower-division courses. (The individual courses covered by this procedure are defined by the Coordinating Board's guides: "Transfer Resources (<http://www.theccb.state.tx.us/institutional-resources-programs/public-universities-health-related-institutions/transfer-resources/>)" and "Texas Common Course Numbering System (<http://www.tccns.org/>).")

If a transfer course covered by the Coordinating Board policy is not accepted in transfer to UTSA, the student should contact the Office of Admissions for further explanation. The Office of Admissions, the student, and the sending institution will attempt to resolve the transfer of course credit in accordance with Coordinating Board rules.

If the transfer credit question is not resolved satisfactorily in the opinion of the student or the sending institution within 45 days of notification, the Office of Admissions states the reasons for the course denial to the Commissioner of Higher Education. The commissioner or a designee then provides a final written decision about the transfer course(s) in question to UTSA, the student, and the sending institution.

Course Types and Acceptability

Undergraduate college credits completed at other U.S. institutions are evaluated for transfer to UTSA by the Office of Admissions on the basis of UTSA equivalency tables and according to the guidelines in this section.

Credits completed at institutions outside the United States must be evaluated on an individual basis, at the student's expense, by the foreign credentials evaluation service designated by the Office of Admissions. Transfer credit from foreign institutions is accepted by UTSA on the basis of this evaluation.

Generally Accepted

Courses from an Accredited College or University

Any academic course from an accredited college or university in which a passing grade has been earned is accepted for transfer credit if it meets all other criteria in this section. Only those hours that apply toward a specific baccalaureate degree program count toward minimum degree requirements.

The applicability of particular courses completed at other institutions toward specific course requirements for a bachelor's degree at UTSA depends upon equivalency of such courses offered by UTSA. Other academic courses are transferred as electives; credit for these courses counts toward minimum degree requirements only if they satisfy requirements of the student's degree program. Credit is not given for duplication or repetition of courses.

All course requirements at UTSA designated as upper-division may be transferred to UTSA only from senior-level institutions. For credit to be transferred as an upper-division course, the institution where credit was earned must be a senior-level institution, and the course must be described in the institution's catalog as being upper-division. If the equivalent of a required upper-division UTSA course is completed at an institution as a lower-division course approval by the College is needed, the course need not be repeated if the 39-hour upper-division requirement is met. If not met, the student's advisor will recommend another upper-division course to meet the 39-hour requirement.

Credit by Examination

Credit by examination awarded at another college or university transfers if the institution equates the results of the examination to a specific course, the course is transferable, and it appears on the institution's official transcript. Such credit is subject to all other transfer provisions, including the 66-semester-credit-hour transfer limitation from community colleges.

Accepted on a Limited Basis

Physical Activities Courses

Credits earned for physical activities courses can be transferred as free elective credit up to a maximum of 6 semester credit hours.

Extension or Correspondence Courses

Credit earned by extension or correspondence through colleges and universities for college-level academic courses is evaluated and accepted for transfer if the course is equivalent to UTSA courses and acceptable to the student's degree program and if all other transfer provisions in this section are met. However, the maximum credit accepted through a combination of extension and correspondence courses is 30 semester credit hours (18-semester-credit-hour maximum by correspondence). No more than 6 semester credit hours of correspondence credit may be applied to the major.

Students currently enrolled at UTSA are not typically permitted to take correspondence or extension courses and transfer the credit to UTSA. Exceptions to this rule must be approved by the student's advisor and dean, and such courses can be taken only in the event that the student is about to graduate and cannot obtain the course in residence.

Community College Courses

Transfer credit for community college work may not exceed 66 semester credit hours. Students who have completed more than 66 acceptable semester credit hours may apply specific completed, transferable courses to specific course requirements to avoid having to repeat the courses. The semester credit hours for additional courses may not be

applied toward the minimum semester credit hour requirements for a baccalaureate degree.

No upper-division credit may be earned at a community college.

Military Service Training School Courses

As a Serviceman's Opportunity College (SOC) institution, UTSA awards credit on a limited basis for military coursework. In order for credit to be awarded, a student submits to UTSA an official Army/American Council on Education Registry Transcript System (AARTS) or an official Sailor/Marine/Ace Registry Transcript (SMART) listing all military coursework completed. The Office of Admissions evaluates the transcript and determines the transferability of coursework. Credit is awarded for military coursework that is deemed parallel to academic coursework. Credit is not awarded for military experience based upon a Military Occupational Specialty (MOS) or for coursework that is solely technical in nature. Awarding of credit for military coursework does not guarantee its applicability to a degree at UTSA. A student who has taken military courses that do not transfer may challenge by examination those UTSA courses that appear equivalent to those already completed (see Challenging a UTSA Course (<http://catalog.utsa.edu/policies/generalacademicregulations/grades/>) in "General Academic Regulations" of *UTSA Student Policies*).

Credit for ROTC or military science, when awarded by another college or university, is accepted by UTSA as free elective credit within the limitations of the student's degree program. See individual degree requirements and the ROTC program requirements in this catalog for limits on military science courses as free electives.

Credit for Military Service

An institution of higher education shall award to an undergraduate student who is admitted to the institution, including a student who is readmitted after withdrawing to perform active military service (Texas Education Code, Section 51.9242), course credit for all physical education courses required by the institution for an undergraduate degree and for additional semester credit hours, not to exceed 12, that may be applied to satisfy any elective course requirements for the student's degree program for courses outside the student's major or minor if the student:

1. graduated from a public or private high school accredited by a generally recognized accrediting organization or from a high school operated by the United States Department of Defense; and
2. is an honorably discharged former member of the armed forces of the United States who has completed at least two years of service in the armed forces or was discharged because of a disability.

Veterans entering UTSA as undergraduate students should meet with an academic advisor to discuss military service credit options, as elective credits may affect eligibility for the tuition rebate program and the Texas B-On-Time Loan forgiveness program or result in additional tuition for excess credit hours. Students must provide proof of eligibility (i.e., DD Form 214 or disability discharge documentation) to the academic advisor and complete the Military Service Credit Notice with the academic advisor. The Military Service Credit Notice is available on the One Stop Enrollment website (<https://onestop.utsa.edu/forms/registrar/>) and in the UTSA Veterans Certification Office (JPL 1.01.14).

Courses from an Institution Undergoing Accreditation or a Nonaccredited Institution

Credits earned from colleges or universities that are not regionally accredited and/or nonaccredited may be appealed for transfer to UTSA on an individual basis at the discretion of the major academic

department. Any such credit accepted in transfer must be validated by 30 semester credit hours of coursework in residence at UTSA, with a grade point average of 2.0 or higher in that work.

Not Accepted¹

Developmental Education, Orientation, Life Experience, High School Level, Below-Algebra Mathematics, or Vocational-Technical Courses

Credits for developmental education, orientation, life experience, high school level, mathematics below the college algebra level, or vocational-technical courses are not acceptable for transfer credit. Where vocational-technical courses support a student's degree program, the student may make a written request to the Dean of the college to approve those courses as free elective credit. No transfer credit is granted for the General Educational Development (GED[®]) test.

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Exception - Vocational-Technical Credits earned as part of an Associate of Applied Science degree are accepted only for the Bachelor of Applied Arts and Sciences degree program.

Enrollment in Graduate Courses For Undergraduate Credit

An undergraduate student with a cumulative grade point average of 3.0 or higher may enroll in a graduate course and apply the credits earned to an undergraduate degree after obtaining approval from the student's academic advisor, the instructor of the course, and the chair of the department offering the course if lacking no more than 30 semester credit hours for graduation. Approval forms are available on the One Stop Enrollment website (<https://onestop.utsa.edu/forms/registrar/>). All approvals must be obtained and the form filed by the time of registration. Students are encouraged to begin collecting the appropriate authorizations before the start of the registration period.

For Graduate Credit

An undergraduate student with a cumulative grade point average of 3.0 or higher and lacking no more than 12 semester credit hours for graduation may enroll in a graduate course and earn graduate credit under the following conditions:

1. All hours required for the student's undergraduate degree must be completed in the term in which the graduate course is being taken.
2. In order to earn graduate credit, the student must graduate at the end of the semester in which the course is taken; otherwise, the course counts as undergraduate credit.
3. If graduate credit is earned, the semester credit hours are not considered part of the baccalaureate degree program and become a part of the student's permanent graduate academic record.
4. The student must obtain permission from the student's academic advisor, the instructor of the course, and the chair of the department offering the course. Approval forms are available on the One Stop Enrollment website (<https://onestop.utsa.edu/forms/registrar/>). The form must be filed by the time of registration. Students are encouraged to begin seeking appropriate authorizations before the registration period.

An undergraduate student with a cumulative grade point average of 3.0 or higher and lacking no more than 30 semester credit hours for graduation

may enroll in a graduate course and earn graduate credit under the following conditions:

1. The student is in good academic standing in an accelerated bachelor's/master's degree program or is in good academic standing in the Honors College.
2. If graduate credit is earned, the semester credit hours are not considered part of the baccalaureate degree program and become a part of the student's permanent graduate academic record.
3. The student must obtain permission from the student's academic advisor, the instructor of the course, and the chair of the department offering the course. Approval forms are available on the One Stop Enrollment website (<https://onestop.utsa.edu/forms/registrar/>). The form must be filed by the time of registration. Students are encouraged to begin seeking appropriate authorizations before the registration period.

Graduation

Graduation Dates

Degrees are awarded at the end of each Fall, Spring, and Summer semester. Commencement ceremonies are held in December and May at the end of the Fall and Spring semesters. Undergraduate students who graduate at the end of the Summer Semester may participate in either the May or the December commencement ceremony.

Information regarding Graduation and Commencement is available on the One Stop Enrollment website (<https://onestop.utsa.edu/graduation/>).

Applying for the Degree

It is the student's responsibility to officially apply for his or her degree by submitting an Application for Graduation online through ASAP (<https://asap.utsa.edu/>). Students must have earned at least 85 semester credit hours to apply online for graduation. Students must read and follow instructions carefully to ensure the application is accurate and successfully submitted. When the application has been accepted, students receive a confirmation number. Students having problems submitting the application should contact Graduation Coordination at graduationcoordination@utsa.edu.

While enrolled at UTSA, students who attend other colleges are required to submit official academic transcripts to the Office of Admissions from every college attended at the end of the semester during which coursework was undertaken, even if courses have been withdrawn. This includes concurrent enrollment while attending UTSA. Failure to do so may result in the rejection of the graduation application, cancellation of enrollment, permanent dismissal from UTSA, or other appropriate disciplinary action.

The following are deadlines for submitting an application for graduation:

- July 15 for Fall Semester graduation
- November 15 for Spring Semester graduation
- June 15 for Summer Semester graduation
 - Summer candidates wishing to participate in the May ceremony must apply by February 15.

Students applying to graduate with multiple degrees, majors, concentrations, and/or minors may not apply online; they must download and print the application from the One Stop Enrollment website (<https://>

onestop.utsa.edu/forms/registrar/), then submit the completed application to the One Stop Enrollment Center.

The student's assigned academic advisor is responsible for auditing the student's degree plan. Students must apply one semester prior to the intended graduation semester to ensure that all degree requirements are met. Students should contact his or her assigned academic advisor for more information.

If all University-wide and degree program requirements have been satisfied, an undergraduate student is not required to be registered for classes during the semester in which they apply for graduation.

If requested by a student, a Letter of Degree Completion is prepared by the student's assigned academic advisor after the close of the End of Term date of the semester in which all degree requirements have been met.

Degrees are posted to transcripts within 30 days of the End of Term date for the semester of graduation and diplomas are mailed within 45 days of the End of Term.

Degree Verification

Graduation verification is a two-step process.

1. The student's assigned academic advisor does a preliminary verification. The student is responsible for completing all coursework and submitting any or all of the following to his or her academic advisor **by the end of the term** (see the Academic Calendar for End of Term dates) in which graduation is expected:
 - Outstanding transcripts
 - CLEP, AP, and IB credit
 - Petitions or substitutions
 - Change of major/minor
 - Change of catalog
2. A final degree verification occurs once all grades are posted for the graduation semester; the degree plan is reviewed by the student's assigned academic advisor once again and the college Dean authorizes the certification for graduation.

Students who apply for the degree in a given semester but do not fulfill all requirements must file a new Application for Graduation on or before the appropriate deadline for the next semester in which they intend to graduate.

Applying for a Certificate

It is the student's responsibility to apply for his or her certificate by submitting a completed Application for Undergraduate Certificate to the One Stop Enrollment Center prior to the last day of the semester of graduation. The application form is located on the One Stop Enrollment website (<https://onestop.utsa.edu/forms/registrar/>). Students with questions about the application should contact Graduation Coordination at graduationcoordination@utsa.edu.

Graduation with University Latin Honors

See the current issue of *UTSA Student Policies* for Graduation with University Latin Honors criteria.

Preprofessional Courses of Study in Law, Business, or Medicine

Students interested in legal, business, medical, dental, nursing or other health professions careers are encouraged to select undergraduate courses of study that comply with the specific program requirements of professional schools. Students planning to apply to graduate professional programs should consult UTSA faculty with experience in and knowledge of those professional fields. Students planning to apply to a health professions program or law school should consult an advisor at the UTSA University Pre-Professional Office.

As a general guide, minimum requirements are set forth in this catalog. However, satisfactory completion of these minimums does not guarantee admission to any professional school or program. Specific professional schools may have more specialized requirements, and the selection process for admission to professional schools is highly competitive.

Preparation for Law School

Students interested in preparing for and gaining admission to law school should contact the UTSA Institute for Law and Public Affairs or one of UTSA's pre-law faculty advisors. Most law schools do not recommend that pre-law students major in or concentrate on any particular area or discipline, although they do recommend that students acquire and develop certain skills as undergraduates, including strong analytical and writing skills. Most law schools say that a broad, diverse, liberal undergraduate education is preferable to one that is narrowly specialized or vocational. Many schools look for a showing of thorough, dedicated learning in a broad academic field. Student programs of study that approach subjects on a theoretical level, rather than concentrating exclusively on practical aspects, are often considered good preparatory training for law school. It is also advisable, however, for students to take some law-oriented courses at the undergraduate level to assess for themselves, and to demonstrate to law schools, their aptitude for legal studies and potential for success in law school.

To discover what a particular law school recommends, students should review that school's catalog or website. Students will find a wealth of information on law school admissions and preparation at the Law School Admission Council's website (<http://lsac.org/>) and the UTSA Institute for Law and Public Affairs website (<http://www.utsa.edu/ilpa/>). The Institute offers an intensive Summer Law School Preparation Academy that pre-law students may consider. Students who wish to discuss pre-law curriculum or their law school plans should contact the Institute.

Preparation for Graduate Study in Business

Nonbusiness majors interested in pursuing a Master of Business Administration (M.B.A.) degree are encouraged to take business courses as electives which may result in some M.B.A. required leveling courses being waived. For more information, contact the advising office for the M.B.A. program (<https://business.utsa.edu/programs/mba/>).

Preparation for Health Professions Programs

While UTSA does not provide any specific health professions programs, the University Health Professions Office (UHPO) provides academic guidance and support to students interested in pursuing careers in the health professions. Services include individualized appointments and personal guidance to help students through the process of preparing for professional school.

UTSA offers courses that fulfill entrance requirements to most health professions fields, including Medicine, Dentistry, Nursing, Dental Hygiene, Respiratory Care, Occupational Therapy, Physical Therapy, Physician Assistant, Pharmacy, Veterinary Medicine, and Optometry. Admission to professional schools are highly competitive and involve separate application processes. Admission to UTSA does not guarantee admission into health professions programs at UT Health San Antonio (UTHSCSA).

Students are encouraged to seek advice and consult with the UHPO advising staff early in and throughout their college career. The UHPO is located at the Main Campus in the Graduate School and Research (GSR) Building, Room 2.210. For more information about the UHPO, including appointment and on-call options, call 210-458-5185, or visit the website at <http://utsa.edu/healthprofessions/>.

Medical and Dental Schools

In general, medical and dental school admissions committees do not state a preference about a student's choice of undergraduate major, allowing students to choose a degree program suited to their special abilities and interests. The vast majority of entrants have completed four years of college with a baccalaureate degree. In exceptional cases, students with outstanding records and a high degree of maturity can be admitted to dental school without a degree.

Admission requirements for Texas medical and dental schools are representative of admission requirements for most American medical and dental schools. These requirements typically include one year of college English; two years of biology as required for college science majors (one year must include laboratory work); one year of physics as required for college science majors, including laboratory; one year of general chemistry and one year of organic chemistry as required for college science majors, including the corresponding laboratories; and one semester of college statistics.

Applicants to medical school must take the Medical College Admission Test (MCAT), while dental applicants must take the Dental Admissions Test (DAT). The application cycle for both medical and dental schools in Texas begins in May for admission in August of the following year. While many students take their MCAT or DAT during or immediately after their junior year, the UHPO encourages students to take their exams after completion of their program prerequisites and approximately six months of preparation. Additionally, students are encouraged to meet with a Health Professions Advisor regularly to determine the best time for their individual application and testing.

Applications for all Texas medical and dental schools, with the exception of Baylor College of Medicine, are processed by the Texas Medical and Dental Schools Application Service (TMDSAS), 702 Colorado Street, Suite 6.400, Austin, Texas 78701 (www.utsystem.edu/tmdsas/) (<http://www.utsystem.edu/tmdsas/>). Application services for other health professions schools as well as out-of-state medical and dental

schools are: Osteopathic Medicine – American Association of Colleges of Osteopathic Medicine Application Service (AACOMAS); Podiatric Medicine – American Association of Colleges of Podiatric Medicine Application Service (AACPMAS); Dentistry – Associated American Dental Schools Application Service (AADSAS); and Allopathic Medicine – American Medical College Application Service (AMCAS), which includes Baylor College of Medicine.

Nursing School

Admission requirements for The University of Texas Schools of Nursing are representative of admission requirements of most nursing schools in Texas and across the United States. A minimum of 60 semester credit hours is required, including 6 semester credit hours of college English, 9 hours of behavioral sciences, 6 hours of each history and government, 3 hours of college mathematics, 3 hours of statistics, 3 hours of humanities, 3 hours of visual and performing arts, and 23 hours of natural sciences, including chemistry, anatomy, physiology, microbiology, and nutrition. Students interested in nursing should seek information about these prerequisites on a regular basis, as they are subject to change. Additional information and advisement may be obtained at the UHPO.

Special Programs

Joint BSN-MDST Pathway to Nursing Program (FANS)

UTSA provides a pathway for students who are interested in a Nursing degree through a 2+2 program with UT Health San Antonio. UTSA students who qualify and get accepted into the BSN Nursing program at UTHSA, pending grade point average and test scores, will receive a B.A. degree in Multidisciplinary Studies (MDST) from UTSA and a B.S. degree in Nursing from UT Health San Antonio upon successful completion of the program. Students are eligible to take the Registered Nurse licensing examination after they earn their BSN from UTHSA. Admission to FANS is selective and limited. Students must meet with a health professions advisor throughout their time at UTSA to review coursework and eligibility. Information about program requirements is available at the UHPO.

3-4 Dental Early Admission Program (DEAP)

DEAP is a joint program between The University of Texas at San Antonio and UT Health San Antonio Dental School. This program offers students with an interest in dentistry the opportunity to receive early conditional acceptance to the dental school and to earn both a Bachelor of Science degree in Biology at UTSA and a Doctor of Dental Surgery degree at UT Health San Antonio within seven years. Students apply during the second semester of their freshman year at UTSA and must have completed at least 12 hours at UTSA during their first freshman semester. Students with more than 30 total hours, including advanced placement and dual credit coursework, will be considered on a case-by-case basis. A list of the requirements for acceptance into the program and for its completion, as well as application forms and procedures, are available in the UHPO.

Joint Admission Medical Program (JAMP)

The Joint Admission Medical Program was created by the Texas Legislature (Texas Education Code, § 51.821 et seq.) to provide services to "highly qualified, economically disadvantaged students" who want to be physicians. If selected for JAMP, a student will receive numerous benefits throughout college and into medical school: a scholarship each semester of college (beginning in the spring of the sophomore year); a stipend each summer to attend two medical school enrichment (internship) programs; mentoring during college and into medical school;

and admission into a Texas medical school (if all requirements are met). Students must apply by September 1 of their sophomore year and must have completed 27 hours of undergraduate credit during their freshman year and earned no less than a 3.25 grade point average. Contact the UHPO for more information and advisement and visit the JAMP website at www.utsystem.edu/JAMP/ (<http://www.utsystem.edu/JAMP/>) for additional details.

Respiratory Care Early Acceptance Program (RCEAP)

The Respiratory Care Early Acceptance Program offers academically outstanding undergraduate students from The University of Texas at San Antonio (UTSA) with an interest in respiratory care an opportunity to be granted conditional acceptance to the School of Health Professions at UT Health San Antonio (<https://www.uthscsa.edu/academics/health-professions/programs/3plus2/>). Upon completion of the program, students will receive a Bachelor of Science in Biology or a Bachelor of Science in Kinesiology (Kinesiology and Health Science Concentration) at UTSA and a Master of Science in Respiratory Care at UT Health San Antonio within five years.

Eligible applicants must be full-time UTSA students majoring in a Bachelor of Science Degree in Biology or Kinesiology (Kinesiology and Health Science Concentration) who have completed at least 12 semester credit hours of coursework at UTSA in their program of study. Applications can be submitted by students who have earned between 12 to 60 semester credit hours in their program of study for Biology or Kinesiology. Applications must be submitted by students on or before the completion of 60 semester credit hours at UTSA. Information about program requirements for acceptance into the program and for its completion are available at the Health Professions Office.

Preparation for Doctoral Programs

The Doctorate in Philosophy (Ph.D., PhD, or D.Phil.) degree is a postgraduate “doctoral” degree awarded primarily by universities and medical schools, in fields other than medicine, law and theology. Doctoral students take advanced coursework, engage in original scholarly research, and complete a final dissertation that demonstrates their intellectual contribution to their field. Someone who completes all requirements for the Ph.D. gains the right to be called “Doctor.”

Undergraduates interested in a Ph.D. should investigate the entry and application requirements for doctoral programs of interest and plan ahead. Some fields require a Master’s degree but others do not. Some Ph.D. programs may desire undergraduate courses that are not required for your UTSA degree but can be integrated into your degree plan. Undergraduate research experience is highly desirable and may be required by prestigious Ph.D. programs. Most programs require a standardized test such as the general GRE® (Graduate Record Exam), which should be taken so that results are available before application deadlines, which are frequently in late fall or early spring.

Students interested in doctoral training should consult with their discipline-specific academic advisor and UTSA research faculty in their field for further guidance. For additional general information about preparing for doctoral training or becoming involved in research as an undergraduate, please consult the websites of the UTSA Graduate School (<http://graduateschool.utsa.edu>) or Office of Undergraduate Research (<http://research.utsa.edu/academic-research/undergraduate/>).

2. UNDERGRADUATE CERTIFICATE PROGRAMS

Undergraduate certificate programs provide training opportunities for those students enrolled at UTSA as undergraduates. Certificate programs are narrower in scope and shorter in duration than baccalaureate degrees. Undergraduate certificate programs are neither “degree” programs nor teacher certification programs. Students wishing to be certified to teach at the elementary, middle school, or high school level should refer to the “Teacher Certification Programs for Undergraduate Students (p. 106)” page.

Currently, the following undergraduate certificate programs are offered:

- Certificate in Aerospace Engineering (p. 132) offered by the Department of Mechanical Engineering.
- Certificate in Artificial Intelligence (p. 128) offered by the Department of Electrical and Computer Engineering.
- Certificate in Athletic Coaching (p. 151) offered by the Department of Kinesiology, College for Health, Community and Policy.
- Certificate in Business Analytics (p. 69) offered by the Department of Management Science and Statistics, College of Business.
- Certificate in Community Engaged Leadership (p. 297) offered by University College.
- Certificate in Data Center Design (p. 110) offered by the College of Engineering.
- Certificate in Engineering Projects in Community Service (EPICS) (p. 110) offered by the College of Engineering.
- Certificate in Geographic Information System (p. 275) offered by the Department of Geological Sciences.
- Certificate in Healthcare Interpreting (p. 203) offered by the Department of Modern Languages and Literatures.
- Certificate in Heating, Ventilation and Air-Conditioning (p. 132) offered by the Department of Mechanical Engineering.
- Certificate in Industrial and Manufacturing Engineering (p. 132) offered by the Department of Mechanical Engineering.
- Certificate in Legal Studies (p. 297) offered by University College.
- Certificate in Oil/Gas (p. 132) offered by the Department of Mechanical Engineering, College of Engineering.
- Certificate in Operations and Supply Chain Management (p. 69) offered by the Department of Management Science and Statistics, College of Business.
- Certificate in Pathogenic Outbreak Investigations (p. 53) offered by the Department of Information Systems and Cyber Security, College of Business, in collaboration with the Departments of Biology and Computer Science, College of Sciences.
- Certificate in Professional Writing and Rhetoric (p. 191) offered by the Department of English, College of Liberal and Fine Arts.
- Certificate in Public Policy and Data Analysis (p. 158) offered by the Department of Public Administration, College for Health, Community and Policy.

Admission Requirements

Undergraduates who are currently enrolled in baccalaureate degree programs or enrolled as non-degree-seeking students and who wish to earn undergraduate certificates are eligible to seek enrollment in undergraduate certificate programs. An undergraduate wishing to enroll

in a certificate program should contact the Certificate Program Advisor and request permission to enter into the program. An approval is needed to enter into a certificate program and must be granted by the Certificate Program Advisor and the Dean of the college in which the certificate program is housed.

Students not currently admitted to UTSA who wish to earn undergraduate certificates will be required to apply for admission to UTSA as non-degree-seeking, special students at the undergraduate level, and indicate in the application process their desires to pursue the requirements for undergraduate certificates. Applicants will be required to meet University admission requirements for special students at the undergraduate level. After the student is admitted to UTSA as a special undergraduate, the student needs to contact the Certificate Program Advisor and request permission to enter into the certificate program. Approval to enter into a certificate program must be granted by the Certificate Program Advisor and the Dean of the college in which the certificate program is housed.

Any student admitted to a certificate program without being currently enrolled in a baccalaureate degree program is considered a non-degree-seeking student. If such a student wishes to enter into a degree program, he or she will be required to reapply to UTSA as a degree-seeking undergraduate. Admittance into or completion of a certificate program is not considered to be qualification for admission as a degree-seeking undergraduate.

Students who are pursuing a certificate as non-degree-seeking students will not be eligible for financial aid or Veterans Administration educational benefits.

Graduate students may enroll in undergraduate certificate programs, provided they meet the requirements for enrollment in a graduate certificate program (see *UTSA Graduate Catalog*).

Certificate Requirements

Each undergraduate certificate program at UTSA must require a minimum of 15 semester credit hours, at least 9 of which must be at the upper-division level. Unless the certificate program specifically requires or permits a course to be taken at another institution, all courses that may be used to satisfy the requirements of an undergraduate certificate program must be college-level courses taken at UTSA.

Some courses required for undergraduate certificate programs may require certain prerequisite courses to adequately prepare students for the needed course. Before enrolling in any course required for a certificate program, students will be required to satisfy all the prerequisites for the course as listed in the course description.

In order to receive an undergraduate certificate from UTSA, a student must meet the following minimum requirements:

1. Complete all the requirements of the individual undergraduate certificate program.
2. Receive a grade of “C-” or better in each course used to satisfy the requirements of the individual undergraduate certificate program.
3. Achieve at least a 2.5 grade point average (on a 4.0 scale) in all courses used to satisfy the requirements of the individual certificate program.

The student’s Certificate Program Advisor will verify the completion of requirements. Upon completion of the certificate requirements or graduation from a degree-granting program offering the certificate—

2. Undergraduate Certificate Programs

see specific program for details—the certificate will be recorded on the student's undergraduate transcript.

It is the responsibility of the student to meet with the Certificate Program Advisor during the last semester of certificate coursework in order to verify that all requirements for completion are met. Students who complete a certificate program without completing a degree program do not receive a University diploma.

Applying for the Certificate

It is the student's responsibility to apply for the certificate by submitting a completed Application for Undergraduate Certificate (pdf) (https://onestop.utsa.edu/wp-content/uploads/FORM_2021-2022-Application_for_Certificate.pdf) to the One Stop Enrollment Center prior to the last day of the semester of graduation. Students with questions about the application should contact Graduation Coordination at graduationcoordination@utsa.edu.

3. ONLINE DEGREE PROGRAMS

UTSA offers bachelor's degree programs that are available 100 percent online. These programs follow the same degree plan and are taught by the same faculty with the same rigor as the residential campus offerings.

Students enrolled in an online degree program will follow the same institutional requirements to complete a bachelor's degree as defined in this catalog, which include:

- Completing the Core Curriculum requirements (p. 7)
- Successfully completing any applicable Gateway Courses required by the program (p. 10)
- Completing a minimum of 120 semester credit hours and achieving an overall 2.0 grade point average in all work attempted at UTSA (p. 6)
- Meeting the minimum UTSA Residence Requirements (p. 6)

For more information about online degree programs at UTSA, visit the Online Programs (<https://online.utsa.edu/>) website.

Available Online Programs

College of Business

- Bachelor of Business Administration degree in Cyber Security (p. 47)
- Minor in Digital Forensics (p. 52)

College of Liberal and Fine Arts

- Bachelor of Arts degree in Communication (p. 180)

University College

- Bachelor of Arts degree in Multidisciplinary Studies (p. 294)

Available focus areas in Multidisciplinary Studies:

- Business
 - Health
 - Sociology
 - Communication
- Undergraduate Certificate in Data Science (p. 297)

4. COLLEGE OF ARCHITECTURE, CONSTRUCTION AND PLANNING

The College of Architecture, Construction and Planning offers three undergraduate degrees focused on various aspects of the built environment. The Department of Architecture houses the Bachelor of Science degree in Architecture and the Bachelor of Science degree in Interior Design. The Department of Construction Science houses the Bachelor of Science degree in Construction Science and Management. The College also includes undergraduate courses in Urban and Regional Planning. The College faculty are a very diverse group of scholars and practitioners. Among them are well-recognized educators, scholars, and designers who have achieved national and international recognition for their research, publications, and professional practices.

The CACP International Studies / Signature Experience Requirement

All undergraduate students in the College of Architecture, Construction and Planning (CACP) are required to participate in an approved International Studies / Signature Experience opportunity as a condition of graduation. The CACP International Studies / Signature Experience requirement is intended to expose students to educational opportunities that go beyond the traditional academic experience. Participation in International Studies is the specified means to satisfy the requirement for architecture and interior design students within the College. Please see curricula listings for B.S. in Architecture and B.S. in Interior Design in the catalog for respective required courses and studios taught only in international locations. Construction Science and Management majors satisfy the requirement by completing a required internship for their degree program. There is typically a Sophomore Convocation during the first semester of the sophomore year during which logistics are discussed, program costs and payment processes and financial aid are presented, and planning started for this international studies requirement. Students are advised to consult the College website (<http://cacp.utsa.edu/>) or the Associate Dean for Academic Affairs and Undergraduate Studies for up-to-date International Studies and Signature Experience opportunities, applications, semester assignment, approval processes and forms.

Department of Architecture

The Department of Architecture offers the Bachelor of Science degree in Architecture and the Bachelor of Science degree in Interior Design. Both degree programs include a common Foundation Year of studies and students remain as pre-majors or Architecture, Construction and Planning Studies majors until the completion of the Foundation Year required coursework and successful passage through the Foundation Year Gateway.

Admission Policy

Direct Admission Criteria

Applicants entering UTSA as Freshmen will be directly admitted to the Department of Architecture until April 1st if they:

- meet all UTSA undergraduate admission requirements, and
- are ranked in the top 10 percent of their high school class (no minimum SAT or ACT scores required), *or*
- are ranked in the top 25 percent of their high school class and have a minimum 1220 SAT* or 25 ACT score.

Freshmen in good standing at their high school class with a minimum 1170 SAT* or 24 ACT score may go through a Department Comprehensive Review to determine direct admission.

After April 1st, all applicants will go through a Department Comprehensive Review.

** New SAT scores combine Evidence-Based Reading and Writing and Math.*

Admission Criteria for Transfer Students

Students who wish to transfer from another institution into either of the two undergraduate degree programs (Architecture or Interior Design) in the Department of Architecture are required to submit an application package that includes their cumulative grade point average, and a letter of interest.

Transfer students with less than 30 transferable semester credit hours must:

- meet all UTSA undergraduate transfer admission requirements, and
- have a minimum transfer grade point average (GPA) of 3.0.

Transfer students with 30 or more transferable semester credit hours must:

- meet all UTSA undergraduate transfer admission requirements,
- have a minimum transfer GPA of 3.0, and
- go through a portfolio review.

Students with architecture or interior design coursework are required to submit a portfolio of studio work (bound, maximum size 8.5 inches by 11 inches) until April 15th that will be used for studio placement. Students wishing to apply for transfer course substitutions will be required to submit course syllabi for those courses for Departmental review. Application packages and portfolios should be sent directly to the Department of Architecture. Transfer applicants placed into the first year will be required to complete the Foundation Year Program and apply for either the Architecture or Interior Design major as described below.

Freshmen students who do not meet the above requirements, but meet UTSA's general admission requirements will be part of "Exploratory Studies" where students will be able to work towards meeting the prerequisites needed to declare Architecture or Interior Design as their major.

Transfer students who do not meet the above requirements, but meet UTSA's general admission requirements will be placed in Multidisciplinary Studies (p. 294) where students will be able to work towards a bachelor's degree.

Change of Major

Students currently enrolled in UTSA who wish to change majors to one of the two undergraduate academic majors within the Department of Architecture must submit a Change of Major application to the Department of Architecture until April 15th. Departmental application decisions are made at least once per year in June, but the Department reserves the right to render decisions at any time. Change of major students must include their grade point average and a letter of interest in their application package. Students with architectural or interior design coursework beyond the freshman level are required to submit a portfolio of studio work (bound, maximum size 8.5 inches by 11 inches) that will be used for studio placement. Students wishing to apply for course substitutions will be required to submit course syllabi for those courses for Departmental review. Portfolios should be sent directly to the Department of Architecture. Change of Major applicants placed into the first year will be required to complete the Foundation Year Program and apply for either the Architecture or Interior Design major as described below.

Foundation Year Program (FYP) / Admission to the Major in Architecture or Interior Design

Students must successfully complete the common Foundation Year Program (FYP), consisting of 16 semester credit hours, in order to be eligible to apply for the FYP Gateway review process and subsequent admission into either the Bachelor of Science in Architecture major (ARC) or Bachelor of Science in Interior Design major (IDE). Students are strongly advised to complete the additional 15 credit hours of Core Curriculum courses in their first year of studies as well.

Students who have completed the FYP must submit a Gateway Application (an application to the major) by the first Monday in May for review and consideration for admission to the major of choice (ARC or IDE). Applications are available on the Department website. FYP Gateway reviews are conducted at the conclusion of each Spring semester. Available openings within both the ARC and IDE majors are limited and, therefore, entry into each is competitive. Students not accepted into either of the two majors within the Department of Architecture in their first year of application will remain in the University College and will be eligible to reapply the following year. A student may reapply only once.

The Foundation Year Program *requires* the completion of the following courses (16 semester credit hours):

| | | |
|----------|---------------------------------------|---|
| ARC 1113 | Introduction to the Built Environment | 3 |
| ARC 1213 | Design I | 3 |
| ARC 1224 | Design II | 4 |
| ARC 1313 | Design Visualization | 3 |

| | | |
|--------------------|-----------------------------------------|----|
| ARC 1513 | Great Buildings and Cities of the World | 3 |
| Total Credit Hours | | 16 |

The Foundation Year Program strongly *recommends* the completion of the following Core Curriculum courses (15 semester credit hours):

| | | |
|-------------------------------------------------------------------------|-----------------------------------------------|----|
| AIS 1213 | AIS: Architecture, Construction, and Planning | 3 |
| WRC 1013 | Freshman Composition I | 3 |
| WRC 1023 | Freshman Composition II | 3 |
| Mathematics Core Course (MAT 1023, MAT 1053, or MAT 1073) | | 3 |
| Life and Physical Sciences Core Course (ES 2013, GEO 1013, or PHY 1943) | | 3 |
| Total Credit Hours | | 15 |

Laptop Program

The laptop program requires that students entering both the Bachelor of Science in Architecture and the Bachelor of Science in Interior Design programs have their own laptop (notebook) computers and required software. Digital technology will be integrated into the studio work and will be necessary in order to fulfill project requirements. The computer should be upgradeable in order to be of productive use for the duration of the academic program.

Student Work

The Department of Architecture reserves the right to retain, exhibit, and reproduce work submitted by students. Work submitted for grading is the property of the College of Architecture, Construction and Planning and remains such until it is returned to the student.

- B.S. Degree in Architecture (p. 21)
- B.S. Degree in Interior Design (p. 23)

Bachelor of Science Degree in Architecture

The Bachelor of Science (B.S.) in Architecture is a four-year pre-professional degree. The minimum number of semester credit hours required for the degree, including Core Curriculum requirements, is 121, at least 39 of which must be at the upper-division level. Students are advised to complete the B.S. in Architecture coursework in the order indicated in the "Recommended Curriculum" issued by the Department of Architecture for their catalog year.

The B.S. in Architecture is a program that provides students with the opportunity to prepare for the continuation of studies in a professional graduate program to earn a Master of Architecture (M.Arch.) degree. Completion of the B.S. in Architecture degree allows the graduate to pursue limited architectural practice but does not, in itself, fully prepare the graduate for architectural licensure. Students in the B.S. in Architecture program are advised that the certification for architectural registration and professional practice by the National Council of Architectural Registration Boards (NCARB) requires, in virtually all cases, an accredited professional degree and broad architectural education such as that provided by the Master of Architecture (M.Arch.) program at UTSA.

In the United States, most registration boards require a degree from an accredited professional degree program as a prerequisite for licensure. The National Architectural Accrediting Board (NAAB), which is the sole agency authorized to accredit professional degree programs in

architecture offered by institutions with U.S. regional accreditation, recognizes three types of degrees: the Bachelor of Architecture, the Master of Architecture, and the Doctor of Architecture. A program may be granted an eight-year, three-year, or two-year term of accreditation, depending on the extent of its conformance with established educational standards.

Doctor of Architecture and Master of Architecture degree programs may require a preprofessional undergraduate degree in architecture for admission. However, the preprofessional degree is not, by itself, recognized as an accredited degree.

The University of Texas at San Antonio, Department of Architecture offers the following NAAB-accredited degree programs:

M.Arch. 2 (preprofessional degree + 52 graduate credits)

M.Arch. 3 (non-preprofessional degree + 92 credits)

Next accreditation visit for all programs: 2024

All candidates seeking this degree must fulfill the Core Curriculum requirements and the degree requirements.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the B.S. degree in Architecture must fulfill University Core Curriculum requirements in the same manner as other students. The courses listed below satisfy both degree requirements and Core Curriculum requirements; however, if these courses are taken to satisfy both requirements, then students may need to take additional courses in order to meet the minimum number of semester credit hours required for this degree.

MAT 1023¹, MAT 1053 or MAT 1073¹ may be used to satisfy the core requirement in Mathematics.

One of the following courses should be used to satisfy the second core requirement in Life and Physical Sciences: GES 2613, GEO 1013², ES 2013 and ES 2023²

In addition to AIS 1213, ARC 1113 should be used to satisfy the core requirement in Language, Philosophy and Culture. ARC 2413 should be used to satisfy the core requirement in Creative Arts. ARC 1513 should be used to satisfy the Component Area Option requirement.

ANT 1013, ECO 2003, EGR 1343, GES 1013, GES 2623, or SOC 1013 should be used to satisfy the core requirement in Social and Behavioral Sciences.

1

Students who may anticipate either a dual major with Construction Science and Management (CSM) or change of major to the CSM program should note that MAT 1023 and MAT 1073 will not count toward the CSM degree.

2

Students who may anticipate either a dual major with CSM or change of major to the CSM program should note that GEO 1013 and ES 2023 will count towards the CSM degree.

Core Curriculum Component Area Requirements (p. 7)

| | |
|-----------------------------------|---|
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |

| | |
|----------------------------------|-----------|
| Life and Physical Sciences | 6 |
| Language, Philosophy and Culture | 3 |
| Creative Arts | 3 |
| American History | 6 |
| Government-Political Science | 6 |
| Social and Behavioral Sciences | 3 |
| Component Area Option | 3 |
| Total Credit Hours | 42 |

Gateway Courses

Students pursuing the B.S. degree in Architecture must successfully complete each of the following Gateway Courses with a grade of "C-" or better in no more than two attempts. A student who is unable to successfully complete these courses within two attempts, including dropping a course with a grade of "W" or taking an equivalent course at another institution, will be required to change his or her major.

| | |
|----------|----------------------------------------|
| ARC 2133 | Principles of Architectural Structures |
| ARC 2156 | Drawing and Modeling Studio |
| ARC 2166 | Digital Design Studio |
| ARC 2233 | Principles of Environmental Systems |

Degree Requirements

A. Foundation Year Program

1. 16 semester credit hours of required courses completed with a grade of "C-" or better in each course:

| | | |
|----------|-----------------------------------------|---|
| ARC 1113 | Introduction to the Built Environment | 3 |
| ARC 1213 | Design I | 3 |
| ARC 1224 | Design II | 4 |
| ARC 1313 | Design Visualization | 3 |
| ARC 1513 | Great Buildings and Cities of the World | 3 |

B. Architecture Program sequence

1. 42 semester credit hours of required architectural courses. Must be completed with a grade of "C-" or better in each course:

| | | |
|----------|----------------------------------------|---|
| ARC 2133 | Principles of Architectural Structures | 3 |
| ARC 2156 | Drawing and Modeling Studio | 6 |
| ARC 2166 | Digital Design Studio | 6 |
| ARC 2233 | Principles of Environmental Systems | 3 |
| ARC 2413 | History of Architecture I | 3 |
| ARC 2423 | History of Architecture II | 3 |
| ARC 3433 | Topics in Architecture and Thought | 3 |
| ARC 3613 | History of Modern Architecture | 3 |
| ARC 4183 | Environmental Systems | 3 |
| ARC 4283 | Architectural Structures | 3 |
| CSM 2113 | Construction Materials and Methods | 3 |

3 semester credit hours of an upper-division elective 3

2. 12 semester credit hours of required upper-division design studios. Must be completed with a grade of "C-" or better in each course. 12

| | | |
|------------------------------------------------------------------|-----------------------------------|--|
| ARC 4156 | Building Design Studio (repeated) | |
| 3. 6 semester credit hours of Study Abroad Studio: 6 | | |
| ARC 4816 | International Studies Studio | |
| 4. 6 semester credit hours of Systems Studio: 6 | | |
| ARC 4246 | Systems Studio | |
| 5. 6 semester credit hours of international studies coursework 6 | | |

| | | |
|--------------------|-------------------------------------------------------------------------------------------|----|
| ARC 4833 | International Studies Drawing Seminar | |
| ARC 4843 | International Studies History Seminar or ARC 4823 International Studies Theory Seminar | |
| Total Credit Hours | | 88 |

B.S. in Architecture – Recommended Four-Year Academic Plan

First Year

| Fall | | Credit Hours |
|----------------------------------------|--------------------------------------------------------|--------------|
| Foundation Year (Pre-Architecture/PRA) | | |
| AIS 1213 | AIS: Architecture, Construction, and Planning (core) | 3 |
| ARC 1113 | Introduction to the Built Environment (core and major) | 3 |
| ARC 1213 | Design I | 3 |
| ARC 1313 | Design Visualization | 3 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|--------------------------------------------------------|----------------------------------------------------------|----|
| ARC 1224 | Design II | 4 |
| ARC 1513 | Great Buildings and Cities of the World (core and major) | 3 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| Mathematics core | | 3 |
| Life & Physical Sciences core | | 3 |
| GATEWAY TO MAJOR (Requires Application and Acceptance) | | |
| Credit Hours | | 16 |

Second Year

| Fall | | |
|-------------------------|---------------------------------------------------------|----|
| ARC 2133 | Principles of Architectural Structures | 3 |
| ARC 2156 or ARC 2166 | Drawing and Modeling Studio or Digital Design Studio | 6 |
| ARC 2413 | History of Architecture I (core and major) | 3 |
| CSM 2113 | Construction Materials and Methods | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|-----------------------------------|---------------------------------------------------------|----|
| ARC 2166 or ARC 2156 | Digital Design Studio or Drawing and Modeling Studio | 6 |
| ARC 2233 | Principles of Environmental Systems | 3 |
| ARC 2423 | History of Architecture II | 3 |
| Social & Behavioral Sciences core | | 3 |
| Credit Hours | | 15 |

Third Year

| Fall | | |
|-------------------------------------------------|---------------------------------------|---|
| International Studies Semester (Fall or Spring) | | |
| ARC 4816 | International Studies Studio | 6 |
| ARC 4833 | International Studies Drawing Seminar | 3 |

| | | |
|-------------------------|----------------------------------------------------------------------------------|----|
| ARC 4843 or ARC 4823 | International Studies History Seminar or International Studies Theory Seminar | 3 |
| Credit Hours | | 12 |

Spring

| | | |
|-----------------------------------|--------------------------------|----|
| ARC 3613 | History of Modern Architecture | 3 |
| ARC 4156 | Building Design Studio | 6 |
| American History core | | 3 |
| Government-Political Science core | | 3 |
| Credit Hours | | 15 |

Fourth Year

| Fall | | |
|-----------------------------------|------------------------------------|----|
| ARC 3433 | Topics in Architecture and Thought | 3 |
| ARC 4156 | Building Design Studio | 6 |
| ARC 4183 | Environmental Systems | 3 |
| Government-Political Science core | | 3 |
| Upper-division Elective | | 3 |
| Credit Hours | | 18 |

Spring

| | | |
|-------------------------------|--------------------------|-----|
| ARC 4246 | Systems Studio | 6 |
| ARC 4283 | Architectural Structures | 3 |
| American History core | | 3 |
| Life & Physical Sciences core | | 3 |
| Credit Hours | | 15 |
| Total Credit Hours | | 121 |

Bachelor of Science Degree in Interior Design

The Bachelor of Science (B.S.) in Interior Design is a four-year Council for Interior Design Accreditation (CIDA) accredited professional degree. The minimum number of semester credit hours required for the degree, including Core Curriculum requirements, is 124, at least 42 of which must be at the upper-division level. Students are advised to complete the B.S. in Interior Design degree coursework in the order indicated within the "Recommended Curriculum" issued by the College of Architecture, Construction and Planning for their catalog year.

All candidates seeking this degree must fulfill the Core Curriculum requirements and the degree requirements.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the B.S. degree in Interior Design must fulfill University Core Curriculum requirements in the same manner as other students. The courses listed below satisfy both degree requirements and Core Curriculum requirements; however, if these courses are taken to satisfy both requirements, then students may need to take additional courses in order to meet the minimum number of semester credit hours required for this degree.

MAT 1023¹, MAT 1043, MAT 1053, or MAT 1073¹ may be used to satisfy the core requirement in Mathematics.

Two of the following courses should be used to satisfy the core requirement in Life and Physical Sciences: ES 2013, ES 2023², GEO 1013² or GES 2613

In addition to AIS 1213, ARC 1113 should be used to satisfy the core requirement in Language, Philosophy and Culture. ARC 2413 should be used to satisfy the core requirement in Creative Arts. ARC 1513 should be used to satisfy the Component Area Option requirement.

ANT 1013, ECO 2003, EGR 1343, GES 1013, GES 2623, or SOC 1013 should be used to satisfy the core requirement in Social and Behavioral Sciences.

1

Students who may anticipate either a dual major with Construction Science and Management (CSM) or change of major to the CSM program should note that MAT 1023 and MAT 1073 will not count toward the CSM degree.

2

Students who may anticipate either a dual major with CSM or change of major to the CSM program should note that GEO 1013 and ES 2023 will count towards the CSM degree.

Core Curriculum Component Area Requirements (p. 7)

| | |
|-----------------------------------|-----------|
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |
| Life and Physical Sciences | 6 |
| Language, Philosophy and Culture | 3 |
| Creative Arts | 3 |
| American History | 6 |
| Government-Political Science | 6 |
| Social and Behavioral Sciences | 3 |
| Component Area Option | 3 |
| Total Credit Hours | 42 |

Gateway Courses

Students pursuing the B.S. degree in Interior Design must successfully complete each of the following Gateway Courses with a grade of "C-" or better in no more than two attempts. A student who is unable to successfully complete these courses within two attempts, including dropping a course with a grade of "W" or taking an equivalent course at another institution, will be required to change his or her major.

| | |
|----------|--------------------------------------|
| ARC 2156 | Drawing and Modeling Studio |
| ARC 2166 | Digital Design Studio |
| IDE 2143 | Architecture and Interior Assemblies |
| IDE 2153 | Interior Materials and Assemblies |

Degree Requirements

A. Foundation Year Program

16 semester credit hours of required courses completed with a grade of "C-" or better in each course:

| | | |
|----------|--------------------------------------------------------|---|
| ARC 1113 | Introduction to the Built Environment (core and major) | 3 |
| ARC 1213 | Design I | 3 |
| ARC 1224 | Design II | 4 |
| ARC 1313 | Design Visualization | 3 |

| | | |
|----------|----------------------------------------------------------|---|
| ARC 1513 | Great Buildings and Cities of the World (core and major) | 3 |
|----------|----------------------------------------------------------|---|

B. Interior Design Program sequence

75 semester credit hours of required courses completed with a grade of "C-" or better in each course:

| | | |
|---------------------------|--------------------------------------------------------------------|-----------|
| ARC 2156 | Drawing and Modeling Studio | 6 |
| ARC 2166 | Digital Design Studio | 6 |
| ARC 2233 | Principles of Environmental Systems | 3 |
| ARC 2413 | History of Architecture I (core and major) | 3 |
| ARC 4183 | Environmental Systems | 3 |
| IDE 2143 | Architecture and Interior Assemblies | 3 |
| IDE 2153 | Interior Materials and Assemblies | 3 |
| IDE 2263 | Color Theory and Behavior | 3 |
| IDE 2413 | History of Interior Architecture I | 3 |
| IDE 2423 | History of Interior Architecture II | 3 |
| IDE 3123 | Space Planning and Interior Details | 3 |
| IDE 3236 | Interior Design Studio I | 6 |
| IDE 3246 | Interior Design Studio II | 6 |
| IDE 4233 | Computer Projects in Design | 3 |
| IDE 4266 | Systems Integration Studio | 6 |
| IDE 4513 | Practice and Ethics | 3 |
| IDE 4816 | International Studies Studio | 6 |
| or IDE 4956 | Special Studies in Interior Architecture | |
| IDE 4823 | International Studies Theory Seminar | 3 |
| IDE 4833 | International Studies Drawing Seminar (or upper-division elective) | 3 |
| Total Credit Hours | | 91 |

B.S. in Interior Design – Recommended Four-Year Academic Plan

First Year

| Fall | | Credit Hours |
|-------------------------------------------|--------------------------------------------------------|---------------------|
| Foundation Year (Pre-Interior Design/PRI) | | |
| AIS 1213 | AIS: Architecture, Construction, and Planning (core) | 3 |
| ARC 1113 | Introduction to the Built Environment (core and major) | 3 |
| ARC 1213 | Design I | 3 |
| ARC 1313 | Design Visualization | 3 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|--------------------------------------------------------|----------------------------------------------------------|-----------|
| ARC 1224 | Design II | 4 |
| ARC 1513 | Great Buildings and Cities of the World (core and major) | 3 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| Mathematics core | | 3 |
| Life & Physical Sciences core | | 3 |
| GATEWAY TO MAJOR (Requires Application and Acceptance) | | |
| Credit Hours | | 16 |

Second Year**Fall**

| | | |
|-----------------------------------|---------------------------------------------------------|----|
| ARC 2156 or ARC 2166 | Drawing and Modeling Studio or Digital Design Studio | 6 |
| ARC 2233 | Principles of Environmental Systems | 3 |
| ARC 2413 | History of Architecture I (core and major) | 3 |
| IDE 2143 | Architecture and Interior Assemblies | 3 |
| Social & Behavioral Sciences core | | 3 |
| | Credit Hours | 18 |

Spring

| | | |
|-------------------------|---------------------------------------------------------|----|
| ARC 2166 or ARC 2156 | Digital Design Studio or Drawing and Modeling Studio | 6 |
| IDE 2153 | Interior Materials and Assemblies | 3 |
| IDE 2263 | Color Theory and Behavior | 3 |
| IDE 2413 | History of Interior Architecture I | 3 |
| | Credit Hours | 15 |

Third Year**Fall**

| | | |
|-----------------------------------|-------------------------------------|----|
| IDE 2423 | History of Interior Architecture II | 3 |
| IDE 3123 | Space Planning and Interior Details | 3 |
| IDE 3236 | Interior Design Studio I | 6 |
| American History core | | 3 |
| Government-Political Science core | | 3 |
| | Credit Hours | 18 |

Spring

| | | |
|-----------------------|-----------------------------|----|
| ARC 4183 | Environmental Systems | 3 |
| IDE 3246 | Interior Design Studio II | 6 |
| IDE 4233 | Computer Projects in Design | 3 |
| American History core | | 3 |
| | Credit Hours | 15 |

Fourth Year**Fall**

| | | |
|----------|---------------------------------------|----|
| IDE 4816 | International Studies Studio | 6 |
| IDE 4823 | International Studies Theory Seminar | 3 |
| IDE 4833 | International Studies Drawing Seminar | 3 |
| | Credit Hours | 12 |

Spring

| | | |
|-----------------------------------|----------------------------|-----|
| IDE 4266 | Systems Integration Studio | 6 |
| IDE 4513 | Practice and Ethics | 3 |
| Government-Political Science core | | 3 |
| Life & Physical Sciences core | | 3 |
| | Credit Hours | 15 |
| | Total Credit Hours | 124 |

Department of Construction Science

The Department of Construction Science offers a Bachelor of Science degree in Construction Science and Management.

Admission to the Major in Construction Science and Management

Available openings within the Construction Science and Management (CSM) program are limited and, therefore, entry is competitive. Top-performing students from high school will be admitted directly into the major. Successful applicants entering the University from high school and transfer students that meet the department requirements will be admitted into Academic Studies (XACP) in the University College. Students in Academic Studies will be reviewed before registration each academic semester and students will be accepted to the Construction Science and Management major (CSM) based on their grade point average (GPA) and number of available seats.

Direct Admission Criteria

Applicants entering UTSA as Freshmen will be directly admitted to the Construction Science and Management (CSM) major if they:

- meet all UTSA undergraduate admission requirements, and
- are ranked in the top 10 percent of their high school class (no minimum SAT or ACT scores required), *or*
- are ranked in the top 25 percent of their high school class and have a minimum 1170 SAT* or 24 ACT score, *or*
- are ranked in the top 50 percent of their high school class and have a minimum 1220 SAT* or 25 ACT score.

* *New SAT scores combine Evidence-Based Reading and Writing and Math.*

Transfer students with less than 12 transferable semester credit hours will be directly admitted to the Construction Science and Management (CSM) major if they:

- meet all UTSA undergraduate transfer admission requirements, and
- have a minimum transfer grade point average (GPA) of 3.0.

Transfer students with 12 or more transferable semester credit hours will be directly admitted to the Construction Science and Management (CSM) major if they:

- meet all UTSA undergraduate transfer admission requirements, and
- have a minimum transfer GPA of 3.1.

Freshmen and Transfer students who do not meet the above requirements, but meet UTSA's general admission requirements will be admitted to "Architecture, Construction and Planning Studies" in University College where students will be able to work towards meeting the prerequisites needed to declare Construction Science and Management as their major. Students in Architecture, Construction and Planning Studies will be reviewed before registration each academic semester and students will be accepted to the Construction Science and Management major (CSM) based on their grade point average (GPA) and number of available seats.

Students currently enrolled in UTSA who wish to change their major may apply to the Construction Science and Management major by submitting the "Change of Major Form" and "Unofficial Transcript" to the Construction Science Department located in the Monterey

Building. Current UTSA students interested in Construction Science and Management are first considered by the Department for Academic Studies (XACP) admission and then considered for possible admission into the CSM program. Change of major applications will be reviewed before registration each academic semester. Students will be accepted to the major based on their GPA and number of available seats.

Students not accepted into the CSM program are encouraged to improve their GPA and re-submit the application.

Laptop Program

Students must have a laptop (notebook) computer upon entering the program. The computer should be upgrade-able in order to be of productive use for the duration of the academic program.

Student Work

The Department of Construction Science reserves the right to retain, exhibit, and reproduce work submitted by students. Work submitted for grading is the property of the College of Architecture, Construction and Planning and remains such until it is returned to the student.

Bachelor of Science Degree in Construction Science and Management

The Construction Science and Management degree combines courses in construction science, design and business to educate managers for the construction industry. The minimum number of semester credit hours required for the degree, including Core Curriculum requirements, is 120, at least 39 of which need to be at the upper-division level. Students obtaining a Bachelor of Science (B.S.) degree in Construction Science and Management pursue management careers in a wide variety of occupations throughout the construction industry. The degree also provides students with the opportunity to continue with their studies in a graduate program.

The curriculum prepares students to manage the construction process on the job site and effectively interact with architects, engineers, owners and other professionals who compose the team required by the complexities of modern construction projects. Project owners recognize the need for timely project delivery, indoor/outdoor environmental quality, and short-term and life-cycle costing. Therefore, the curriculum emphasizes environmentally sustainable building practice, project and cost controls, communication skills, understanding the technical aspects of construction and the construction process, and the application of information technology to the construction industry. In addition to the formal academic curriculum, students are required to complete a construction management internship in the building industry between their junior and senior years. The program maintains a close partnership with the construction industry to provide graduates with various opportunities.

All candidates seeking this degree must fulfill the Core Curriculum requirements and the degree requirements

Core Curriculum Requirements (42 semester credit hours)

Students seeking the B.S. degree in Construction Science and Management must fulfill University Core Curriculum requirements in the same manner as other students. The courses listed below satisfy both degree requirements and Core Curriculum requirements; however, if these courses are taken to satisfy both requirements, then students may

need to take additional courses in order to meet the minimum number of semester credit hours required for this degree.

MAT 1043 or MAT 1053 may be used to satisfy the core requirement in Mathematics.

ES 2023 and GEO 1013 should be used to satisfy the core requirement in Life and Physical Sciences.

ECO 2023 should be used to satisfy the core requirement in Social and Behavioral Sciences.

COM 2113 should be used to satisfy the Component Area Option requirement.

Core Curriculum Component Area Requirements (p. 7)

| | |
|-----------------------------------|-----------|
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |
| Life and Physical Sciences | 6 |
| Language, Philosophy and Culture | 3 |
| Creative Arts | 3 |
| American History | 6 |
| Government-Political Science | 6 |
| Social and Behavioral Sciences | 3 |
| Component Area Option | 3 |
| Total Credit Hours | 42 |

Degree Requirements

A. Construction Science and Management Program sequence. Must be completed with a grade of "C-" or better in each course.

| | | |
|------------------------------------------------------------------------------|-----------------------------------------------------------|---|
| 1. Required courses in design, construction science, and project management: | | |
| CSM 2113 | Construction Materials and Methods | 3 |
| CSM 2143 | Construction Materials and Testing | 3 |
| CSM 3113 | Construction Surveying | 3 |
| CSM 3123 | Technical Communication | 3 |
| CSM 3143 | Structures I | 3 |
| CSM 4013 | Construction Estimating I | 3 |
| CSM 4023 | Construction Estimating II | 3 |
| CSM 4143 | Structures II | 3 |
| CSM 4513 | Project Management | 3 |
| CSM 4523 | Project Planning and Scheduling | 3 |
| CSM 4533 | Building Information Modeling for Construction Management | 3 |
| CSM 4613 | Sustainable Building Practice | 3 |
| CSM 4623 | Construction Safety | 3 |
| CSM 4633 | Construction Law | 3 |
| CSM 4643 | Mechanical, Electrical and Plumbing Systems | 3 |
| CSM 4713 | Construction Capstone | 3 |
| CSM 4933 | Summer Internship | 3 |
| 2. Required business and related courses: | | |
| ACC 2013 | Principles of Accounting I | 3 |
| BLW 3013 | Business Law | 3 |
| FIN 3003 | Survey of Finance | 3 |
| GBA 2013 | Legal, Social and Ethical Issues in Business | 3 |

| | | |
|------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|----|
| MGT 3013 | Introduction to Organization Theory, Behavior, and Management | 3 |
| 3. One course in physics: | | |
| PHY 1603 | Algebra-based Physics I | 3 |
| 4. One course in statistics: | | |
| STA 1053 | Basic Statistics | 3 |
| B. Two prescribed or preapproved electives selected from the following list, with a grade of "C-" or better in each course: | | |
| CSM 4913 | Independent Study | 6 |
| CSM 4953 | Special Studies in Construction Science and Management | |
| FIN 3013 | Principles of Business Finance | |
| GEO 3343 | Introduction to Geospatial Technologies | |
| MGT 3003 | Business Communication and Professional Development | |
| MGT 3253 | Interpersonal Communication | |
| MGT 4893 | Management Strategy | |
| MKT 3013 | Principles of Marketing | |
| MS 3043 | Business Statistics with Computer Applications II | |
| MS 3053 | Management Science and Operations Technology | |
| MS 3073 | Business Intelligence and Analytics | |
| MS 3403 | Logistics Management | |
| MSC 2012 | Leadership and Decision Making | |
| PAD 3143 | Urban and Regional Planning | |
| SPN 2023 | Intermediate Spanish II | |
| Total Credit Hours | | 78 |

B.S. in Construction Science and Management – Recommended Four-Year Academic Plan

Students are strongly encouraged to complete WRC 1013, WRC 1023, MAT 1043 or MAT 1053, and PHY 1603 in their first year.

First Year

| Fall | | Credit Hours |
|---------------------------------------|--------------------------------------------------------------------------------|--------------|
| First Semester (Fall or Spring) | | |
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| MAT 1043 or MAT 1053 | Introduction to Mathematics (core) ¹ or Mathematics for Business | 3 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| American History core | | 3 |
| Language, Philosophy and Culture core | | 3 |
| Credit Hours | | 15 |
| Spring | | |
| Second Semester (Fall or Spring) | | |
| ES 2023 or GEO 1013 | Introduction to Environmental Science II (core) or The Third Planet | 3 |
| PHY 1603 | Algebra-based Physics I ¹ | 3 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| American History core | | 3 |
| Creative Arts core | | 3 |
| Credit Hours | | 15 |

Second Year

Fall

Third Semester (Fall or Spring)

| | | |
|------------------------|------------------------------------------------------------------------|----|
| CSM 2113 | Construction Materials and Methods ² | 3 |
| CSM 3123 | Technical Communication ² | 3 |
| COM 2113 | Public Speaking | 3 |
| GEO 1013 or ES 2023 | The Third Planet (core) or Introduction to Environmental Science II | 3 |
| MGT 3013 | Introduction to Organization Theory, Behavior, and Management | 3 |
| Credit Hours | | 15 |

Spring

Fourth Semester (Fall or Spring)

| | | |
|--------------|------------------------------------------------------------------------|----|
| CSM 2143 | Construction Materials and Testing | 3 |
| CSM 4513 | Project Management ² | 3 |
| CSM 4533 | Building Information Modeling for Construction Management ² | 3 |
| CSM 4623 | Construction Safety | 3 |
| STA 1053 | Basic Statistics | 3 |
| Credit Hours | | 15 |

Summer

| | | |
|--------------|------------------------|---|
| CSM 3113 | Construction Surveying | 3 |
| Credit Hours | | 3 |

Third Year

Fall

Fifth Semester (Fall or Spring)

| | | |
|-------------------------|-------------------------------------------------------------------------|----|
| ACC 2013 | Principles of Accounting I | 3 |
| CSM 3143 | Structures I | 3 |
| CSM 4013 | Construction Estimating I | 3 |
| CSM 4643 | Mechanical, Electrical and Plumbing Systems | 3 |
| ECO 2003 or ECO 2023 | Economic Principles and Issues (core) or Introductory Microeconomics | 3 |
| Credit Hours | | 15 |

Spring

Sixth Semester (Fall or Spring)

| | | |
|--------------|---------------------------------|----|
| CSM 4023 | Construction Estimating II | 3 |
| CSM 4143 | Structures II | 3 |
| CSM 4523 | Project Planning and Scheduling | 3 |
| CSM 4633 | Construction Law | 3 |
| FIN 3003 | Survey of Finance | 3 |
| Credit Hours | | 15 |

Summer

| | | |
|--------------|-------------------|---|
| CSM 4933 | Summer Internship | 3 |
| Credit Hours | | 3 |

Fourth Year

Fall

Seventh Semester (Fall or Spring)

| | | |
|----------|-------------------------------|---|
| CSM 4613 | Sustainable Building Practice | 3 |
|----------|-------------------------------|---|

Department of Construction Science

| | | |
|---------------------|----------------------------------------------|----|
| GBA 2013 | Legal, Social and Ethical Issues in Business | 3 |
| POL 1013 | Introduction to American Politics (core) | 3 |
| Prescribed Elective | | 3 |
| | Credit Hours | 12 |

Spring

Eighth Semester (Fall or Spring)

| | | |
|-------------------------|---------------------------------------------------------------------------|-----|
| BLW 3013 | Business Law | 3 |
| CSM 4713 | Construction Capstone | 3 |
| POL 1133 or POL 1213 | Texas Politics and Society (core) or Civil Rights in Texas and America | 3 |
| Prescribed Elective | | 3 |
| | Credit Hours | 12 |
| | Total Credit Hours | 120 |

1

Students are strongly encouraged to complete MAT 1043 or MAT 1053 and PHY 1603 in their first year.

2

Students are strongly encouraged to complete CSM 2113, CSM 3123, CSM 4513, and CSM 4533 in their second year.

5. COLLEGE OF BUSINESS

Mission Statement

The College of Business is dedicated to creating and sharing knowledge that enhances the translation of theory to practice. The College combines rigor with relevance and provides innovative solutions to global business challenges.

General Information

The College of Business welcomes all students dedicated to academic success in the study of business. The College is currently accredited by the AACSB (Association to Advance Collegiate Schools of Business) International and is one of a select group of programs internationally with separate accreditation at the undergraduate, master's and doctoral levels in accounting.

Students who graduate from the College of Business will enter a dynamic employment market that values graduates with market based skills. To meet the demands of our students and the employment market, the College of Business offers 13 undergraduate majors. Additionally, students can select from 14 different minors to augment the knowledge and skills acquired in their major. The College also offers seven supporting business competencies which are multidisciplinary sets of electives combined to create valuable skills. Finally, the College currently offers three undergraduate certificate programs.

The preponderance of our undergraduate courses are offered in a traditional classroom setting, which exploits current technologies through the use of a learning management system and contemporary classroom technologies. We are also greatly expanding student access to online courses, especially for the Common Body of Knowledge (CBK) courses, as well as the online B.B.A. in Cyber Security.

The College offers comprehensive career preparation and services through the Center for Student Professional Development (CSPD). The CSPD is devoted to transforming business students into business professionals and to meeting the recruitment needs of employers locally and globally. The CSPD enhances the business curriculum by helping students build the skills and knowledge that will help them be more confident and polished when they enter the business world. Workshops and events are woven into the academic curriculum of the College.

College of Business Undergraduate Admission Policy for the Bachelor of Business Administration Degree

The College of Business (COB) at UTSA seeks to use available resources in ways that best prepare as many qualified students as possible for careers in business. Students who meet direct admission requirements may declare their B.B.A. major. Students who do not meet the requirements for declaration of a B.B.A. major will remain in business studies until admission requirements are met.

Direct Admission Criteria Freshmen

Applicants entering UTSA from high school will be directly admitted to any B.B.A. major if they meet the requirements listed under option 1 or option 2 below:

Option 1:

- meet all UTSA undergraduate admission requirements,
- are ranked in the top 25 percent of their high school class,
- earn a minimum SAT score of 1100 (old SAT), 1170 (new SAT), or a 24 composite score on the ACT, and
- have successfully completed evaluation under the Texas Success Initiative (TSI) for unencumbered registration for courses.

Option 2:

- meet all UTSA undergraduate admission requirements,
- earn a minimum SAT score of 1200 (old SAT), 1270 (new SAT), or a 27 composite score on the ACT, and
- have successfully completed evaluation under the Texas Success Initiative (TSI) for unencumbered registration for courses.

Transfer Students

Applicants who have attended college after high school and have earned transferable college credit will be directly admitted to any B.B.A. major if they:

- meet all UTSA undergraduate admissions requirements,
- have a transfer grade point average (GPA) of 3.0 or higher,
- have completed MAT 1053 Mathematics for Business (TCCN MATH 1324) or an equivalent with a grade of "C-" or better, and
- have successfully completed evaluation under the Texas Success Initiative (TSI) for unencumbered registration for courses.

Business Studies: Declaring a Business Major

Applicants who do not meet direct admission criteria will have the opportunity to earn admission to the B.B.A. degree major after they complete the following requirements:

- successfully complete evaluation under the Texas Success Initiative (TSI),
- complete MAT 1053 Mathematics for Business (TCCN: MATH 1324) or equivalent with a grade of "C-" or better, or MAT 1214 Calculus I (TCCN MATH 2413) with a grade of "C-" or better for majors in Actuarial Science, and WRC 1013 Freshman Composition I Freshman Composition I (TCCN: ENGL 1301) or equivalent with a grade of "C-" or better,
- be in good academic standing the semester that the MAT 1053 requirement is satisfied: students must maintain both a UTSA and College of Business GPA of 2.0 or higher.

Internal Transfers

An internal transfer student is one who is enrolled at UTSA outside of business studies and wants to pursue a business degree in the College of Business. In order to declare a business major, internal transfer students must complete the following requirements:

- successfully complete evaluation under the Texas Success Initiative (TSI),
- complete MAT 1053 (TCCN MATH 1324) or equivalent with a grade of "C-" or better, or MAT 1214 (TCCN MATH 2413) with a grade of "C-" or better for majors in Actuarial Science, and
- be in good academic standing the semester that the MAT 1053 requirement is satisfied: students must maintain both a UTSA and College of Business GPA of 2.0 or higher.

Students will remain in business studies until the admission requirements are met. Non-admitted students may elect to complete a business minor approved for non-business students.

Business Math Gateway Course

Students pursuing a Bachelor of Business Administration degree (B.B.A.) or a Bachelor of Arts in Economics must successfully complete the business math gateway course MAT 1053 (TCCN MATH 1324) or equivalent with a grade of "C-" or better in no more than two attempts. A student who is unable to successfully complete this course within two attempts, including dropping the course with a grade of "W," or by taking an equivalent course at another institution, will be required to change his or her major outside of business. Upon the second failed attempt students will be changed from Business Studies to undeclared (UND) and will not be eligible for a Bachelor of Business Administration (B.B.A) or a Bachelor of Arts in Economics degree.

Business students must register for a required mathematics course every semester beginning with their first semester of enrollment until the math requirements (MAT 1053 and MAT 1133) are fulfilled. Both MAT 1053 and MAT 1133 (MAT 1214 for Actuarial Science, Statistics and Data Science majors) must be completed with grades of "C-" or higher.

Declaration of Major Policy for the Bachelor of Arts in Economics and the Bachelor of Science in Statistics and Data Science

First-time freshmen and transfer students admitted in good standing have direct admission to the B.A. in Economics or a B.S. in Statistics and Data Science. Current students seeking to change their major to a B.A. in Economics or a B.S. in Statistics and Data Science must have a 2.0 transfer GPA to declare the major. Declaration of major forms may be submitted to the student's primary academic advisor. Students seeking these degrees are subject to the academic standing policy of the College of Business.

Academic Standing for Declared Business Majors

College of Business majors (B.B.A. degrees, B.A. degree in Economics and B.S. degree in Statistics and Data Science) must maintain good academic standing. This requires that the student maintain a UTSA grade point average of at least 2.0 every semester and meet all University regulations related to good academic standing. Students on probation with UTSA may remain in the College of Business; however, declared business students who are dismissed from UTSA for low academic performance may not return to the College of Business. If the student chooses to return to UTSA, the student must select a new major outside of business.

In order to graduate, all College of Business majors must maintain a UTSA and Major GPA of 2.0 or higher.

Business Honors Program

The Business Honors distinction is available only to students admitted to the Business Honors Program (BHP). The Business Honors Program provides outstanding students with opportunities to benefit from an enriched first-class education. Business Honors students will take smaller classes taught by some of the best faculty in the College. Additionally, the program is designed to give our students a competitive

edge in the job market. Students are required to complete a total of 12 credit hours of business honors coursework as well as experiential learning activities during their undergraduate education.

Business honors students may participate in the Honors College Program along with the Business Honors Program. Business students in the Honors College electing to participate in the Business Honors Program must submit the acknowledgement form.

Program Admission

Students pursuing majors in the College of Business are eligible to apply and participate. Students interested in admission to the Business Honors Program must complete an application. Every Honors applicant is evaluated on an individual basis. Admission to the Business Honors Program is competitive.

Transfer Students

Applicants who have attended college after high school and have earned a minimum of 12 transferable college credit hours will be directly admitted to the Business Honors program if they:

- Meet all UTSA undergraduate admissions requirements.
- Have a transfer grade point average (GPA) of 3.5 or higher (minimum of 12 transferable college credit hours).
- Have completed MAT 1053 Mathematics for Business (TCCN MATH 1324) or equivalent with a grade of "C-" or better.
- Have successfully completed evaluation under the Texas Success Initiative (TSI) for unencumbered registration for courses.

Current UTSA Business Students

Applicants who are current UTSA students will be evaluated using the following criteria:

- Students must be pursuing a business degree.
- Students must have at least 12 UTSA semester credit hours that apply toward graduation with at least one semester completed at UTSA.
- Students must demonstrate high academic achievement with a minimum UTSA and College of Business grade point average of 3.25.
- Students must have well-documented involvement in extracurricular activities and/or work experience.
- Students must demonstrate exceptional involvement and leadership in the business school and/or at UTSA.
- Students must prepare and submit an application essay.

Program Requirements

The Business Honors Program requires its members to meet academic and experiential learning requirements in order to graduate with the Business Honors designation. In order to earn the Business Honors designation, program participants must:

1. Maintain a minimum cumulative UTSA and COB grade point average of 3.25
2. Complete 12 semester credit hours of Business Honors coursework. Business Honors classes emphasize enhanced experiential and applied learning activities, class discussion, presentations, and business research. Contingent upon available space, students with outstanding academic records may apply for admission into these classes subject to approval by the Business Honors Program office.
3. Experiential learning requirements: The Business Honors Program promotes participation in activities outside of the classroom to

enhance the undergraduate experience. Therefore, Business Honors Program students must demonstrate that they have participated in experiential learning activities during their undergraduate education. The experiential learning requirements will be provided in the COB honors program handbook. Other program requirements may apply.

Scholarships

The College of Business has many scholarships available to assist students in reaching their educational and career goals. The scholarship program within the College is managed generally by the College of Business Office of the Dean. Students should visit the College of Business website for information and application procedures for all scholarships within the College. Detailed information and eligibility requirements for specific scholarships administered through the College are available at <https://business.utsa.edu/scholarships/>. Additional scholarship information is available through the UTSA Scholarship Office. The number and amounts of scholarship awards vary. Additionally, scholarship eligibility requirements differ, but may include considerations of grade point average, financial need, number of semester credit hours completed, enrollment status, activities, residency status, or bilingualism. Students must complete the application process and submit required documentation by the deadlines stated on application materials. Students will be considered for all awards for which they meet the eligibility criteria. Award amounts are generally disbursed equally among the semesters covered by the scholarship as long as recipients continue to meet grade point average, enrollment, and other scholarship criteria.

Minors in the College of Business

The following College of Business minors are open to any UTSA major:

Actuarial Science; Adaptive Decision Models for Business; Cyber Security; Digital Forensics; Economics; Information Systems; Management Science; Marketing; Network and Data Center Management; Sports Management, and Statistics.

Students with majors outside of the College of Business may not seek more than one business minor.

The following College of Business minor is open to B.B.A. majors only:

Finance.

The following College of Business minors are open to nonbusiness majors, B.A. in Economics majors, and B.S. in Statistics and Data Science majors only:

Business Administration, and Technology Management.

Students with majors outside of the College of Business may not seek more than one business minor.

Supporting Business Competencies in the College of Business

Students admitted to the College of Business will have the opportunity to complete a supporting business competency. A supporting business competency is a multidisciplinary collection of elective courses which together provide the student with an opportunity to pursue a specialized market-based skill. Supporting business competencies will not appear as a credential on student transcripts. The College of Business currently offers the following seven supporting business competencies.

Once students have been admitted to the College, declare their major, and are considering completing a competency, they should be aware of prerequisite course when planning their degree.

Analytics (9 semester credit hours) – Students who complete the Analytics competency will prepare to properly collect, process and analyze data; to generate and interpret results, and to draw and communicate informed conclusions in order to support business and economic decision making.

Select three courses from the following:

| | | |
|----------|-------------------------------------------------------|---|
| ACC 3163 | Quantitative Analysis for Accountants | 3 |
| ECO 3123 | Introduction to Econometrics and Business Forecasting | 3 |
| FIN 4873 | Computer Modeling of Financial Applications | 3 |
| MKT 4953 | Special Studies in Marketing | 3 |
| MS 3073 | Business Intelligence and Analytics | 3 |
| MS 3313 | Business Applications of Statistics | 3 |
| MS 4383 | Predictive Operational Analytics | 3 |
| MS 4323 | Simulation Applications in Business | 3 |

Business Research (9 semester credit hours) – The Business Research competency is designed for students who would like to explore a future career in academe, research or consulting. It provides students an outstanding opportunity to develop their research acumen. Students who complete the Business Research competency will enhance their understanding of the nature of research, and the process to prepare for subsequent study in a doctoral program.

Select three courses from the following:

| | | |
|-------------|---------------------------------------------------------------|---|
| GBA 3013 | Introduction to Academic Research | 3 |
| And either: | | |
| GBA 4023 | Conducting Cutting Edge and Innovative Research and Discovery | 3 |
| GBA 4033 | Communication and Visualization of Impactful Research | 3 |
| Or: | | |
| GBA 4993 | Honors Thesis (repeated) | 6 |

Entrepreneurship (9 semester credit hours) – Students who complete the Entrepreneurship competency will prepare to participate in the creation, launch and management of new business ventures.

Select three courses from the following:

| | | |
|---------------------------|-------------------------------------------|---|
| ENT 3123 | Innovation and Entrepreneurship | 3 |
| And two of the following: | | |
| BLW 3013 | Business Law | 3 |
| ENT 4123 | Commercialization and Enterprise Planning | 3 |
| ENT 4903 | Business Venture Practicum | 3 |
| FIN 4333 | Business Finance for Entrepreneurs | 3 |
| MKT 4053 | New Product Development | 3 |
| MOT 4023 | Essentials of Technology Management | 3 |

International Business (9 semester credit hours) – Students who complete the International Business competency will prepare to understand international marketing, strategic, financial and economic issues that confront managers of multinational enterprises.

5. College of Business

Select three courses from the following:

| | | |
|----------|------------------------------------------------|---|
| ECO 3193 | International Economics | 3 |
| FIN 4613 | Introduction to International Finance | 3 |
| GBA 4873 | Global Business Immersion I | 3 |
| MGT 4073 | International Management | 3 |
| MGT 4083 | Comparative International Management Practices | 3 |
| MKT 4073 | International Marketing | 3 |

Leading Change (9 semester credit hours) – Students who complete the Leading Change competency will prepare to lead teams of professionals to plan projects, deliver solutions and improve efficiency and effectiveness in the contemporary organization.

Select three courses from the following:

| | | |
|---------------------------|--------------------------------------------|---|
| MGT 4923 | Leading Organizations and Making Decisions | 3 |
| And two of the following: | | |
| MGT 4433 | Introduction to Business Negotiations | 3 |
| MGT 4943 | Managing Teams and Avoiding Conflict | 3 |
| MOT 4143 | Introduction to Project Management | 3 |
| MS 4313 | Six Sigma and Lean Operations | 3 |

Modeling (9 semester credit hours) – Students who complete the Modeling competency will prepare to perform, through proper use of quantitative and computer models, problem solving and decision analysis in support of business functions in a real world environment.

Select three courses from the following:

| | | |
|----------|-------------------------------------------------------|---|
| ECO 3123 | Introduction to Econometrics and Business Forecasting | 3 |
| FIN 4873 | Computer Modeling of Financial Applications | 3 |
| MS 3063 | Decision Support Systems | 3 |
| MS 4383 | Predictive Operational Analytics | 3 |
| MS 4323 | Simulation Applications in Business | 3 |

Risk Management (9 semester credit hours) – Students who complete the Risk Management competency will prepare to identify sources of risk in an enterprise and manage this risk in a prudent manner.

Select three courses from the following:

| | | |
|----------|--------------------------------------|---|
| FIN 4523 | Introduction to Risk Management | 3 |
| FIN 4813 | Property-Liability Insurance Finance | 3 |
| FIN 4823 | Life and Health Insurance Finance | 3 |
| FIN 3453 | Derivative Markets | 3 |

Enrollment in College of Business Courses

In response to legislative and employer demands for graduates with marketable skills, students in any UTSA major may register for the following upper division courses:

| | | |
|----------|-------------------------------------|---|
| FIN 3053 | Introduction to Personal Finance | 3 |
| MKT 4033 | Social Media Marketing | 3 |
| MKT 4253 | Digital Marketing | 3 |
| MOT 4023 | Essentials of Technology Management | 3 |
| MOT 4143 | Introduction to Project Management | 3 |

Additionally, students pursuing any minor or certificate in the College of Business for which they qualify may enroll in any of the upper division business courses required by the minor or certificate.

Finally, students in any UTSA major may enroll in FIN 3003, MGT 3013, MKT 3013 and any Statistics (prefix: STA) course as long as they satisfy the course prerequisites. Otherwise, all College of Business courses at the 3000- and 4000-level are restricted to College of Business majors or to students who require the courses for their particular degree. Students outside the College of Business may petition to enroll in other 3000- and 4000-level College of Business courses. Evaluation of all petitions to enroll in major restricted courses will consider whether (a) the course applies to their degree plan, (b) the student meets all prerequisites and (c) the availability of seats. All petitions must be approved by the appropriate Department Chair and College Dean.

Enrollment in MGT 3003 Business Communication and Professional Development and ACC 2033 Principles of Accounting II are restricted to students in business studies and declared business majors only .

Students majoring in fields outside the College of Business may not take more than 27 semester credit hours in the College without approval of the Dean of the College of Business.

ACC 2003, FIN 3003 and ECO 2003 are courses that may not be applied toward a B.B.A. degree, and grades earned in these courses will not be included in the COB and major GPA.

All degrees in the College of Business require 120 hours. If a student elects to take a course that satisfies both a University Core Curriculum and College Of Business requirement, students may need to take an additional course to meet the 120 hours.

College of Business Academic Credit Internship Policy

An academic credit internship requires a student to perform scholarly work in conjunction with a paid internship. The academic internship must be supervised by a faculty member, and the scope and nature of the scholarly work must be defined and approved by the faculty member before the student can register for an academic credit internship.

The policy for undergraduate students to enroll in internships for academic credit includes the following provisions:

1. The student must be a declared major in the College of Business and in good academic standing at UTSA and in the College of Business.
2. The student must:
 - Have completed a minimum of 60 semester credit hours, of which a minimum of 15 credit hours have been completed at UTSA.
 - Meet all internship course prerequisites, including the minimum grade point average required for enrolling in the internship.
3. The internship must be in (or related to) the student's declared major. The student should consult his or her major degree requirements for specific details.
4. Internships at all for-profit companies must be paid at an hourly rate equivalent to the minimum wage or higher to be in compliance with the Department of Labor guidelines.
5. Each student must meet the requirements of his or her catalog of graduation regarding the total number of semester credit hours that may be earned through internships for academic credit, and meet the following provisions:

- Each 3-credit-hour academic internship must be completed with a different company/organization.
 - An academic credit internship with a firm at which a student is currently employed may be considered, but only if clear evidence shows that the internship is substantially and programmatically different from such employment.
6. The internship must last at least 200 work hours within the term of enrollment in which the student is seeking academic credit.

Independent Study

In order to qualify for an independent study, students must have a COB GPA of 3.0 and permission in writing from the instructor, Department Chair, and the Dean of the College in addition to any departmental prerequisites. See academic advisor for the required forms.

Laptop Policy

Students enrolled in the College of Business are required to own a laptop that meets minimum program specifications. Minimum specifications for each program are available on the College of Business website.

Common Body of Knowledge (CBK)

All students seeking a B.B.A. degree in the College of Business must complete the following Common Body of Knowledge (CBK) courses in addition to the Core Curriculum.

| | | |
|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|---|
| ACC 2013 | Principles of Accounting I | 3 |
| ACC 2033 | Principles of Accounting II | 3 |
| COM 1053 or COM 1063 | Business and Professional Speech Digital Business Communication | 3 |
| ECO 2013 | Introductory Macroeconomics | 3 |
| ECO 2023 | Introductory Microeconomics (satisfies Social and Behavioral Sciences Core Curriculum requirement) | 3 |
| FIN 3013 | Principles of Business Finance | 3 |
| GBA 2013 | Legal, Social and Ethical Issues in Business | 3 |
| IS 1403 or IS 1413 | Business Information Systems Fluency Excel for Business Information Systems | 3 |
| IS 3003 | Principles of Information Systems for Management | 3 |
| MAT 1133 | Calculus for Business (satisfies Mathematics Core Curriculum requirement, Actuarial Science majors must take MAT 1214 in lieu of MAT 1133) | 3 |
| MGT 3003 | Business Communication and Professional Development | 3 |
| MGT 3013 | Introduction to Organization Theory, Behavior, and Management | 3 |
| MGT 4893 | Management Strategy (taken in semester of graduation) | 3 |
| MKT 3013 | Principles of Marketing | 3 |
| MS 1023 | Business Statistics with Computer Applications I (Actuarial Science majors must take STA 3003 in lieu of MS 1023) | 3 |
| MS 3043 | Business Statistics with Computer Applications II (Actuarial Science majors must take STA 3513 in lieu of MS 3043) | 3 |
| MS 3053 | Management Science and Operations Technology | 3 |

Note: Students majoring in Accounting, Actuarial Science, Economics, Finance, Management Science, Business Analytics, and Statistics and Data Science are strongly encouraged to select IS 1413 Excel for Business Information Systems.

Students completing degree course requirements with fewer than 120 semester credit hours will augment their program with electives.

Bachelor of Business Administration Degree in Cyber Security – Online Degree

The minimum number of semester credit hours for the Bachelor of Business Administration (B.B.A.) degree in Cyber Security is 120, at least 39 of which must be at the upper-division level.

All candidates seeking this degree must fulfill the University Core Curriculum requirements, the Common Body of Knowledge (CBK) requirements, and the degree requirements, which are listed under the Department of Information Systems and Cyber Security (p. 47) section of this catalog.

Admission Requirements

1. First-Time Freshmen

You are a first-time freshman applicant if you have not graduated from high school at the time of application or you have graduated from high school, but did not enroll in a college or university since graduation.

Prospective first-time freshman students qualify for direct admission to the online Bachelor of Business Administration (B.B.A.) degree in Cyber Security if they:

- meet all UTSA undergraduate admission requirements,
- have graduated in the top quartile of their high school graduation class, or
- have graduated in the second quartile of their high school class and have an SAT score of at least 1100 (Reading and Math, old SAT), 1170 (Reading and Math, new SAT) or an ACT composite score of at least 24

AND

- have successfully completed evaluation under the Texas Success Initiative (TSI), and
- qualify for enrollment in the following:
 - MAT 1053 Mathematics for Business or a higher level mathematics course, and
 - WRC 1013 Freshman Composition I or higher.

2. Current UTSA Students

You are a current student if you have been admitted to UTSA and are enrolled in coursework. Current UTSA students need to meet the criteria below to be considered for direct admission to the online B.B.A. degree in Cyber Security:

- completed at least 12 semester credit hours of UTSA credit,
- earned a 2.50 overall UTSA GPA,

5. College of Business

C. successfully completed evaluation under the Texas Success Initiative (TSI), and

D. qualify for enrollment in the following:

I. MAT 1053 Mathematics for Business or a higher level mathematics course, and

II. WRC 1013 Freshman Composition I or higher.

To declare a Minor in Business Administration, obtain advice and seek approval of substitutions for course requirements with your academic advisor.

Applying as a Current UTSA Student

Submit a Student Petition to the Department of Information Systems and Cyber Security.

3. Transfer Students

Transfer students are applicants who have earned transferable credit hours from a college or university and have been out of high school for at least one semester (not including summer).

Prospective transfer students need to meet the criteria below to be considered for direct admission to the online B.B.A. degree in Cyber Security:

A. meet all UTSA undergraduate transfer admission requirements,

B. have a transfer grade point average of at least 2.50 overall GPA on a 4.0 scale in all transferable coursework and be eligible to return to the most recent institution,

C. qualify for enrollment in or completed the equivalent of the following:

I. MAT 1053 Mathematics for Business or a higher level mathematics course, and

II. WRC 1013 Freshman Composition I or higher.

4. Post Baccalaureate

Post Baccalaureate students who have completed a degree from an accredited university have direct admission into the Online Cyber Security program.

Minor in Business Administration

The Minor in Business Administration is open to all University majors (including B.A. in Economics and B.S. in Statistics and Data Science), except business students seeking a B.B.A. degree. The following 18 semester credit hours are required in the College of Business:

A. Required Courses

| | | |
|--------------------|---------------------------------------------------------------|----|
| ACC 2003 | Foundations of Accounting | 3 |
| or ACC 2013 | Principles of Accounting I | |
| ECO 2023 | Introductory Microeconomics | 3 |
| FIN 3003 | Survey of Finance | 3 |
| IS 1403 | Business Information Systems Fluency | 3 |
| MGT 3013 | Introduction to Organization Theory, Behavior, and Management | 3 |
| MKT 3013 | Principles of Marketing | 3 |
| Total Credit Hours | | 18 |

Department of Accounting

Mission Statement

The mission of the Department of Accounting is to advance accounting knowledge and practice through excellence in accounting education, high-impact research, and professional outreach activities that serve the constituents of the Department in the state, the nation, and the global community.

The Department of Accounting offers both a Bachelor of Business Administration degree in Accounting, and a five-year (150-hour) Professional Accounting Program.

Three-Attempt Limit for the Department of Accounting

A student unable to achieve the minimum required grade in an upper-division accounting course within three enrollments (attempts) shall be required to change his or her major to a field outside of the Department of Accounting. Enrollment in a course for a period of time sufficient for assignment of a grade, including a grade of "W," is considered an attempt.

Principles of Accounting Competency Exam (PACE)

All students must take and pass the Principles of Accounting Competency Exam (PACE) prior to registering for ACC 3023 Intermediate Accounting I. For more information, visit the Testing Services website (<https://testing.utsa.edu/principles-of-accounting-competency-exam-pace/>). Registration dates are posted on ASAP every semester. You may take the exams twice in a single semester and you must pass the PACE in four attempts. A student who is unable to successfully pass the PACE in four attempts will be required to change to a major outside of accounting.

- B.B.A. Degree in Accounting (p. 35)
- Five-Year (150-Hour) Professional Accounting Program (p. 37)

Bachelor of Business Administration Degree in Accounting

The minimum number of semester credit hours for the Bachelor of Business Administration (B.B.A.) degree in Accounting is 120, at least 39 of which must be at the upper-division level.

All candidates seeking this degree must fulfill the Core Curriculum requirements, the Common Body of Knowledge (CBK) requirements, and the degree requirements, which are listed below. Accounting majors must have an overall grade point average of 2.0 or better in the major courses listed under section A of the Degree Requirements for the B.B.A. in Accounting.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the B.B.A. degree in Accounting must fulfill University Core Curriculum requirements in the same manner as other students.

MAT 1053 and MAT 1133 should be used to satisfy the core requirement in Mathematics (020) and the core requirement in the Component Area Option (090). ECO 2023 should be used to satisfy the core requirement in Social and Behavioral Sciences (080).

MAT 1133 and ECO 2023 may be used to satisfy both Core Curriculum requirements and Common Body of Knowledge (CBK) requirements.

All degrees in the College of Business require 120 hours. If students elect to take a course that satisfies both a Core and COB requirement, students may need to take an additional course to meet the 120 hours.

Core Curriculum Component Area Requirements (p. 7)

| | |
|-----------------------------------|-----------|
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |
| Life and Physical Sciences | 6 |
| Language, Philosophy and Culture | 3 |
| Creative Arts | 3 |
| American History | 6 |
| Government-Political Science | 6 |
| Social and Behavioral Sciences | 3 |
| Component Area Option | 3 |
| Total Credit Hours | 42 |

Common Body of Knowledge (CBK)

All students seeking a B.B.A. degree in the College of Business must complete the following Common Body of Knowledge (CBK) courses in addition to the Core Curriculum.

| | | |
|-------------|--------------------------------------------------------------------------------------------------------------------------------------------|---|
| ACC 2013 | Principles of Accounting I | 3 |
| ACC 2033 | Principles of Accounting II | 3 |
| COM 1053 | Business and Professional Speech | 3 |
| or COM 1063 | Digital Business Communication | |
| ECO 2013 | Introductory Macroeconomics | 3 |
| ECO 2023 | Introductory Microeconomics (satisfies Social and Behavioral Sciences Core Curriculum requirement) | 3 |
| FIN 3013 | Principles of Business Finance | 3 |
| GBA 2013 | Legal, Social and Ethical Issues in Business | 3 |
| IS 1403 | Business Information Systems Fluency | 3 |
| or IS 1413 | Excel for Business Information Systems | |
| IS 3003 | Principles of Information Systems for Management | 3 |
| MAT 1133 | Calculus for Business (satisfies Mathematics Core Curriculum requirement, Actuarial Science majors must take MAT 1214 in lieu of MAT 1133) | 3 |
| MGT 3003 | Business Communication and Professional Development | 3 |
| MGT 3013 | Introduction to Organization Theory, Behavior, and Management | 3 |
| MGT 4893 | Management Strategy (taken in semester of graduation) | 3 |
| MKT 3013 | Principles of Marketing | 3 |
| MS 1023 | Business Statistics with Computer Applications I (Actuarial Science majors must take STA 3003 in lieu of MS 1023) | 3 |
| MS 3043 | Business Statistics with Computer Applications II (Actuarial Science majors must take STA 3513 in lieu of MS 3043) | 3 |
| MS 3053 | Management Science and Operations Technology | 3 |

Note: Students majoring in Accounting, Actuarial Science, Economics, Finance, Management Science, Business Analytics, and Statistics and Data Science are strongly encouraged to select IS 1413 Excel for Business Information Systems.

In addition to the Core Curriculum requirements and requirements from the College of Business Common Body of Knowledge (CBK), all candidates for the degree must complete the following degree requirements.

Gateway Courses

Students pursuing the B.B.A. degree in Accounting must successfully complete each of the following Gateway Courses with a grade of "C-" or better in no more than two attempts. A student who is unable to successfully complete these courses within two attempts, including dropping a course with a grade of "W", or by taking an equivalent course at another institution, will be required to change his or her major.

| | | |
|----------|---------------------------|---|
| ACC 3023 | Intermediate Accounting I | 3 |
| MAT 1053 | Mathematics for Business | 3 |

Degree Requirements

| | |
|------------------------------------------------------------------------------------|--------------------------------------------|
| A. Major Requirements | 27 |
| ACC 3023 | Intermediate Accounting I |
| ACC 3033 | Intermediate Accounting II |
| ACC 3043 | Federal Income Taxation |
| ACC 3113 | Accounting Information Systems |
| ACC 3123 | Cost Analysis |
| ACC 3163 | Quantitative Analysis for Accountants |
| ACC 4013 | Principles of Auditing |
| ACC 4163 | Contemporary Issues in Accounting Practice |
| BLW 3033 | Business Law for Accountants |
| B. Support Work in Major | 6 |
| Option 1: Complete a Business Competency (6 semester credit hours in a competency) | |
| Option 2: Complete 6 semester credit hours of upper-division business electives | |
| Total Credit Hours | 33 |

Notes for students who intend to take the Certified Public Accountant (CPA) examination:

- The educational requirements for candidates applying for the CPA examination in Texas are regulated by the Texas State Board of Public Accountancy. Students with questions about requirements or eligibility should contact the Texas State Board of Public Accountancy, 333 Guadalupe, Tower III, Suite 900, Austin, TX 78701 or 512-305-7851 or visit their website at www.tsbpa.state.tx.us (<http://www.tsbpa.state.tx.us>).
- The 24 semester credit hours of upper-division accounting hours required to earn a B.B.A. in Accounting is less than the 30 hours of upper-division accounting coursework required to sit for the CPA examination under current Texas state law. Students interested in preparing for the CPA examination should refer to the Five-Year Professional Accounting Program information following the course sequence guide for the B.B.A. in Accounting.
- Rule 511.28c of the Texas State Board of Public Accountancy states, "...the board requires that 3 passing semester hours be earned as a result of taking a course in ethics. The course must be taken at

a recognized educational institution and should include ethical reasoning, integrity, objectivity, independence and other core values." GBA 2013 does not satisfy the ethics requirement for social and ethical issues in business. Students interested in preparing for the CPA examination should refer to the Five-Year Professional Accounting Program information following the course sequence guide for the B.B.A. in Accounting.

Course Sequence Guide for B.B.A. Degree in Accounting

This course sequence guide is designed to assist students in completing their UTSA undergraduate business degree requirements. This is a term-by-term sample course guide. Students must satisfy other requirements in their catalog and meet with their academic advisor for an individualized degree plan. Progress within this guide depends upon such factors as course availability, individual student academic preparation, student time management, work obligations, and individual financial considerations. Students may choose to take courses during Summer terms to reduce course loads during long semesters.

Recommended Four-Year Academic Plan

First Year

| Fall | | Credit Hours |
|--------------------|--------------------------------------------------------------------------------------|--------------|
| MAT 1053 | Mathematics for Business (core) | 3 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| | American History (core) | 3 |
| | Life & Physical Sciences (core) | 3 |
| | Credit Hours | 15 |
| Spring | | |
| MAT 1133 | Calculus for Business (core and CBK) ¹ | 3 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| ECO 2023 | Introductory Microeconomics (core and CBK) ¹ | 3 |
| IS 1403 or IS 1413 | Business Information Systems Fluency (CBK) or Excel for Business Information Systems | 3 |
| ACC 2013 | Principles of Accounting I (CBK) | 3 |
| | Credit Hours | 15 |

Second Year

| Fall | | |
|----------------------|--------------------------------------------------------------------------|-----------|
| MS 1023 | Business Statistics with Computer Applications I (CBK) | 3 |
| COM 1053 or COM 1063 | Business and Professional Speech (CBK) or Digital Business Communication | 3 |
| ECO 2013 | Introductory Macroeconomics (CBK) | 3 |
| IS 3003 | Principles of Information Systems for Management (CBK) | 3 |
| ACC 2033 | Principles of Accounting II (CBK) | 3 |
| | Credit Hours | 15 |

| | | |
|---------------|---------------------------------------------------------------------|----|
| Spring | | |
| MS 3043 | Business Statistics with Computer Applications II (CBK) | 3 |
| MGT 3003 | Business Communication and Professional Development (CBK) | 3 |
| MKT 3013 | Principles of Marketing (CBK) | 3 |
| MGT 3013 | Introduction to Organization Theory, Behavior, and Management (CBK) | 3 |
| FIN 3013 | Principles of Business Finance (CBK) | 3 |
| Credit Hours | | 15 |

Third Year

| | | |
|----------------------|----------------------------------------------------|----|
| Fall | | |
| MS 3053 | Management Science and Operations Technology (CBK) | 3 |
| ACC 3023 | Intermediate Accounting I (major) | 3 |
| ACC 3113 | Accounting Information Systems (major) | 3 |
| GBA 2013 | Legal, Social and Ethical Issues in Business (CBK) | 3 |
| Creative Arts (core) | | 3 |
| Credit Hours | | 15 |

| | | |
|-------------------------------------------------------------------------------|--------------------------------------|----|
| Spring | | |
| ACC 3033 | Intermediate Accounting II (major) | 3 |
| ACC 3123 | Cost Analysis (major) | 3 |
| BLW 3033 | Business Law for Accountants (major) | 3 |
| Business upper-division elective or competency course (support work in major) | | 3 |
| Government-Political Science (core) | | 3 |
| Credit Hours | | 15 |

Fourth Year

| | | |
|---------------------------------------|---------------------------------------|----|
| Fall | | |
| ACC 3043 | Federal Income Taxation (major) | 3 |
| ACC 3163 | Quantitative Analysis for Accountants | 3 |
| ACC 4013 | Principles of Auditing (major) | 3 |
| American History (core) | | 3 |
| Language, Philosophy & Culture (core) | | 3 |
| Credit Hours | | 15 |

| | | |
|-------------------------------------------------------------------------------|----------------------------------------------------|-----|
| Spring | | |
| ACC 4163 | Contemporary Issues in Accounting Practice (major) | 3 |
| MGT 4893 | Management Strategy (CBK) | 3 |
| Life & Physical Sciences (core) | | 3 |
| Business upper-division elective or competency course (support work in major) | | 3 |
| Government-Political Science (core) | | 3 |
| Credit Hours | | 15 |
| Total Credit Hours | | 120 |

Five-Year (150-Hour) Professional Accounting Program

The Five-Year Professional Accounting Program is a 3/2 degree program. Undergraduate accounting majors should apply for admission to the program during the second semester of their junior year (the semester in which they are taking Intermediate Accounting II). Once admitted, these students are allowed to take graduate courses while, technically, undergraduate students. Students admitted to the 150-hour program will be reclassified from undergraduate to graduate student status when they have completed 120 semester credit hours of coursework toward their degree. In this program, the degree plan for the Bachelor of Business Administration (B.B.A.) in Accounting is combined with that of the Master of Accountancy (MACY). The advantage of the program is that it allows accounting majors to spread the graduate courses required for the MACY degree over the fourth and fifth years of the 150-hour program. Upon successful completion of the 150-hour program, students will be simultaneously awarded the B.B.A. in Accounting and the Master of Accountancy (MACY) degrees.

Admission Criteria: To be admitted to the Five-Year (150-Hour) Professional Accounting Program, students must meet the following criteria:

1. Be a declared major in accounting
2. Have an overall grade point average of 3.0, a grade point average of 3.0 in accounting courses taken, and an acceptable score on the Graduate Management Admission Test (GMAT), and
3. Have completed a minimum of 6 hours of upper-level undergraduate accounting courses including ACC 3023 Intermediate Accounting I.

In addition, the student must have completed at least 12 hours of upper-level undergraduate accounting courses by the end of the first semester following admission into the program.

Department of Economics

Mission Statement

The mission of the Department of Economics at The University of Texas at San Antonio is to offer courses and degree programs at both the undergraduate and graduate levels that provide students with the opportunity to gain the necessary theoretical and quantitative tools in economics such that they can understand and apply economics in their daily lives, seek advanced degrees in economics, pursue careers in the global marketplace, and engage in public policy-making. It is also the mission of the Department to provide an environment for its faculty and students to engage in research that will further the understanding of economics and enhance the reputation of the Department, the College of Business, and the University.

The Department of Economics offers both a Bachelor of Arts degree and a Bachelor of Business Administration degree in Economics. Economics is a highly versatile major that assists students in pursuing a variety of careers, including positions in business, the public sector, the legal field, and politics, where knowledge of economics is a fundamental asset. The department also offers a minor in economics that is open to all majors in the University.

- B.B.A. degree in Economics (p. 38)
- B.A. degree in Economics (p. 40)

Bachelor of Business Administration Degree in Economics

The minimum semester credit hours for the Bachelor of Business Administration (B.B.A.) degree in Economics is 120, at least 39 of which must be at the upper-division level.

All candidates seeking this degree must fulfill the Core Curriculum requirements, the Common Body of Knowledge (CBK) requirements, and the degree requirements, which are listed below.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the B.B.A. degree in Economics must fulfill University Core Curriculum requirements in the same manner as other students.

MAT 1053 and MAT 1133 should be used to satisfy the core requirement in Mathematics (020) and the core requirement in the Component Area Option (090). ECO 2023 should be used to satisfy the core requirement in Social and Behavioral Sciences (080).

MAT 1133 and ECO 2023 may be used to satisfy both Core Curriculum requirements and Common Body of Knowledge (CBK) requirements.

All degrees in the College of Business require 120 hours. If students elect to take a course that satisfies both a Core and COB requirement, students may need to take an additional course to meet the 120 hours.

Core Curriculum Component Area Requirements (p. 7)

| | |
|-----------------------------------|---|
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |
| Life and Physical Sciences | 6 |
| Language, Philosophy and Culture | 3 |

| | |
|--------------------------------|-----------|
| Creative Arts | 3 |
| American History | 6 |
| Government-Political Science | 6 |
| Social and Behavioral Sciences | 3 |
| Component Area Option | 3 |
| Total Credit Hours | 42 |

Common Body of Knowledge (CBK)

All students seeking a B.B.A. degree in the College of Business must complete the following Common Body of Knowledge (CBK) courses in addition to the Core Curriculum.

| | | |
|-------------|--------------------------------------------------------------------------------------------------------------------------------------------|---|
| ACC 2013 | Principles of Accounting I | 3 |
| ACC 2033 | Principles of Accounting II | 3 |
| COM 1053 | Business and Professional Speech | 3 |
| or COM 1063 | Digital Business Communication | |
| ECO 2013 | Introductory Macroeconomics | 3 |
| ECO 2023 | Introductory Microeconomics (satisfies Social and Behavioral Sciences Core Curriculum requirement) | 3 |
| FIN 3013 | Principles of Business Finance | 3 |
| GBA 2013 | Legal, Social and Ethical Issues in Business | 3 |
| IS 1403 | Business Information Systems Fluency | 3 |
| or IS 1413 | Excel for Business Information Systems | |
| IS 3003 | Principles of Information Systems for Management | 3 |
| MAT 1133 | Calculus for Business (satisfies Mathematics Core Curriculum requirement, Actuarial Science majors must take MAT 1214 in lieu of MAT 1133) | 3 |
| MGT 3003 | Business Communication and Professional Development | 3 |
| MGT 3013 | Introduction to Organization Theory, Behavior, and Management | 3 |
| MGT 4893 | Management Strategy (taken in semester of graduation) | 3 |
| MKT 3013 | Principles of Marketing | 3 |
| MS 1023 | Business Statistics with Computer Applications I (Actuarial Science majors must take STA 3003 in lieu of MS 1023) | 3 |
| MS 3043 | Business Statistics with Computer Applications II (Actuarial Science majors must take STA 3513 in lieu of MS 3043) | 3 |
| MS 3053 | Management Science and Operations Technology | 3 |

Note: Students majoring in Accounting, Actuarial Science, Economics, Finance, Management Science, Business Analytics, and Statistics and Data Science are strongly encouraged to select IS 1413 Excel for Business Information Systems.

In addition to the Core Curriculum requirements and requirements from the College of Business Common Body of Knowledge (CBK), all candidates for the degree must complete the following degree requirements.

Gateway Course

Students pursuing the B.B.A. degree in Economics must successfully complete the following Gateway Course with a grade of "C-" or better in no more than two attempts. A student who is unable to successfully complete this course within two attempts, including dropping the

course with a grade of "W", or by taking an equivalent course at another institution, will be required to change his or her major.

| | | |
|----------|--------------------------|---|
| MAT 1053 | Mathematics for Business | 3 |
|----------|--------------------------|---|

Degree Requirements

A. Major Requirements 12

| | | |
|----------|-------------------------------------------------------|--|
| ECO 3013 | Intermediate Microeconomics | |
| ECO 3053 | Intermediate Macroeconomics | |
| ECO 3113 | Introduction to Mathematical Economics | |
| ECO 3123 | Introduction to Econometrics and Business Forecasting | |

B. Support Work in Major 12

12 semester credit hours of upper-division Economics electives

C. Additional Support Work 9

Option 1: Complete a Business Competency (9 semester credit hours in a competency)

Option 2: Complete 9 semester credit hours of free electives

| | | |
|--------------------|--|----|
| Total Credit Hours | | 33 |
|--------------------|--|----|

Course Sequence Guide for B.B.A. Degree in Economics

This course sequence guide is designed to assist students in completing their UTSA undergraduate business degree requirements. This is a term-by-term sample course guide. Students must satisfy other requirements in their catalog and meet with their academic advisor for an individualized degree plan. Progress within this guide depends upon such factors as course availability, individual student academic preparation, student time management, work obligations, and individual financial considerations. Students may choose to take courses during Summer terms to reduce course loads during long semesters.

Recommended Four-Year Academic Plan

First Year

| | | Credit Hours |
|---------------------------------|--------------------------------------------------------------------------------------|--------------|
| Fall | | |
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| MAT 1053 | Mathematics for Business (core) | 3 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| American History (core) | | 3 |
| Life & Physical Sciences (core) | | 3 |
| | Credit Hours | 15 |
| Spring | | |
| ECO 2023 | Introductory Microeconomics (core and CBK) ¹ | 3 |
| IS 1403 or IS 1413 | Business Information Systems Fluency (CBK) or Excel for Business Information Systems | 3 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| MAT 1133 | Calculus for Business (core and CBK) ¹ | 3 |
| ACC 2013 | Principles of Accounting I (CBK) | 3 |
| | Credit Hours | 15 |

Second Year

Fall

| | | |
|----------------------|--------------------------------------------------------------------------|----|
| MS 1023 | Business Statistics with Computer Applications I (CBK) | 3 |
| COM 1053 or COM 1063 | Business and Professional Speech (CBK) or Digital Business Communication | 3 |
| ECO 2013 | Introductory Macroeconomics (CBK) | 3 |
| IS 3003 | Principles of Information Systems for Management (CBK) | 3 |
| ACC 2033 | Principles of Accounting II (CBK) | 3 |
| | Credit Hours | 15 |

Spring

| | | |
|-------------------------|-----------------------------------------------------------|----|
| MS 3043 | Business Statistics with Computer Applications II (CBK) | 3 |
| MGT 3003 | Business Communication and Professional Development (CBK) | 3 |
| ECO 3013 | Intermediate Microeconomics (major) | 3 |
| ECO 3113 | Introduction to Mathematical Economics (major) | 3 |
| American History (core) | | 3 |
| | Credit Hours | 15 |

Third Year

Fall

| | | |
|----------------------|----------------------------------------------------|----|
| ECO 3053 | Intermediate Macroeconomics (major) | 3 |
| FIN 3013 | Principles of Business Finance (CBK) | 3 |
| MKT 3013 | Principles of Marketing (CBK) | 3 |
| MS 3053 | Management Science and Operations Technology (CBK) | 3 |
| Creative Arts (core) | | 3 |
| | Credit Hours | 15 |

Spring

| | | |
|--------------------------------------------------------------------------------|---------------------------------------------------------------------|----|
| ECO 3123 | Introduction to Econometrics and Business Forecasting (major) | 3 |
| GBA 2013 | Legal, Social and Ethical Issues in Business (CBK) | 3 |
| MGT 3013 | Introduction to Organization Theory, Behavior, and Management (CBK) | 3 |
| Upper-division economics elective (3XXX or 4XXX level) (support work in major) | | 3 |
| Government-Political Science (core) | | 3 |
| | Credit Hours | 15 |

Fourth Year

Fall

| | | |
|--------------------------------------------------------------------------------|--|---|
| Upper-division economics elective (3XXX or 4XXX level) | | 3 |
| Upper-division economics elective (3XXX or 4XXX level) (support work in major) | | 3 |
| Business Competency or free elective (additional support work) | | 3 |
| Government-Political Science (core) | | 3 |

| | |
|--------------------------------------------------------------------------------|-----|
| Language, Philosophy & Culture (core) | 3 |
| Credit Hours | 15 |
| Spring | |
| MGT 4893 Management Strategy (CBK) | 3 |
| Business Competency or free elective (additional support work) | 3 |
| Business Competency or free elective (additional support work) | 3 |
| Upper-division economics elective (3XXX or 4XXX level) (support work in major) | 3 |
| Life & Physical Sciences (core) | 3 |
| Credit Hours | 15 |
| Total Credit Hours | 120 |

1

College of Business students should take MAT 1133 and ECO 2023 to satisfy both Core Curriculum and CBK requirements.

Bachelor of Arts Degree in Economics

The minimum semester credit hours for the Bachelor of Arts (B.A.) degree in Economics is 120, at least 39 of which must be at the upper-division level.

All candidates seeking this degree must fulfill the Core Curriculum requirements and the degree requirements, which are listed below.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the B.A. degree in Economics must fulfill University Core Curriculum requirements in the same manner as other students.

MAT 1053 and MAT 1133 should be used to satisfy the core requirement in Mathematics (020) and the core requirement in the Component Area Option (090). ECO 2023 should be used to satisfy the core requirement in Social and Behavioral Sciences (080).

All degrees in the College of Business require 120 hours. If students elect to take a course that satisfies both a Core and COB requirement, students may need to take an additional course to meet the 120 hours.

Core Curriculum Component Area Requirements (p. 7)

| | |
|-----------------------------------|----|
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |
| Life and Physical Sciences | 6 |
| Language, Philosophy and Culture | 3 |
| Creative Arts | 3 |
| American History | 6 |
| Government-Political Science | 6 |
| Social and Behavioral Sciences | 3 |
| Component Area Option | 3 |
| Total Credit Hours | 42 |

Gateway Course

Students pursuing the B.A. degree in Economics must successfully complete the following Gateway Course with a grade of “C-” or better in no more than two attempts. A student who is unable to successfully complete this course within two attempts, including dropping the

course with a grade of “W”, or by taking an equivalent course at another institution, will be required to change his or her major.

| | | |
|----------|--------------------------|---|
| MAT 1053 | Mathematics for Business | 3 |
|----------|--------------------------|---|

Degree Requirements

In addition to the Core Curriculum requirements, all candidates for the degree must complete the following degree requirements.

| | | |
|----------------------------------------------------------------|-------------------------------------------------------|-----------|
| A. Major Requirements | | 27 |
| MAT 1133 | Calculus for Business | |
| STA 1053 | Basic Statistics | |
| COM 1053 | Business and Professional Speech | |
| ECO 2013 | Introductory Macroeconomics | |
| ECO 2023 | Introductory Microeconomics | |
| ECO 3013 | Intermediate Microeconomics | |
| ECO 3053 | Intermediate Macroeconomics | |
| ECO 3113 | Introduction to Mathematical Economics | |
| ECO 3123 | Introduction to Econometrics and Business Forecasting | |
| B. Support Work in Major | | 15 |
| 15 semester credit hours in upper-division Economics electives | | |
| C. Additional Support Work in Social Sciences | | 12 |
| 12 semester credit hours | | |
| D. Free Electives | | 30 |
| 30 semester credit hours of free electives | | |
| Total Credit Hours | | 84 |

Course Sequence Guide for B.A. Degree in Economics

This course sequence guide is designed to assist students in completing their UTSA undergraduate business degree requirements. This is a term-by-term sample course guide. Students must satisfy other requirements in their catalog and meet with their academic advisor for an individualized degree plan. Progress within this guide depends upon such factors as course availability, individual student academic preparation, student time management, work obligations, and individual financial considerations. Students may choose to take courses during Summer terms to reduce course loads during long semesters.

Recommended Four-Year Academic Plan

| First Year | | Credit Hours |
|---------------------------------|-----------------------------------------------------------|--------------|
| Fall | | |
| WRC 1013 | Freshman Composition I (core) | 3 |
| MAT 1053 | Mathematics for Business (core) | 3 |
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| American History (core) | | 3 |
| Life & Physical Sciences (core) | | 3 |
| Credit Hours | | 15 |
| Spring | | |
| WRC 1023 | Freshman Composition II (core) | 3 |
| MAT 1133 | Calculus for Business (core and major) ¹ | 3 |
| ECO 2023 | Introductory Microeconomics (core and major) ¹ | 3 |
| American History (core) | | 3 |

| | | |
|---------------------------------|---------------------------------------------------------------------------------------|----|
| Life & Physical Sciences (core) | | 3 |
| | Credit Hours | 15 |
| Second Year | | |
| Fall | | |
| ECO 2013 | Introductory Macroeconomics (major) | 3 |
| STA 1053 | Basic Statistics (major) | 3 |
| | Social Science Elective (additional support work) | 3 |
| | Government-Political Science (core) | 3 |
| | Creative Arts (core) | 3 |
| | Credit Hours | 15 |
| Spring | | |
| ECO 3013 | Intermediate Microeconomics (major) | 3 |
| ECO 3113 | Introduction to Mathematical Economics (major) | 3 |
| COM 1053 | Business and Professional Speech (CBK) | 3 |
| | Social Science Elective (additional support work) | 3 |
| | Government-Political Science (core) | 3 |
| | Credit Hours | 15 |
| Third Year | | |
| Fall | | |
| ECO 3053 | Intermediate Macroeconomics (major) | 3 |
| | Upper-division ECO elective (3XXX or 4XXX level) (support work in major) | 3 |
| | Social Science Elective (additional support work) | 3 |
| | Business or non-business elective (free elective) | 3 |
| | Language, Philosophy & Culture (core) | 3 |
| | Credit Hours | 15 |
| Spring | | |
| ECO 3123 | Introduction to Econometrics and Business Forecasting (major) | 3 |
| | Upper-division ECO elective (3XXX or 4XXX level) (support work in major) | 3 |
| | Social Science Elective (additional support work) | 3 |
| | Upper-division business or non-business elective (3XXX or 4XXX level) (free elective) | 3 |
| | Business or non-business elective (free elective) | 3 |
| | Credit Hours | 15 |
| Fourth Year | | |
| Fall | | |
| | Upper-division ECO elective (3XXX or 4XXX level) (support work in major) | 3 |
| | Upper-division business or non-business elective (3XXX or 4XXX level) (free elective) | 3 |
| | Upper-division business or non-business elective (3XXX or 4XXX level) (free elective) | 3 |
| | Business or non-business elective (free elective) | 3 |
| | Business or non-business elective (free elective) | 3 |
| | Credit Hours | 15 |

Spring

| | |
|--------------------------------------------------------------------------|-----|
| Upper-division ECO elective (3XXX or 4XXX level) (support work in major) | 3 |
| Upper-division ECO elective (3XXX or 4XXX level) (support work in major) | 3 |
| Business or non-business elective (free elective) | 3 |
| Business or non-business elective (free elective) | 3 |
| Business or non-business elective (free elective) | 3 |
| Credit Hours | 15 |
| Total Credit Hours | 120 |

1

College of Business students should take MAT 1133 and ECO 2023 to satisfy Core Curriculum requirements.

Minor in Economics

The Minor in Economics is open to all majors in the University. All students pursuing the Minor in Economics must complete 18 semester credit hours.

A. Required courses

6

| | |
|----------|-----------------------------|
| ECO 2013 | Introductory Macroeconomics |
| ECO 2023 | Introductory Microeconomics |

B. Upper-division economics courses

12

| | |
|--------------------------------------------------------------------------------|----|
| Select 12 additional semester credit hours of upper-division economics courses | |
| Total Credit Hours | 18 |

To declare a Minor in Economics, obtain advice, and seek approval of substitutions for course requirements, students must consult their academic advisor.

Department of Finance

Mission Statement

The Department of Finance is committed to contributing knowledge in the field of finance through research and education. The department strives to provide high-quality undergraduate and graduate programs in finance and supports other programs within the College of Business. Theory and application are melded to provide an environment in which new ideas are developed to meet the challenges and transformations arising in a changing world of financial practices and innovations, thereby preparing students for successful careers and providing employers with a workforce trained to shape the future. The Department supports high-quality academic research in all areas of finance.

The Department of Finance offers a Bachelor of Business Administration (B.B.A.) degree in Finance and a B.B.A. degree in Real Estate Finance and Development. A major in finance gives students the opportunity to learn the basic financial theories and applications needed in managerial financial decision making. Areas in finance include corporate finance, investments, insurance, real estate, and financial institutions and markets. The degree in real estate finance and development is designed for students interested in managing businesses associated with real estate and the planning, financing, development, and construction of building projects. The department offers a Minor in Finance that is available only to students pursuing a Bachelor of Business Administration degree.

The department also offers tracks in corporate finance, investment management, and financial institutions to students who wish to specialize within the B.B.A. degree in Finance.

- B.B.A. degree in Finance (p. 42)
- B.B.A. degree in Real Estate Finance and Development (p. 44)

Bachelor of Business Administration Degree in Finance

The minimum number of semester credit hours for the Bachelor of Business Administration (B.B.A.) degree in Finance is 120, at least 39 of which must be at the upper-division level.

All candidates seeking this degree must fulfill the Core Curriculum requirements, the Common Body of Knowledge requirements, and the degree requirements, which are listed below.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the B.B.A. degree in Finance must fulfill University Core Curriculum requirements in the same manner as other students.

MAT 1053 and MAT 1133 should be used to satisfy the core requirement in Mathematics (020) and the core requirement in the Component Area Option (090). ECO 2023 should be used to satisfy the core requirement in Social and Behavioral Sciences (080).

MAT 1133 and ECO 2023 may be used to satisfy both Core Curriculum requirements and Common Body of Knowledge (CBK) requirements.

All degrees in the College of Business require 120 hours. If students elect to take a course that satisfies both a Core and COB requirement, students may need to take an additional course to meet the 120 hours.

Core Curriculum Component Area Requirements (p. 7)

| | |
|-----------------------------------|-----------|
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |
| Life and Physical Sciences | 6 |
| Language, Philosophy and Culture | 3 |
| Creative Arts | 3 |
| American History | 6 |
| Government-Political Science | 6 |
| Social and Behavioral Sciences | 3 |
| Component Area Option | 3 |
| Total Credit Hours | 42 |

Common Body of Knowledge (CBK)

All students seeking a B.B.A. degree in the College of Business must complete the following Common Body of Knowledge (CBK) courses in addition to the Core Curriculum.

| | | |
|----------|--------------------------------------------------------------------------------------------------------------------------------------------|---|
| ACC 2013 | Principles of Accounting I | 3 |
| ACC 2033 | Principles of Accounting II | 3 |
| COM 1053 | Business and Professional Speech | 3 |
| | or COM 1063 Digital Business Communication | |
| ECO 2013 | Introductory Macroeconomics | 3 |
| ECO 2023 | Introductory Microeconomics (satisfies Social and Behavioral Sciences Core Curriculum requirement) | 3 |
| FIN 3013 | Principles of Business Finance | 3 |
| GBA 2013 | Legal, Social and Ethical Issues in Business | 3 |
| IS 1403 | Business Information Systems Fluency | 3 |
| | or IS 1413 Excel for Business Information Systems | |
| IS 3003 | Principles of Information Systems for Management | 3 |
| MAT 1133 | Calculus for Business (satisfies Mathematics Core Curriculum requirement, Actuarial Science majors must take MAT 1214 in lieu of MAT 1133) | 3 |
| MGT 3003 | Business Communication and Professional Development | 3 |
| MGT 3013 | Introduction to Organization Theory, Behavior, and Management | 3 |
| MGT 4893 | Management Strategy (taken in semester of graduation) | 3 |
| MKT 3013 | Principles of Marketing | 3 |
| MS 1023 | Business Statistics with Computer Applications I (Actuarial Science majors must take STA 3003 in lieu of MS 1023) | 3 |
| MS 3043 | Business Statistics with Computer Applications II (Actuarial Science majors must take STA 3513 in lieu of MS 3043) | 3 |
| MS 3053 | Management Science and Operations Technology | 3 |

Note: Students majoring in Accounting, Actuarial Science, Economics, Finance, Management Science, Business Analytics, and Statistics and Data Science are strongly encouraged to select IS 1413 Excel for Business Information Systems.

In addition to the Core Curriculum requirements and requirements from the College of Business Common Body of Knowledge (CBK),

all candidates for the degree must complete the following degree requirements.

Gateway Course

Students pursuing the B.B.A. degree in Finance must successfully complete the following Gateway Course with a grade of "C-" or better in no more than two attempts. A student who is unable to successfully complete this course within two attempts, including dropping the course with a grade of "W", or by taking an equivalent course at another institution, will be required to change his or her major.

| | | |
|----------|--------------------------|---|
| MAT 1053 | Mathematics for Business | 3 |
|----------|--------------------------|---|

Degree Requirements

A. Major Requirements 18

| | |
|----------|---------------------------------------------------------|
| ACC 3053 | Intermediate Accounting for Finance Majors ¹ |
| FIN 3023 | Intermediate Corporate Finance ² |
| FIN 3033 | Principles of Investment |
| FIN 3313 | Money and Banking |
| FIN 4873 | Computer Modeling of Financial Applications |
| FIN 4893 | Cases and Problems in Finance |

B. Support work in the major 9

9 credit hours in upper-division Finance electives (Neither FIN 3003 Survey of Finance nor FIN 3053 Introduction to Personal Finance, may be applied to meeting this requirement). Students may take any finance elective course to satisfy this requirement. If the student chooses to take at least three courses from one track, they may have the track designation indicated in their transcripts. ^{3,4}

Corporate Finance/Investment Banking Track: Choose three courses from among the courses indicated below:

| | |
|----------|---------------------------------------|
| FIN 3463 | Debt Markets |
| FIN 3453 | Derivative Markets |
| FIN 4333 | Business Finance for Entrepreneurs |
| FIN 4523 | Introduction to Risk Management |
| FIN 4613 | Introduction to International Finance |
| FIN 4913 | Independent Study |
| FIN 4933 | Internship in Finance ⁶ |

Investment Management Track: Choose three courses from among the courses indicated below:

| | |
|----------|---------------------------------------|
| FIN 3463 | Debt Markets |
| FIN 3423 | Security Analysis |
| FIN 3453 | Derivative Markets |
| FIN 4423 | Investment Portfolio Management |
| FIN 4523 | Introduction to Risk Management |
| FIN 4913 | Independent Study |
| FIN 4933 | Internship in Finance ⁶ |
| FIN 4613 | Introduction to International Finance |
| FIN 4543 | Credit Analysis |

Financial Institutions Track: Choose three courses from among the courses indicated below:

| | |
|----------|--------------------------------------|
| FIN 4323 | Financial Institutions Management |
| FIN 3463 | Debt Markets |
| FIN 3453 | Derivative Markets |
| FIN 4523 | Introduction to Risk Management |
| FIN 4813 | Property-Liability Insurance Finance |

| | |
|----------|------------------------------------|
| FIN 4823 | Life and Health Insurance Finance |
| FIN 4913 | Independent Study |
| FIN 4933 | Internship in Finance ⁶ |
| FIN 4543 | Credit Analysis |

C. Additional support work 6

Students may select 6 semester credit hours of lower-division or upper-division business electives. Students can take any business electives to satisfy this requirement (Neither FIN 3003 Survey of Finance nor FIN 3053 Introduction to Personal Finance may be applied to meeting this requirement). The finance department recommends that students use these hours to take courses in one particular Competency. While students can take courses in any competency, the finance department recommends courses in risk management, modeling, and data analytics. If a student does not wish to take courses for a particular competency, the department recommends that students take additional electives in their chosen track, including an internship course (FIN 4933). ^{3,5,6}

| | |
|--------------------|----|
| Total Credit Hours | 33 |
|--------------------|----|

1

Finance majors may take ACC 3023 and ACC 3033 in lieu of ACC 3053. Students choosing to take ACC 3023 and ACC 3033 can apply the extra 3 hours towards the upper division business electives course in part C.

2

Clearing the FACT exam is a prerequisite to enrollment in FIN 3023.

3

FIN 3003 Survey of Finance and FIN 3053 Introduction to Personal Finance may not be applied to meeting this requirement.

4

If a student chooses to take at least three courses from one track they may have the track designation indicated on their transcript. The track designation will not appear on the diploma.

5

Students can take any business electives to satisfy this requirement. The Finance department recommends that students use these hours to take courses in one particular competency. While students may take courses in any competency, courses in risk management, modeling, and analytics are recommended.

6

If a student does not wish to take courses in a particular competency, the Finance department recommends they take an internship course (FIN 4933 Internship in Finance) and additional finance electives.

Course Sequence Guide for B.B.A. Degree in Finance

This course sequence guide is designed to assist students in completing their UTSA undergraduate business degree requirements. This is a term-by-term sample course guide. Students must satisfy other requirements in their catalog and meet with their academic advisor for an individualized degree plan. Progress within this guide depends upon such factors as course availability, individual student academic preparation, student time management, work obligations, and individual financial considerations. Students should make every attempt to take the courses in the indicated sequence. Students may choose to take courses during Summer terms to reduce course loads during long semesters.

Recommended Four-Year Academic Plan

First Year

| | | Credit Hours |
|---------------------------------|-----------------------------------------|---------------------|
| Fall | | |
| MAT 1053 | Mathematics for Business (core) | 3 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| American History (core) | | 3 |
| Life & Physical Sciences (core) | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|-----------------------|-----------------------------------------------------------------------------------------|----|
| MAT 1133 | Calculus for Business (core and CBK) ¹ | 3 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| IS 1403 or IS 1413 | Business Information Systems Fluency (CBK) or Excel for Business Information Systems | 3 |
| ECO 2023 | Introductory Microeconomics (core and CBK) ¹ | 3 |
| ACC 2013 | Principles of Accounting I (CBK) | 3 |
| Credit Hours | | 15 |

Second Year

| | | Credit Hours |
|-------------------------|-----------------------------------------------------------------------------|---------------------|
| Fall | | |
| MS 1023 | Business Statistics with Computer Applications I (CBK) | 3 |
| ECO 2013 | Introductory Macroeconomics (CBK) | 3 |
| ACC 2033 | Principles of Accounting II (CBK) | 3 |
| IS 3003 | Principles of Information Systems for Management (CBK) | 3 |
| COM 1053 or COM 1063 | Business and Professional Speech (CBK) or Digital Business Communication | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|--------------|---------------------------------------------------------------------|----|
| MS 3043 | Business Statistics with Computer Applications II (CBK) | 3 |
| MKT 3013 | Principles of Marketing (CBK) | 3 |
| FIN 3013 | Principles of Business Finance (CBK) | 3 |
| MGT 3013 | Introduction to Organization Theory, Behavior, and Management (CBK) | 3 |
| MGT 3003 | Business Communication and Professional Development (CBK) | 3 |
| Credit Hours | | 15 |

Third Year

| | | Credit Hours |
|-------------|-------------------------------------------------------------------------------------------------------------------|---------------------|
| Fall | | |
| ACC 3053 | Intermediate Accounting for Finance Majors (major) ² | 3 |
| FIN 3023 | Intermediate Corporate Finance (major; students are required to clear the FACT exam before enrolling in FIN 3023) | 3 |

| | | |
|--------------------------------|----------------------------------|----|
| FIN 3033 | Principles of Investment (major) | 3 |
| FIN 3313 | Money and Banking (major) | 3 |
| Life & Physical Science (core) | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|------------------------------------------------------------------|-----------------------------------------------------|----|
| MS 3053 | Management Science and Operations Technology (CBK) | 3 |
| FIN 4873 | Computer Modeling of Financial Applications (major) | 3 |
| Business elective or competency course (additional support work) | | 3 |
| Creative Arts (core) | | 3 |
| American History (core) | | 3 |
| Credit Hours | | 15 |

Fourth Year

| | | Credit Hours |
|-------------------------------------------------------------------------------------------------------|----------------------------------------------------|---------------------|
| Fall | | |
| GBA 2013 | Legal, Social and Ethical Issues in Business (CBK) | 3 |
| Upper-division FIN elective (3XXX or 4XXX level) or course in a finance track (support work in major) | | 3 |
| Upper-division FIN elective (3XXX or 4XXX level) or course in a finance track (support work in major) | | 3 |
| Language, Philosophy & Culture (core) | | 3 |
| Government-Political Science (core) | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|-------------------------------------------------------------------------------------------------------|---------------------------------------|----|
| FIN 4893 | Cases and Problems in Finance (major) | 3 |
| MGT 4893 | Management Strategy (CBK) | 3 |
| Upper-division FIN elective (3XXX or 4XXX level) or course in a finance track (support work in major) | | 3 |
| Business elective or competency course (additional support work) | | 3 |
| Government-Political Science (core) | | 3 |
| Credit Hours | | 15 |

Total Credit Hours 120

1

College of Business students should take MAT 1133 and ECO 2023 to satisfy both Core Curriculum and CBK requirements.

2

Finance majors may take ACC 3023 and ACC 3033 in lieu of ACC 3053. Students choosing to take ACC 3023 and ACC 3033 can apply the extra 3 hours towards the upper division business electives course in part C.

Bachelor of Business Administration Degree in Real Estate Finance and Development

The Bachelor of Business Administration (B.B.A.) degree in Real Estate Finance and Development offers students the opportunity to minor in Finance. The minimum number of semester credit hours for the B.B.A. in Real Estate Finance and Development is 120, 39 of which must be at the upper-division level.

All candidates seeking this degree must fulfill the Core Curriculum requirements, the Common Body of Knowledge requirements, and the degree requirements, which are listed below. All real estate related courses are listed under the Real Estate (RFD) course description heading.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the B.B.A. degree in Real Estate Finance and Development must fulfill University Core Curriculum requirements in the same manner as other students.

MAT 1053 and MAT 1133 should be used to satisfy the core requirement in Mathematics (020) and the core requirement in the Component Area Option (090). ECO 2023 should be used to satisfy the core requirement in Social and Behavioral Sciences (080).

MAT 1133 and ECO 2023 may be used to satisfy both Core Curriculum requirements and Common Body of Knowledge (CBK) requirements.

All degrees in the College of Business require 120 hours. If students elect to take a course that satisfies both a Core and COB requirement, students may need to take an additional course to meet the 120 hours.

Core Curriculum Component Area Requirements (p. 7)

| | |
|-----------------------------------|-----------|
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |
| Life and Physical Sciences | 6 |
| Language, Philosophy and Culture | 3 |
| Creative Arts | 3 |
| American History | 6 |
| Government-Political Science | 6 |
| Social and Behavioral Sciences | 3 |
| Component Area Option | 3 |
| Total Credit Hours | 42 |

Common Body of Knowledge (CBK)

All students seeking a B.B.A. degree in the College of Business must complete the following Common Body of Knowledge (CBK) courses in addition to the Core Curriculum.

| | | |
|-------------|--------------------------------------------------------------------------------------------------------------------------------------------|---|
| ACC 2013 | Principles of Accounting I | 3 |
| ACC 2033 | Principles of Accounting II | 3 |
| COM 1053 | Business and Professional Speech | 3 |
| or COM 1063 | Digital Business Communication | |
| ECO 2013 | Introductory Macroeconomics | 3 |
| ECO 2023 | Introductory Microeconomics (satisfies Social and Behavioral Sciences Core Curriculum requirement) | 3 |
| FIN 3013 | Principles of Business Finance | 3 |
| GBA 2013 | Legal, Social and Ethical Issues in Business | 3 |
| IS 1403 | Business Information Systems Fluency | 3 |
| or IS 1413 | Excel for Business Information Systems | |
| IS 3003 | Principles of Information Systems for Management | 3 |
| MAT 1133 | Calculus for Business (satisfies Mathematics Core Curriculum requirement, Actuarial Science majors must take MAT 1214 in lieu of MAT 1133) | 3 |

| | | |
|----------|--------------------------------------------------------------------------------------------------------------------|---|
| MGT 3003 | Business Communication and Professional Development | 3 |
| MGT 3013 | Introduction to Organization Theory, Behavior, and Management | 3 |
| MGT 4893 | Management Strategy (taken in semester of graduation) | 3 |
| MKT 3013 | Principles of Marketing | 3 |
| MS 1023 | Business Statistics with Computer Applications I (Actuarial Science majors must take STA 3003 in lieu of MS 1023) | 3 |
| MS 3043 | Business Statistics with Computer Applications II (Actuarial Science majors must take STA 3513 in lieu of MS 3043) | 3 |
| MS 3053 | Management Science and Operations Technology | 3 |

Note: Students majoring in Accounting, Actuarial Science, Economics, Finance, Management Science, Business Analytics, and Statistics and Data Science are strongly encouraged to select IS 1413 Excel for Business Information Systems.

In addition to the Core Curriculum requirements and requirements from the College of Business Common Body of Knowledge (CBK), all candidates for the degree must complete the following degree requirements.

Gateway Course

Students pursuing the B.B.A. degree in Real Estate Finance and Development must successfully complete the following Gateway Course with a grade of "C-" or better in no more than two attempts. A student who is unable to successfully complete this course within two attempts, including dropping the course with a grade of "W", or by taking an equivalent course at another institution, will be required to change his or her major.

| | | |
|----------|--------------------------|---|
| MAT 1053 | Mathematics for Business | 3 |
|----------|--------------------------|---|

Degree Requirements

| | |
|------------------------------------------------------------------------------------|----------------------------------------------------------|
| A. Required courses | 18 |
| FIN 3433 | Principles of Real Estate |
| FIN 4713 | Mortgage Banking and Real Estate Finance |
| FIN 4723 | Principles of Real Estate Investment |
| RFD 3523 | Real Estate Law |
| RFD 3533 | Principles of Construction for Real Estate Professionals |
| RFD 4733 | Principles of Sustainable Real Estate Development |
| B. Support work in the major | 6 |
| 6 semester credit hours of additional real estate (RFD) courses | |
| C. Other Supporting Work ¹ | 9 |
| Option 1: Complete a Finance Track (9 semester credit hours of track courses) | |
| Option 2: Complete a Business Competency (9 semester credit hours in a competency) | |
| Option 3: Complete 9 semester credit hours of free electives | |
| Total Credit Hours | 33 |

1

The Finance department recommends that students use these hours to take courses in a particular competency. While students may take courses in any competency, courses in risk management, modeling, and analytics are recommended.

Course Sequence Guide for B.B.A. Degree in Real Estate Finance and Development

This course sequence guide is designed to assist students in completing their UTSA undergraduate business degree requirements. This is a term-by-term sample course guide. Students must satisfy other requirements in their catalog and meet with their academic advisor for an individualized degree plan. Progress within this guide depends upon such factors as course availability, individual student academic preparation, student time management, work obligations, and individual financial considerations. Students should make every attempt to take the courses in the indicated sequence. Students may choose to take courses during Summer terms to reduce course loads during long semesters.

Recommended Four-Year Academic Plan

First Year

| Fall | | Credit Hours |
|---------------------------------|-----------------------------------------|--------------|
| MAT 1053 | Mathematics for Business (core) | 3 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| American History (core) | | 3 |
| Life & Physical Sciences (core) | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|-----------------------|-----------------------------------------------------------------------------------------|----|
| MAT 1133 | Calculus for Business (core and CBK) ¹ | 3 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| ECO 2023 | Introductory Microeconomics (core and CBK) ¹ | 3 |
| IS 1403 or IS 1413 | Business Information Systems Fluency (CBK) or Excel for Business Information Systems | 3 |
| ACC 2013 | Principles of Accounting I (CBK) | 3 |
| Credit Hours | | 15 |

Second Year

| Fall | | Credit Hours |
|-------------------------|-----------------------------------------------------------------------------|--------------|
| MS 1023 | Business Statistics with Computer Applications I (CBK) | 3 |
| COM 1053 or COM 1063 | Business and Professional Speech (CBK) or Digital Business Communication | 3 |
| ECO 2013 | Introductory Macroeconomics (CBK) | 3 |
| IS 3003 | Principles of Information Systems for Management (CBK) | 3 |
| ACC 2033 | Principles of Accounting II (CBK) | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|--------------|---------------------------------------------------------------------|----|
| MS 3043 | Business Statistics with Computer Applications II (CBK) | 3 |
| MGT 3003 | Business Communication and Professional Development (CBK) | 3 |
| MKT 3013 | Principles of Marketing (CBK) | 3 |
| MGT 3013 | Introduction to Organization Theory, Behavior, and Management (CBK) | 3 |
| FIN 3013 | Principles of Business Finance (CBK) | 3 |
| Credit Hours | | 15 |

Third Year

| Fall | | Credit Hours |
|-------------------------------------|----------------------------------------------------|--------------|
| FIN 3433 | Principles of Real Estate (major) | 3 |
| RFD 3523 | Real Estate Law (major) | 3 |
| GBA 2013 | Legal, Social and Ethical Issues in Business (CBK) | 3 |
| MS 3053 | Management Science and Operations Technology (CBK) | 3 |
| Government-Political Science (core) | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|-----------------------------------------------------------------|------------------------------------------------------------------|----|
| FIN 4723 | Principles of Real Estate Investment (major) | 3 |
| RFD 3533 | Principles of Construction for Real Estate Professionals (major) | 3 |
| Upper-division RFD (3XXX or 4XXX level) (support work in major) | | 3 |
| Government-Political Science (core) | | 3 |
| Language, Philosophy & Culture (core) | | 3 |
| Credit Hours | | 15 |

Fourth Year

| Fall | | Credit Hours |
|----------------------------------------------------------------------------------------------|--------------------------------------------------|--------------|
| FIN 4713 | Mortgage Banking and Real Estate Finance (major) | 3 |
| Upper-division RFD (3XXX or 4XXX level) elective (support work in major) | | 3 |
| Finance track course, business competency course, or free elective (additional support work) | | 3 |
| Finance track course, business competency course, or free elective (additional support work) | | 3 |
| Life & Physical Sciences (core) | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|----------------------------------------------------------------------------------------------|-----------------------------------------------------------|-----|
| MGT 4893 | Management Strategy (CBK) | 3 |
| RFD 4733 | Principles of Sustainable Real Estate Development (major) | 3 |
| Finance track course, business competency course, or free elective (additional support work) | | 3 |
| American History (core) | | 3 |
| Life & Physical Sciences (core) | | 3 |
| Credit Hours | | 15 |
| Total Credit Hours | | 120 |

1

College of Business students should take MAT 1133 and ECO 2023 to satisfy both Core Curriculum and CBK requirements.

Minor in Finance

The Minor in Finance is available only to students pursuing a B.B.A. degree. All students pursuing the Minor in Finance must complete 18 semester credit hours of coursework.

| | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|-----------|
| A. Required courses | | 9 |
| FIN 3013 | Principles of Business Finance | |
| FIN 3033 | Principles of Investment | |
| FIN 3313 | Money and Banking | |
| B. Upper-division finance electives | | 9 |
| Select 9 additional semester credit hours of upper-division finance electives. Neither FIN 3003 Survey of Finance nor FIN 3053 Introduction to Personal Finance, may be applied to meeting this requirement. | | |
| Total Credit Hours | | 18 |

To declare a Minor in Finance and obtain advice, students must consult with their academic advisor.

Department of Information Systems and Cyber Security

Mission Statement

The mission of the Department of Information Systems and Cyber Security is to offer graduate and undergraduate programs of high quality. The programs meet the needs of students preparing for professional careers in the fields of information systems or cyber security. This mission includes providing a broad-based education through the university's core curriculum as well as education in current business and information systems or cyber security topics.

The department is responsive to the needs of employers and other constituents of its programs. The department is aware of rapid changes to the technology. We incorporate these changes into the curriculum as is practical. The faculty assist in accomplishing the departmental mission through a planned integration of contributions in teaching, intellectual contributions and service.

The Department of Information Systems and Cyber Security offers two undergraduate degree programs: one with a major in Information Systems and one with a major in Cyber Security (which is also offered 100 percent online). For admission requirements for the online B.B.A. degree in Cyber Security, please visit <https://online.utsa.edu/admissions/>. The Department offers minors in Cyber Security, Digital Forensics, Information Systems, and Network and Data Center Management which are open to all majors in the University. In addition, the Department offers a minor in Technology Management for nonbusiness majors. A Certificate in Pathogenic Outbreak Investigations is also offered in collaboration with the Departments of Biology and Computer Science in the College of Sciences.

- B.B.A. degree in Information Systems (p. 47)
- B.B.A. degree in Cyber Security (p. 49)

Bachelor of Business Administration Degree in Information Systems

The minimum number of semester credit hours for the Bachelor of Business Administration (B.B.A.) degree in Information Systems is 120, at least 39 of which must be at the upper-division level.

All candidates seeking this degree must fulfill the Core Curriculum requirements, the Common Body of Knowledge (CBK) requirements, and the degree requirements, which are listed below.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the B.B.A. degree in Information Systems must fulfill University Core Curriculum requirements in the same manner as other students.

MAT 1053 and MAT 1133 should be used to satisfy the core requirement in Mathematics (020) and the core requirement in the Component Area Option (090). ECO 2023 should be used to satisfy the core requirement in Social and Behavioral Sciences (080).

MAT 1133 and ECO 2023 may be used to satisfy both Core Curriculum requirements and Common Body of Knowledge (CBK) requirements.

All degrees in the College of Business require 120 hours. If students elect to take a course that satisfies both a Core and COB requirement, students may need to take an additional course to meet the 120 hours.

Core Curriculum Component Area Requirements (p. 7)

| | |
|-----------------------------------|-----------|
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |
| Life and Physical Sciences | 6 |
| Language, Philosophy and Culture | 3 |
| Creative Arts | 3 |
| American History | 6 |
| Government-Political Science | 6 |
| Social and Behavioral Sciences | 3 |
| Component Area Option | 3 |
| Total Credit Hours | 42 |

Common Body of Knowledge (CBK)

All students seeking a B.B.A. degree in the College of Business must complete the following Common Body of Knowledge (CBK) courses in addition to the Core Curriculum.

| | | |
|-------------|--------------------------------------------------------------------------------------------------------------------------------------------|---|
| ACC 2013 | Principles of Accounting I | 3 |
| ACC 2033 | Principles of Accounting II | 3 |
| COM 1053 | Business and Professional Speech | 3 |
| or COM 1063 | Digital Business Communication | |
| ECO 2013 | Introductory Macroeconomics | 3 |
| ECO 2023 | Introductory Microeconomics (satisfies Social and Behavioral Sciences Core Curriculum requirement) | 3 |
| FIN 3013 | Principles of Business Finance | 3 |
| GBA 2013 | Legal, Social and Ethical Issues in Business | 3 |
| IS 1403 | Business Information Systems Fluency | 3 |
| or IS 1413 | Excel for Business Information Systems | |
| IS 3003 | Principles of Information Systems for Management | 3 |
| MAT 1133 | Calculus for Business (satisfies Mathematics Core Curriculum requirement, Actuarial Science majors must take MAT 1214 in lieu of MAT 1133) | 3 |
| MGT 3003 | Business Communication and Professional Development | 3 |
| MGT 3013 | Introduction to Organization Theory, Behavior, and Management | 3 |
| MGT 4893 | Management Strategy (taken in semester of graduation) | 3 |
| MKT 3013 | Principles of Marketing | 3 |
| MS 1023 | Business Statistics with Computer Applications I (Actuarial Science majors must take STA 3003 in lieu of MS 1023) | 3 |
| MS 3043 | Business Statistics with Computer Applications II (Actuarial Science majors must take STA 3513 in lieu of MS 3043) | 3 |
| MS 3053 | Management Science and Operations Technology | 3 |

Note: Students majoring in Accounting, Actuarial Science, Economics, Finance, Management Science, Business Analytics, and Statistics and Data Science are strongly encouraged to select IS 1413 Excel for Business Information Systems.

In addition to the Core Curriculum requirements and the College of Business Common Body of Knowledge (CBK), all candidates for the degree must complete the following degree requirements.

Gateway Course

Students pursuing the B.B.A. degree in Information Systems must successfully complete the following Gateway Course with a grade of "C-" or better in no more than two attempts. A student who is unable to successfully complete this course within two attempts, including dropping the course with a grade of "W", or by taking an equivalent course at another institution, will be required to change his or her major.

| | | |
|----------|--------------------------|---|
| MAT 1053 | Mathematics for Business | 3 |
|----------|--------------------------|---|

Degree Requirements

A. Major Requirements 24

| | | |
|---------------------------------|-------------------------------------------------|----------|
| IS 1003 | Unlocking Cyber | |
| IS 2053 | Programming Languages I with Scripting | |
| IS 2063 | Programming Languages II with Java | |
| IS 3063 | Database Management for Information Systems | |
| IS 3073 | Application Development | |
| IS 3413 | Introduction to Telecommunications for Business | |
| IS 4053 | Systems Analysis and Design | |
| IS 4063 | Advanced Topics in Information Systems | |
| B. Support Work in Major | | 9 |

Students not selecting a track must complete 9 semester credit hours of upper-division IS courses which may include only ONE of the following two course choices:

| | | |
|-------------|-------------------------------------|--|
| MOT 4023 | Essentials of Technology Management | |
| or MOT 4143 | Introduction to Project Management | |

IT Project Management Track

Choose three courses from the list below:

| | | |
|----------|---------------------------------------------------|--|
| IS 4083 | Agile Project Management | |
| MOT 4023 | Essentials of Technology Management | |
| MOT 4143 | Introduction to Project Management | |
| MOT 4153 | Project Management Certification | |
| MOT 4203 | Strategic Management of Technology and Innovation | |

Cyber Analytics Track

Choose three courses from the list below:

| | | |
|---------|---------------------------------------------|--|
| IS 4023 | Applied Big Data with Machine Learning | |
| IS 4183 | Advanced Database Concepts and Applications | |
| IS 4233 | Introduction to Cloud Computing | |
| IS 4483 | Digital Forensic Analysis I | |
| IS 4533 | Malware Analysis | |

| | | |
|---------------------------|--|-----------|
| Total Credit Hours | | 33 |
|---------------------------|--|-----------|

Course Sequence Guide for B.B.A. Degree in Information Systems

This course sequence guide is designed to assist students in completing their UTSA undergraduate business degree requirements. This is a term-by-term sample course guide. Students must satisfy other requirements in their catalog and meet with their academic advisor for an individualized degree plan. Progress within this guide depends upon such factors as course availability, individual student academic preparation, student time management, work obligations, and individual financial

considerations. Students may choose to take courses during Summer terms to reduce course loads during long semesters.

Recommended Four-Year Academic Plan

First Year

| | | Credit Hours |
|-------------------------|-----------------------------------------|--------------|
| Fall | | |
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| MAT 1053 | Mathematics for Business (core) | 3 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| IS 1003 | Unlocking Cyber ((major)) | 3 |
| American History (core) | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|-----------------------|-----------------------------------------------------------------------------------------|----|
| MAT 1133 | Calculus for Business (core and CBK) ¹ | 3 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| IS 1403 or IS 1413 | Business Information Systems Fluency (CBK) or Excel for Business Information Systems | 3 |
| IS 2053 | Programming Languages I with Scripting (major) | 3 |
| History (core) | | 3 |
| Credit Hours | | 15 |

Second Year

Fall

| | | |
|-------------------------|-----------------------------------------------------------------------------|----|
| ACC 2013 | Principles of Accounting I (CBK) | 3 |
| ECO 2023 | Introductory Microeconomics (core and CBK) ¹ | 3 |
| IS 2063 | Programming Languages II with Java (major) | 3 |
| MS 1023 | Business Statistics with Computer Applications I (CBK) | 3 |
| COM 1053 or COM 1063 | Business and Professional Speech (CBK) or Digital Business Communication | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|--------------|-----------------------------------------------------------|----|
| ACC 2033 | Principles of Accounting II (CBK) | 3 |
| ECO 2013 | Introductory Macroeconomics (CBK) | 3 |
| IS 3003 | Principles of Information Systems for Management (CBK) | 3 |
| MS 3043 | Business Statistics with Computer Applications II (CBK) | 3 |
| MGT 3003 | Business Communication and Professional Development (CBK) | 3 |
| Credit Hours | | 15 |

Third Year

Fall

| | | |
|---------|-----------------------------------------------------|---|
| IS 3063 | Database Management for Information Systems (major) | 3 |
|---------|-----------------------------------------------------|---|

| | | |
|---------------------------------------|---------------------------------------------------------|----|
| IS 3413 | Introduction to Telecommunications for Business (major) | 3 |
| MS 3053 | Management Science and Operations Technology (CBK) | 3 |
| Life & Physical Sciences (core) | | 3 |
| Language, Philosophy & Culture (core) | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|-------------------------------------------------------------------------|--------------------------------------|----|
| FIN 3013 | Principles of Business Finance (CBK) | 3 |
| IS 3073 | Application Development (major) | 3 |
| Upper-division IS elective (3XXX or 4XXX level) (support work in major) | | 3 |
| Life & Physical Sciences (core) | | 3 |
| Creative Arts (core) | | 3 |
| Credit Hours | | 15 |

Fourth Year

Fall

| | | |
|-------------------------------------------------------------------------|---------------------------------------------------------------------|----|
| GBA 2013 | Legal, Social and Ethical Issues in Business (CBK) | 3 |
| IS 4053 | Systems Analysis and Design (major) | 3 |
| MGT 3013 | Introduction to Organization Theory, Behavior, and Management (CBK) | 3 |
| Upper-division IS elective (3XXX or 4XXX level) (support work in major) | | 3 |
| Government-Political Science (core) | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|-------------------------------------------------------------------------|------------------------------------------------|-----|
| IS 4063 | Advanced Topics in Information Systems (major) | 3 |
| MGT 4893 | Management Strategy (CBK) | 3 |
| MKT 3013 | Principles of Marketing (CBK) | 3 |
| Upper-division IS elective (3XXX or 4XXX level) (support work in major) | | 3 |
| Government-Political Science (core) | | 3 |
| Credit Hours | | 15 |
| Total Credit Hours | | 120 |

¹

College of Business students should take MAT 1133 and ECO 2023 to satisfy both Core Curriculum and CBK requirements.

Bachelor of Business Administration Degree in Cyber Security

The minimum number of semester credit hours for the Bachelor of Business Administration (B.B.A.) degree in Cyber Security is 120, at least 39 of which must be at the upper-division level.

All candidates seeking this degree must fulfill the Core Curriculum requirements, the Common Body of Knowledge (CBK) requirements, and the degree requirements, which are listed below.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the B.B.A. degree in Cyber Security must fulfill University Core Curriculum requirements in the same manner as other students.

MAT 1053 and MAT 1133 should be used to satisfy the core requirement in Mathematics (020) and the core requirement in the Component Area Option (090). ECO 2023 should be used to satisfy the core requirement in Social and Behavioral Sciences (080).

MAT 1133 and ECO 2023 may be used to satisfy both Core Curriculum requirements and Common Body of Knowledge (CBK) requirements.

All degrees in the College of Business require 120 hours. If students elect to take a course that satisfies both a Core and COB requirement, students may need to take an additional course to meet the 120 hours.

Core Curriculum Component Area Requirements (p. 7)

| | |
|-----------------------------------|-----------|
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |
| Life and Physical Sciences | 6 |
| Language, Philosophy and Culture | 3 |
| Creative Arts | 3 |
| American History | 6 |
| Government-Political Science | 6 |
| Social and Behavioral Sciences | 3 |
| Component Area Option | 3 |
| Total Credit Hours | 42 |

Common Body of Knowledge (CBK)

All students seeking a B.B.A. degree in the College of Business must complete the following Common Body of Knowledge (CBK) courses in addition to the Core Curriculum.

| | | |
|-------------|--------------------------------------------------------------------------------------------------------------------------------------------|---|
| ACC 2013 | Principles of Accounting I | 3 |
| ACC 2033 | Principles of Accounting II | 3 |
| COM 1053 | Business and Professional Speech | 3 |
| or COM 1063 | Digital Business Communication | |
| ECO 2013 | Introductory Macroeconomics | 3 |
| ECO 2023 | Introductory Microeconomics (satisfies Social and Behavioral Sciences Core Curriculum requirement) | 3 |
| FIN 3013 | Principles of Business Finance | 3 |
| GBA 2013 | Legal, Social and Ethical Issues in Business | 3 |
| IS 1403 | Business Information Systems Fluency | 3 |
| or IS 1413 | Excel for Business Information Systems | |
| IS 3003 | Principles of Information Systems for Management | 3 |
| MAT 1133 | Calculus for Business (satisfies Mathematics Core Curriculum requirement, Actuarial Science majors must take MAT 1214 in lieu of MAT 1133) | 3 |
| MGT 3003 | Business Communication and Professional Development | 3 |
| MGT 3013 | Introduction to Organization Theory, Behavior, and Management | 3 |
| MGT 4893 | Management Strategy (taken in semester of graduation) | 3 |

| | | |
|----------|--------------------------------------------------------------------------------------------------------------------|---|
| MKT 3013 | Principles of Marketing | 3 |
| MS 1023 | Business Statistics with Computer Applications I (Actuarial Science majors must take STA 3003 in lieu of MS 1023) | 3 |
| MS 3043 | Business Statistics with Computer Applications II (Actuarial Science majors must take STA 3513 in lieu of MS 3043) | 3 |
| MS 3053 | Management Science and Operations Technology | 3 |

Note: Students majoring in Accounting, Actuarial Science, Economics, Finance, Management Science, Business Analytics, and Statistics and Data Science are strongly encouraged to select IS 1413 Excel for Business Information Systems.

In addition to the Core Curriculum requirements and the College of Business Common Body of Knowledge (CBK), all candidates for the degree must complete the following degree requirements.

Gateway Course

Students pursuing the B.B.A. degree in Cyber Security must successfully complete the following Gateway Course with a grade of "C-" or better in no more than two attempts. A student who is unable to successfully complete this course within two attempts, including dropping the course with a grade of "W", or by taking an equivalent course at another institution, will be required to change his or her major.

| | | |
|----------|--------------------------|---|
| MAT 1053 | Mathematics for Business | 3 |
|----------|--------------------------|---|

Degree Requirements

A. Major Requirements 24

| | | |
|---------|-------------------------------------------------|--|
| IS 1003 | Unlocking Cyber | |
| IS 2053 | Programming Languages I with Scripting | |
| IS 2063 | Programming Languages II with Java | |
| IS 3033 | Operating Systems Security | |
| IS 3413 | Introduction to Telecommunications for Business | |
| IS 3423 | Network Security | |
| IS 3513 | Information Assurance and Security | |
| IS 3523 | Intrusion Detection and Incident Response | |

B. Support Work in Major 9

Non-Track

Choose 3 courses from the list below:

| | | |
|---------|-----------------------------------|--|
| IS 3043 | Secure Mobile App Development | |
| IS 3433 | Introduction to Digital Forensics | |
| IS 3453 | Networking Fundamentals | |
| IS 3533 | Cyber Law and Legal System | |
| IS 3833 | Cyber Operations | |
| IS 4033 | Network Operations | |
| IS 4143 | Wide Area Networks | |
| IS 4223 | Emerging Network Technologies | |
| IS 4463 | Web Application Security | |
| IS 4473 | Information Assurance Policy | |
| IS 4483 | Digital Forensic Analysis I | |
| IS 4513 | Industrial Control Systems | |
| IS 4523 | Digital Forensic Analysis II | |
| IS 4533 | Malware Analysis | |
| IS 4543 | Cyber Attack and Defend | |
| IS 4913 | Independent Study | |

| | | |
|--------------------------------------------------------------------------|-------------------------------------------------|----|
| IS 4943 | Internship in Cyber Security | |
| IS 4083 | Agile Project Management | |
| | or MOT 4023 Essentials of Technology Management | |
| | or MOT 4143 Introduction to Project Management | |
| Cyber Operator Track (9 semester credit hours) | | |
| Choose 3 courses from the list below: | | |
| IS 3453 | Networking Fundamentals | |
| IS 3833 | Cyber Operations | |
| IS 4533 | Malware Analysis | |
| IS 4543 | Cyber Attack and Defend | |
| Cyber Policy and Strategy Planner Track (9 semester credit hours) | | |
| Choose 3 courses from the list below: | | |
| IS 3533 | Cyber Law and Legal System | |
| IS 4223 | Emerging Network Technologies | |
| IS 4473 | Information Assurance Policy | |
| MOT 4023 | Essentials of Technology Management | |
| Forensics Analyst Track (9 semester credit hours) | | |
| Choose 3 courses from the list below: | | |
| IS 3433 | Introduction to Digital Forensics | |
| IS 4483 | Digital Forensic Analysis I | |
| IS 4523 | Digital Forensic Analysis II | |
| IS 4533 | Malware Analysis | |
| Network Operations Specialist Track (9 semester credit hours) | | |
| Choose 3 courses from the list below: | | |
| IS 3453 | Networking Fundamentals | |
| IS 4033 | Network Operations | |
| IS 4143 | Wide Area Networks | |
| IS 4513 | Industrial Control Systems | |
| Secure Software Developer Track (9 semester credit hours) | | |
| Choose 3 courses from the list below: | | |
| IS 3043 | Secure Mobile App Development | |
| IS 4083 | Agile Project Management | |
| | or MOT 4143 Introduction to Project Management | |
| IS 4463 | Web Application Security | |
| IS 4533 | Malware Analysis | |
| Total Credit Hours | | 33 |

Course Sequence Guide for B.B.A. Degree in Cyber Security

This course sequence guide is designed to assist students in completing their UTSA undergraduate business degree requirements. This is a term-by-term sample course guide. Students must satisfy other requirements in their catalog and meet with their academic advisor for an individualized degree plan. Progress within this guide depends upon such factors as course availability, individual student academic preparation, student time management, work obligations, and individual financial considerations. Students may choose to take courses during Summer terms to reduce course loads during long semesters.

Recommended Four-Year Academic Plan

First Year

| | | Credit Hours |
|-------------|-----------------------------------------|--------------|
| Fall | | |
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |

| | | |
|-------------------------|---------------------------------|--------------|
| MAT 1053 | Mathematics for Business (core) | 3 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| IS 1003 | Unlocking Cyber (major) | 3 |
| American History (core) | | 3 |
| | | <hr/> |
| | | Credit Hours |
| | | 15 |

Spring

| | | |
|-----------------------|-----------------------------------------------------------------------------------------|--------------|
| ECO 2023 | Introductory Microeconomics (core and CBK) ¹ | 3 |
| IS 1403 or IS 1413 | Business Information Systems Fluency (CBK) or Excel for Business Information Systems | 3 |
| IS 2053 | Programming Languages I with Scripting (major) | 3 |
| MAT 1133 | Calculus for Business (core and CBK) ¹ | 3 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| | | <hr/> |
| | | Credit Hours |
| | | 15 |

Second Year

Fall

| | | |
|---------------------------------|-----------------------------------------------------------------------------|--------------|
| ACC 2013 | Principles of Accounting I (CBK) | 3 |
| ECO 2013 | Introductory Macroeconomics (CBK) | 3 |
| COM 1053 or COM 1063 | Business and Professional Speech (CBK) or Digital Business Communication | 3 |
| IS 2063 | Programming Languages II with Java (major) | 3 |
| Life & Physical Sciences (core) | | 3 |
| | | <hr/> |
| | | Credit Hours |
| | | 15 |

Spring

| | | |
|---------------------------------|---------------------------------------------------------|--------------|
| ACC 2033 | Principles of Accounting II (CBK) | 3 |
| IS 3003 | Principles of Information Systems for Management (CBK) | 3 |
| IS 3413 | Introduction to Telecommunications for Business (major) | 3 |
| MS 1023 | Business Statistics with Computer Applications I (CBK) | 3 |
| Life & Physical Sciences (core) | | 3 |
| | | <hr/> |
| | | Credit Hours |
| | | 15 |

Third Year

Fall

| | | |
|-------------------------------------|-----------------------------------------------------------|--------------|
| IS 3033 | Operating Systems Security (major) | 3 |
| IS 3513 | Information Assurance and Security (major) | 3 |
| MS 3043 | Business Statistics with Computer Applications II (CBK) | 3 |
| MGT 3003 | Business Communication and Professional Development (CBK) | 3 |
| Government-Political Science (core) | | 3 |
| | | <hr/> |
| | | Credit Hours |
| | | 15 |

Spring

| | | |
|---------|--------------------------|---|
| IS 3423 | Network Security (major) | 3 |
|---------|--------------------------|---|

| | | |
|----------------------------------------------------------------------------------------------|---------------------------------------------------------------------|-----|
| IS 3523 | Intrusion Detection and Incident Response (major) | 3 |
| FIN 3013 | Principles of Business Finance (CBK) | 3 |
| GBA 2013 | Legal, Social and Ethical Issues in Business (CBK) | 3 |
| Language, Philosophy & Culture (core) | | 3 |
| Credit Hours | | 15 |
| Fourth Year | | |
| Fall | | |
| MGT 3013 | Introduction to Organization Theory, Behavior, and Management (CBK) | 3 |
| MS 3053 | Management Science and Operations Technology (CBK) | 3 |
| Upper-division IS elective (support work in major) (must be approved Cyber Security content) | | 3 |
| Upper-division IS elective (support work in major) (must be approved Cyber Security content) | | 3 |
| Government-Political Science (core) | | 3 |
| Credit Hours | | 15 |
| Spring | | |
| MGT 4893 | Management Strategy (CBK) | 3 |
| MKT 3013 | Principles of Marketing (CBK) | 3 |
| Upper-division IS elective (support work in major) (must be approved Cyber Security content) | | 3 |
| American History (core) | | 3 |
| Creative Arts (core) | | 3 |
| Credit Hours | | 15 |
| Total Credit Hours | | 120 |

1

College of Business students should take MAT 1133 and ECO 2023 to satisfy both Core Curriculum and CBK requirements.

- Minor in Cyber Security (p. 52)
- Minor in Digital Forensics (p. 52)
- Minor in Information Systems (p. 52)
- Minor in Network and Data Center Management (p. 53)
- Minor in Technology Management for Nonbusiness Majors (p. 53)

Minor in Cyber Security

The Minor in Cyber Security is open to all majors in the University. A student majoring in Information Systems will be required to take 18 semester credit hours of coursework. Other majors may be required to take additional hours depending on their academic background.

A. Required courses 12

| | | |
|---------|-------------------------------------------------|--|
| IS 3413 | Introduction to Telecommunications for Business | |
| IS 3423 | Network Security | |
| IS 3513 | Information Assurance and Security | |
| IS 3523 | Intrusion Detection and Incident Response | |

B. Elective courses 6

Select two of the following:

| | | |
|---------|-------------------------------|--|
| IS 3033 | Operating Systems Security | |
| IS 3043 | Secure Mobile App Development | |

| | | |
|--------------------|-----------------------------------|----|
| IS 3073 | Application Development | |
| IS 3433 | Introduction to Digital Forensics | |
| IS 3453 | Networking Fundamentals | |
| IS 3533 | Cyber Law and Legal System | |
| IS 3833 | Cyber Operations | |
| IS 4033 | Network Operations | |
| IS 4083 | Agile Project Management | |
| IS 4143 | Wide Area Networks | |
| IS 4223 | Emerging Network Technologies | |
| IS 4463 | Web Application Security | |
| IS 4473 | Information Assurance Policy | |
| IS 4483 | Digital Forensic Analysis I | |
| IS 4513 | Industrial Control Systems | |
| IS 4523 | Digital Forensic Analysis II | |
| IS 4533 | Malware Analysis | |
| IS 4543 | Cyber Attack and Defend | |
| Total Credit Hours | | 18 |

To declare a Minor in Cyber Security, obtain advice, or seek approval of course substitutions for course requirements, students must consult their academic advisor.

Minor in Digital Forensics

The Minor in Digital Forensics is open to all majors in the University. A student majoring in Information Systems and Cyber Security will be required to take 18 semester credit hours of coursework. Other majors may be required to take additional hours depending on their academic background.

Required courses 18

| | | |
|--------------------|-------------------------------------------|----|
| IS 3433 | Introduction to Digital Forensics | |
| IS 3513 | Information Assurance and Security | |
| IS 3523 | Intrusion Detection and Incident Response | |
| IS 3533 | Cyber Law and Legal System | |
| IS 4483 | Digital Forensic Analysis I | |
| IS 4523 | Digital Forensic Analysis II | |
| Total Credit Hours | | 18 |

To declare a Minor in Digital Forensics, obtain advice, or seek approval of course substitutions for course requirements, students must consult their academic advisor.

Minor in Information Systems

The Minor in Information Systems is open to all majors in the University. The number of semester credit hours required for a student in the College of Business is 18. Other students may be required to take additional hours depending on their academic background.

Required courses 18

| | | |
|---------|--------------------------------------------------|--|
| IS 1003 | Unlocking Cyber | |
| IS 2053 | Programming Languages I with Scripting | |
| IS 3003 | Principles of Information Systems for Management | |
| IS 3063 | Database Management for Information Systems | |
| IS 3413 | Introduction to Telecommunications for Business | |

| | | |
|--------------------|-----------------------------|----|
| IS 4053 | Systems Analysis and Design | |
| Total Credit Hours | | 18 |

To declare a Minor in Information Systems, obtain advice, or seek approval of course substitutions for course requirements, students must consult their academic advisor.

Minor in Network and Data Center Management

The Minor in Network and Data Center Management is open to all majors in the University. A student majoring in Information Systems or Cyber Security will be required to take 21 semester credit hours of coursework. Other majors may be required to take additional hours depending on their academic background.

| | | |
|-------------------------|-------------------------------------------|-----------|
| Required courses | | 21 |
| IS 3453 | Networking Fundamentals | |
| IS 3513 | Information Assurance and Security | |
| IS 3523 | Intrusion Detection and Incident Response | |
| IS 4033 | Network Operations | |
| IS 4213 | Data Center Infrastructure Planning | |
| IS 4223 | Emerging Network Technologies | |
| MOT 4143 | Introduction to Project Management | |
| Total Credit Hours | | 21 |

To declare a Minor in Network and Data Center Management, obtain advice, or seek approval of course substitutions for course requirements, students must consult with their academic advisor.

Minor in Technology Management for Nonbusiness Majors

The Minor in Technology Management for Nonbusiness Majors is only open to nonbusiness majors in the University. The number of required semester credit hours for this minor is 18.

| | | |
|------------------------------|---------------------------------------------------------------|-----------|
| A. Required Courses | | 15 |
| ACC 2003 | Foundations of Accounting | |
| FIN 3003 | Survey of Finance | |
| MKT 3013 | Principles of Marketing | |
| MOT 4023 | Essentials of Technology Management | |
| MOT 4143 | Introduction to Project Management | |
| B. Elective course | | 3 |
| Select one of the following: | | |
| MGT 3013 | Introduction to Organization Theory, Behavior, and Management | |
| MOT 4203 | Strategic Management of Technology and Innovation | |
| MOT 4313 | Disruptive Innovations | |
| MS 3403 | Logistics Management | |
| Total Credit Hours | | 18 |

To declare a Minor in Technology Management, obtain advice, and seek approval of course substitutions for course requirements, students must consult with their academic advisor.

Certificate in Pathogenic Outbreak Investigations

This interdisciplinary certificate program is designed for students in biology, information systems and cyber security, computer science and computer engineering disciplines to investigate biological and digital pathogen identification, propagation prediction, and mitigation. The required capstone project reinforces the cross-disciplinary learning fostered by the program and provides real-world practice.

This certificate is open only to biology, information systems and cyber security, computer science, and computer engineering majors. To apply for the Pathogenic Outbreak Investigations certificate, students should consult with the Director of the Office of Undergraduate Research for specific information about certificate requirements and consult with the Certificate Program Advisor to verify that they have met all University requirements. All courses used to satisfy the requirements of this undergraduate certificate program must be college-level courses taken at UTSA. Students must fulfill all prerequisite requirements for elective courses.

Students pursuing the Certificate in Pathogenic Outbreak Investigations must complete a minimum of 15 semester credit hours:

A. Courses required by all majors:

| | |
|-----------------------------------------------------------------|----------------------------------------------------|
| Topic: Introduction to Pathogenic Outbreak Investigations: | 3 |
| BIO 4953 | Special Studies in Biology |
| or CS 4593 | Topics in Computer Science |
| or IS 3313 | Introduction to Pathogenic Outbreak Investigations |
| Topic: Advanced Research in Pathogenic Outbreak Investigations: | 3 |
| BIO 4953 | Special Studies in Biology |
| or CS 4913 | Independent Study |
| or IS 4953 | Special Studies in Information Systems |

B. Required course according to major:

| | | |
|----------|----------------------------------------------|---|
| BIO 3713 | Microbiology | 3 |
| CS 4593 | Topics in Computer Science (Cloud Computing) | |
| IS 4533 | Malware Analysis | |

C. Elective courses for each major. Select 6 hours from one of the following groups depending on major:

| | | |
|----------------------------------------------|----------------------------------------------|--|
| Biology elective options ¹ | | |
| BIO 3513 | Biochemistry | |
| BIO 3743 | Bacteriology | |
| BIO 4743 | Immunology | |
| BIO 5762 | Fundamentals of Immunology for Biotechnology | |
| BIO 6973 | Special Problems (Comparative Genomics) | |
| BIO 6973 | Special Problems (Microbial Genomics) | |

Information Systems/Cyber Security elective options

| | | |
|---------|-------------------------------------------|--|
| IS 3523 | Intrusion Detection and Incident Response | |
| IS 4463 | Web Application Security | |
| IS 4483 | Digital Forensic Analysis I | |
| IS 4513 | Industrial Control Systems | |
| IS 4523 | Digital Forensic Analysis II | |

Computer Science elective options

| | | |
|---------|-----------------------------------|--|
| CS 3113 | Principles of Cyber Security | |
| CS 3433 | Computer and Information Security | |
| CS 3753 | Data Science | |

| | |
|---------|------------------------------------------|
| CS 3873 | Computer Networks |
| CS 4223 | Bioinformatics and Big Data |
| CS 4353 | Unix and Network Security |
| CS 4363 | Cryptography |
| CS 4373 | Data Mining |
| CS 4593 | Topics in Computer Science |
| CS 4633 | Simulation Techniques |
| CS 4643 | Cellular and Mobile Technologies |
| CS 4653 | Software and Malware Reverse Engineering |
| CS 4663 | Distributed and Cloud Systems Security |
| CS 4673 | Cyber Operations |
| CS 4683 | Secure Software Development and Analysis |
| CS 4713 | Compiler Construction |
| CS 4823 | Parallel Programming |
| CS 4833 | Embedded Systems |
| CS 4843 | Cloud Computing |
| CS 4853 | Advanced Systems Programming |
| CS 4863 | Distributed Computing and Systems |
| CS 4933 | Internship in Computer Science |
| CS 4963 | Advanced Topics in Systems and Cloud |
| CS 4973 | Advanced Topics in Data Science |

Total Credit Hours 15

1

Undergraduate biology students are permitted to take graduate courses based on need, student background/capability, and instructor consent.

Department of Management

Mission Statement

The department's mission is to be known for exceptionally strong programs built by award-winning teachers and scholars who are experts in strategic management, human resource management, organizational behavior, international management, organization theory, and ethics.

The Department of Management offers an undergraduate degree program with a major in management. Within the management degree, a track in human resource management may also be pursued. The field of management is important to the success of modern organizations. The management courses that are a part of this degree help build understanding of the management process of planning, organizing, leading, and controlling. Courses that focus on these core functions, as well as other skill areas such as ethics and teamwork, position Management graduates for a variety of organizational settings and careers.

To be effective, organizations require engaged and productive employees. The track in human resource management focuses on the effective management of human resources in organizations. Courses in the track focus on key functions such as selection, performance management, and compensation, among others.

- B.B.A. degree in Management (p. 54)
- B.B.A. degree in Management (Human Resource Track) (p. 55)

Bachelor of Business Administration Degree in Management

The minimum number of semester credit hours required for the Bachelor of Business Administration (B.B.A.) degree in Management is 120, at least 39 of which must be at the upper-division level.

All candidates seeking this degree must fulfill the Core Curriculum requirements, the Common Body of Knowledge (CBK) requirements, and the degree requirements, which are listed below.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the B.B.A. degree in Management must fulfill University Core Curriculum requirements in the same manner as other students.

MAT 1053 and MAT 1133 should be used to satisfy the core requirement in Mathematics (020) and the core requirement in the Component Area Option (090). ECO 2023 should be used to satisfy the core requirement in Social and Behavioral Sciences (080).

MAT 1133 and ECO 2023 may be used to satisfy both Core Curriculum requirements and Common Body of Knowledge (CBK) requirements.

All degrees in the College of Business require 120 hours. If students elect to take a course that satisfies both a Core and COB requirement, students may need to take an additional course to meet the 120 hours.

Core Curriculum Component Area Requirements (p. 7)

| | |
|-----------------------------------|---|
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |
| Life and Physical Sciences | 6 |

| | |
|----------------------------------|-----------|
| Language, Philosophy and Culture | 3 |
| Creative Arts | 3 |
| American History | 6 |
| Government-Political Science | 6 |
| Social and Behavioral Sciences | 3 |
| Component Area Option | 3 |
| Total Credit Hours | 42 |

Common Body of Knowledge (CBK)

All students seeking a B.B.A. degree in the College of Business must complete the following Common Body of Knowledge (CBK) courses in addition to the Core Curriculum.

| | | |
|-------------|--------------------------------------------------------------------------------------------------------------------------------------------|---|
| ACC 2013 | Principles of Accounting I | 3 |
| ACC 2033 | Principles of Accounting II | 3 |
| COM 1053 | Business and Professional Speech | 3 |
| or COM 1063 | Digital Business Communication | |
| ECO 2013 | Introductory Macroeconomics | 3 |
| ECO 2023 | Introductory Microeconomics (satisfies Social and Behavioral Sciences Core Curriculum requirement) | 3 |
| FIN 3013 | Principles of Business Finance | 3 |
| GBA 2013 | Legal, Social and Ethical Issues in Business | 3 |
| IS 1403 | Business Information Systems Fluency | 3 |
| or IS 1413 | Excel for Business Information Systems | |
| IS 3003 | Principles of Information Systems for Management | 3 |
| MAT 1133 | Calculus for Business (satisfies Mathematics Core Curriculum requirement, Actuarial Science majors must take MAT 1214 in lieu of MAT 1133) | 3 |
| MGT 3003 | Business Communication and Professional Development | 3 |
| MGT 3013 | Introduction to Organization Theory, Behavior, and Management | 3 |
| MGT 4893 | Management Strategy (taken in semester of graduation) | 3 |
| MKT 3013 | Principles of Marketing | 3 |
| MS 1023 | Business Statistics with Computer Applications I (Actuarial Science majors must take STA 3003 in lieu of MS 1023) | 3 |
| MS 3043 | Business Statistics with Computer Applications II (Actuarial Science majors must take STA 3513 in lieu of MS 3043) | 3 |
| MS 3053 | Management Science and Operations Technology | 3 |

Note: Students majoring in Accounting, Actuarial Science, Economics, Finance, Management Science, Business Analytics, and Statistics and Data Science are strongly encouraged to select IS 1413 Excel for Business Information Systems.

In addition to the Core Curriculum requirements and requirements from the College of Business Common Body of Knowledge (CBK), all candidates for the degree must complete the following degree requirements.

Gateway Course

Students pursuing the B.B.A. degree in Management must successfully complete the following Gateway Course with a grade of "C-" or better in no more than two attempts. A student who is unable to successfully

complete this course within two attempts, including dropping the course with a grade of "W", or by taking an equivalent course at another institution, will be required to change his or her major.

| | | |
|----------|--------------------------|---|
| MAT 1053 | Mathematics for Business | 3 |
|----------|--------------------------|---|

Degree Requirements (without track)

| | |
|------------------------------------------------------------------------------------|--------------------------------------------|
| A. Major Requirements | 15 |
| MGT 3023 | Understanding People and Organizations |
| MGT 3613 | Managing Human Resources |
| MGT 4213 | Designing Organizations |
| MGT 4923 | Leading Organizations and Making Decisions |
| MGT 4943 | Managing Teams and Avoiding Conflict |
| B. Support Work in Major | 6 |
| 6 semester credit hours of upper-division Management electives ¹ | |
| C. Additional Support Work ² | 9 |
| Option 1: Complete a Business Competency (9 semester credit hours in a competency) | |
| Option 2: Complete 9 semester credit hours of upper-division business courses | |
| D. Free Electives | 3 |
| 3 semester credit hours of free electives. | |
| Total Credit Hours | 33 |

1

The department recommends MGT 4933 Internship in Management and/or ENT 3123 Innovation and Entrepreneurship.

2

The department recommends a Business Competency or Immersions.

Degree Requirements for Human Resource Management (HRM) Track

| | |
|------------------------------------------------------------|----------------------------------------------------|
| A. Major requirements | 15 |
| MGT 3023 | Understanding People and Organizations |
| MGT 3613 | Managing Human Resources |
| MGT 4213 | Designing Organizations |
| MGT 4923 | Leading Organizations and Making Decisions |
| MGT 4943 | Managing Teams and Avoiding Conflict |
| B. Support work in major - HRM Track | 12 |
| Select four courses from the following: | |
| MGT 4413 | Performance Management |
| MGT 4613 | Compensating Employees |
| MGT 4623 | Staffing Organizations |
| MGT 4663 | Training and Developing Employees |
| MGT 4803 | Managing Human Resources for Competitive Advantage |
| C. Additional support work | 3 |
| 3 semester credit hours of upper-division business courses | |
| D. Free Electives | 3 |
| 3 semester credit hours of free electives | |
| Total Credit Hours | 33 |

Students who choose the HRM track may have the designation indicated on their transcript. The track designation will not appear on the diploma.

Course Sequence Guide for B.B.A. Degree in Management

This course sequence guide is designed to assist students in completing their UTSA undergraduate business degree requirements. This is a term-by-term sample course guide. Students must satisfy other requirements in their catalog and meet with their academic advisor for an individualized degree plan. Progress within this guide depends upon such factors as course availability, individual student academic preparation, student time management, work obligations, and individual financial considerations. Students may choose to take courses during Summer terms to reduce course loads during long semesters.

Recommended Four-Year Academic Plan

First Year

| | | Credit Hours |
|---------------------------------|-----------------------------------------|--------------|
| Fall | | |
| MAT 1053 | Mathematics for Business (core) | 3 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| American History (core) | | 3 |
| Life & Physical Sciences (core) | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|-----------------------|-----------------------------------------------------------------------------------------|----|
| MAT 1133 | Calculus for Business (core and CBK) ¹ | 3 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| ECO 2023 | Introductory Microeconomics (core and CBK) ¹ | 3 |
| IS 1403 or IS 1413 | Business Information Systems Fluency (CBK) or Excel for Business Information Systems | 3 |
| ACC 2013 | Principles of Accounting I (core) | 3 |
| Credit Hours | | 15 |

Second Year

| | | Credit Hours |
|-------------------------|-----------------------------------------------------------------------------|--------------|
| Fall | | |
| MS 1023 | Business Statistics with Computer Applications I (CBK) | 3 |
| COM 1053 or COM 1063 | Business and Professional Speech (CBK) or Digital Business Communication | 3 |
| ECO 2013 | Introductory Macroeconomics (CBK) | 3 |
| IS 3003 | Principles of Information Systems for Management (CBK) | 3 |
| ACC 2033 | Principles of Accounting II (CBK) | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|----------|---------------------------------------------------------------------|---|
| MS 3043 | Business Statistics with Computer Applications II (CBK) | 3 |
| MGT 3003 | Business Communication and Professional Development (CBK) | 3 |
| MKT 3013 | Principles of Marketing (CBK) | 3 |
| MGT 3013 | Introduction to Organization Theory, Behavior, and Management (CBK) | 3 |

| | | |
|--------------|--------------------------------------|----|
| FIN 3013 | Principles of Business Finance (CBK) | 3 |
| Credit Hours | | 15 |

Third Year

Fall

| | | |
|-------------------------------------|----------------------------------------------------|----|
| MS 3053 | Management Science and Operations Technology (CBK) | 3 |
| MGT 3023 | Understanding People and Organizations ((major)) | 3 |
| MGT 3613 | Managing Human Resources (major) | 3 |
| GBA 2013 | Legal, Social and Ethical Issues in Business (CBK) | 3 |
| Government-Political Science (core) | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|------------------------------------------------------------------------------------------|----------------------------------------------|----|
| MGT 4943 | Managing Teams and Avoiding Conflict (major) | 3 |
| MGT 4213 | Designing Organizations (major) | 3 |
| Upper-division Business elective or Business Competency course (additional support work) | | 3 |
| Free elective (other support work) | | 3 |
| Government-Political Science (core) | | 3 |
| Credit Hours | | 15 |

Fourth Year

Fall

| | | |
|---------------------------------------------------------------------------------------------------------------|----------------------------------------------------|----|
| Upper-division Management elective (3XXX or 4XXX level) (support work in major) | | 3 |
| MGT 4923 | Leading Organizations and Making Decisions (major) | 3 |
| Upper-division Business elective (3XXX or 4XXX level) or Business Competency course (additional support work) | | 3 |
| Creative Arts (core) | | 3 |
| American History (core) | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|---------------------------------------------------------------------------------------------------------------|---------------------------|-----|
| Upper-division MGT elective (3XXX or 4XXX level) (support work in major) | | 3 |
| MGT 4893 | Management Strategy (CBK) | 3 |
| Upper-division Business elective (3XXX or 4XXX level) or Business Competency course (additional support work) | | 3 |
| Life & Physical Sciences (core) | | 3 |
| Language, Philosophy & Culture (core) | | 3 |
| Credit Hours | | 15 |
| Total Credit Hours | | 120 |

¹

MAT 1133 and ECO 2023 may be used to satisfy both Core Curriculum requirements and Common Body of Knowledge (CBK) requirements.

Course Sequence Guide for B.B.A. Degree in Management with Human Resource Management (HRM) Track

This course sequence guide is designed to assist students in completing their UTSA undergraduate business degree requirements. This is

a term-by-term sample course guide. Students must satisfy other requirements in their catalog and meet with their academic advisor for an individualized degree plan. Progress within this guide depends upon such factors as course availability, individual student academic preparation, student time management, work obligations, and individual financial considerations. Students may choose to take courses during Summer terms to reduce course loads during long semesters.

Recommended Four-Year Academic Plan

First Year

| Fall | | Credit Hours |
|---------------------------------|-----------------------------------------|--------------|
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| MAT 1053 | Mathematics for Business (core) | 3 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| American History (core) | | 3 |
| Life & Physical Sciences (core) | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|-------------------------|-----------------------------------------------------------------------------------------|----|
| COM 1053 or COM 1063 | Business and Professional Speech (CBK) or Digital Business Communication | 3 |
| ECO 2023 | Introductory Microeconomics (core and CBK) ¹ | 3 |
| IS 1403 or IS 1413 | Business Information Systems Fluency (CBK) or Excel for Business Information Systems | 3 |
| MAT 1133 | Calculus for Business (core and CBK) ¹ | 3 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| Credit Hours | | 15 |

Second Year

| Fall | | Credit Hours |
|---------------------------------------|--------------------------------------------------------|--------------|
| ACC 2013 | Principles of Accounting I (CBK) | 3 |
| ECO 2013 | Introductory Macroeconomics (CBK) | 3 |
| MS 1023 | Business Statistics with Computer Applications I (CBK) | 3 |
| Language, Philosophy & Culture (core) | | 3 |
| Creative Arts (core) | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|---------------------------------|---------------------------------------------------------------------|----|
| ACC 2033 | Principles of Accounting II (CBK) | 3 |
| MS 3043 | Business Statistics with Computer Applications II (CBK) | 3 |
| MGT 3003 | Business Communication and Professional Development (CBK) | 3 |
| MGT 3013 | Introduction to Organization Theory, Behavior, and Management (CBK) | 3 |
| Life & Physical Sciences (core) | | 3 |
| Credit Hours | | 15 |

Third Year

Fall

| | | |
|-------------------------------------|--------------------------------------------------------|----|
| IS 3003 | Principles of Information Systems for Management (CBK) | 3 |
| MGT 3023 | Understanding People and Organizations (major) | 3 |
| MGT 3613 | Managing Human Resources (major) | 3 |
| MS 3053 | Management Science and Operations Technology (CBK) | 3 |
| Government-Political Science (core) | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|------------------------------------------|----------------------------------------------------|----|
| GBA 2013 | Legal, Social and Ethical Issues in Business (CBK) | 3 |
| FIN 3013 | Principles of Business Finance (CBK) | 3 |
| MGT 4923 | Leading Organizations and Making Decisions (major) | 3 |
| HRM Track Course (support work in major) | | 3 |
| Government-Political Science (core) | | 3 |
| Credit Hours | | 15 |

Fourth Year

Fall

| | | |
|------------------------------------------|----------------------------------------------|----|
| MGT 4943 | Managing Teams and Avoiding Conflict (major) | 3 |
| MKT 3013 | Principles of Marketing (CBK) | 3 |
| HRM Track Course (support work in major) | | 3 |
| HRM Track Course (support work in major) | | 3 |
| American History (core) | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|----------------------------------------------------------|---------------------------------|-----|
| MGT 4213 | Designing Organizations (major) | 3 |
| MGT 4893 | Management Strategy (CBK) | 3 |
| HRM Track Course (support work in major) | | 3 |
| Upper division business course (additional support work) | | 3 |
| Business or non-business elective (free elective) | | 3 |
| Credit Hours | | 15 |
| Total Credit Hours | | 120 |

¹

MAT 1133 and ECO 2023 may be used to satisfy both Core Curriculum requirements and Common Body of Knowledge (CBK) requirements.

Department of Management Science and Statistics

Mission Statement

The mission of the Department of Management Science and Statistics is to offer both undergraduate and graduate educational programs that are of high quality and meet the changing needs of the global community; to provide a supportive learning environment for students; to foster the success of our students in their professional careers; and to create an academic environment that stresses excellence in teaching, intellectual contributions, and service. The Department contributes to the missions of the College and the University through research and education in the quantitative sciences. Theory and analysis are applied to a variety of interdisciplinary problems to discover new approaches for meeting the challenges of decision making in a global arena of expanding technology and information.

Department Information

The disciplines of Operations and Supply Chain Management and Statistics are integral to modern decision-making processes. These interdisciplinary fields emphasize the use of quantitative methods and computers for analyzing, understanding, visualizing, and interpreting data. Management Science seeks to provide a rational basis for decision analysis across a broad spectrum of business functions such as production/operations, marketing, finance, human resources, project management, logistics, and supply chain management. Statistical methods provide analytical tools for research in high-technology and biomedical industries, insurance, and government agencies. Both disciplines offer the opportunity to pursue advanced graduate studies. The Department of Management Science and Statistics offers a Bachelor of Business Administration (B.B.A.) degree in Actuarial Science, a B.B.A. degree in Business Analytics, a B.B.A. degree in Management Science (renamed Operations and Supply Chain Management starting in fall 2021), and a Bachelor of Science (B.S.) degree in Statistics and Data Science. The department also offers minors in Actuarial Science, Adaptive Decision Models for Business, Management Sciences, and Statistics, which are open to all majors in the University. In addition, certificates are offered in Business Analytics, and Operations and Supply Chain Management.

- B.B.A. degree in Actuarial Science (p. 58)
- B.B.A. degree in Business Analytics (p. 60)
- B.B.A. degree in Operations and Supply Chain Management (formerly named Management Science) (p. 62)
- B.S. degree in Statistics and Data Science (p. 65)

Bachelor of Business Administration Degree in Actuarial Science

Actuarial Science is a discipline that uses mathematics and statistical models to assess and manage risk and to solve emerging financial and social problems. Graduates' unique blend of analytical and business skills are especially valuable in the insurance and financial services industry. They apply their skills to calculations in life, health, social, and casualty insurance, annuities and pensions. Traditionally, they have been involved in developing probability tables for natural disasters, unemployment, etc. There is an increasing need for trained actuaries in the insurance industry. The Bachelor of Business Administration (B.B.A.) in Actuarial

Science provides students the opportunity to acquire the quantitative and business skills to prepare them for a career as an actuary. The minimum number of semester credit hours for the B.B.A. degree in Actuarial Science is 120, at least 39 of which must be at the upper-division level.

All candidates seeking this degree must fulfill the Core Curriculum requirements, the Common Body of Knowledge (CBK) requirements, and the degree requirements, which are listed below.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the B.B.A. degree in Actuarial Science must fulfill University Core Curriculum requirements. The two courses listed below satisfy both degree requirements and Core Curriculum requirements.

MAT 1214 should be used to satisfy the core requirement in Mathematics (020). ECO 2023 should be used to satisfy the core requirement in Social and Behavioral Sciences (080).

All degrees in the College of Business require 120 hours. If students elect to take a course that satisfies both a Core and COB requirement, students may need to take an additional course to meet the 120 hours.

Core Curriculum Component Area Requirements (p. 7)

| | |
|-----------------------------------|-----------|
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |
| Life and Physical Sciences | 6 |
| Language, Philosophy and Culture | 3 |
| Creative Arts | 3 |
| American History | 6 |
| Government-Political Science | 6 |
| Social and Behavioral Sciences | 3 |
| Component Area Option | 3 |
| Total Credit Hours | 42 |

Common Body of Knowledge (CBK)

All students seeking a B.B.A. degree in the College of Business must complete the following Common Body of Knowledge (CBK) courses in addition to the Core Curriculum.

| | | |
|----------|--------------------------------------------------------------------------------------------------------------------------------------------|---|
| ACC 2013 | Principles of Accounting I | 3 |
| ACC 2033 | Principles of Accounting II | 3 |
| COM 1053 | Business and Professional Speech | 3 |
| | or COM 1063 Digital Business Communication | |
| ECO 2013 | Introductory Macroeconomics | 3 |
| ECO 2023 | Introductory Microeconomics (satisfies Social and Behavioral Sciences Core Curriculum requirement) | 3 |
| FIN 3013 | Principles of Business Finance | 3 |
| GBA 2013 | Legal, Social and Ethical Issues in Business | 3 |
| IS 1403 | Business Information Systems Fluency | 3 |
| | or IS 1413 Excel for Business Information Systems | |
| IS 3003 | Principles of Information Systems for Management | 3 |
| MAT 1133 | Calculus for Business (satisfies Mathematics Core Curriculum requirement, Actuarial Science majors must take MAT 1214 in lieu of MAT 1133) | 3 |

| | | |
|----------|--------------------------------------------------------------------------------------------------------------------|---|
| MGT 3003 | Business Communication and Professional Development | 3 |
| MGT 3013 | Introduction to Organization Theory, Behavior, and Management | 3 |
| MGT 4893 | Management Strategy (taken in semester of graduation) | 3 |
| MKT 3013 | Principles of Marketing | 3 |
| MS 1023 | Business Statistics with Computer Applications I (Actuarial Science majors must take STA 3003 in lieu of MS 1023) | 3 |
| MS 3043 | Business Statistics with Computer Applications II (Actuarial Science majors must take STA 3513 in lieu of MS 3043) | 3 |
| MS 3053 | Management Science and Operations Technology | 3 |

Note: Students majoring in Accounting, Actuarial Science, Economics, Finance, Management Science, Business Analytics, and Statistics and Data Science are strongly encouraged to select IS 1413 Excel for Business Information Systems.

In addition to the Core Curriculum requirements and requirements from the College of Business Common Body of Knowledge (CBK), all candidates for the degree must complete the following degree requirements.

Degree Requirements

A. Major Requirements 20

| | | |
|----------|--------------------------------------------------------|--|
| MAT 1224 | Calculus II | |
| MAT 2214 | Calculus III | |
| STA 3523 | Mathematical Statistics | |
| STA 4133 | Introduction to Programming and Data Management in SAS | |
| STA 4713 | Applied Regression Analysis | |
| STA 4753 | Time-Series Analysis | |

B. Support Work in Major 12

Select four courses from the following:

| | | |
|----------|------------------------------------------------------|--|
| FIN 4523 | Introduction to Risk Management | |
| FIN 4813 | Property-Liability Insurance Finance | |
| FIN 4823 | Life and Health Insurance Finance | |
| MS 3073 | Business Intelligence and Analytics | |
| STA 4233 | Introduction to Programming and Data Management in R | |
| STA 4643 | Introduction to Stochastic Processes | |
| STA 4933 | Internship in Statistics | |
| STA 4963 | Actuarial Science Examination Preparation | |

Total Credit Hours 32

Course Sequence Guide for B.B.A. Degree in Actuarial Science

This course sequence guide is designed to assist students in completing their UTSA undergraduate business degree requirements. This is a term-by-term sample course guide. Students must satisfy other requirements in their catalog and meet with their academic advisor for an individualized degree plan. Progress within this guide depends upon such factors as course availability, individual student academic preparation, student time management, work obligations, and individual financial

considerations. Students may choose to take courses during Summer terms to reduce course loads during long semesters.

Recommended Four-Year Academic Plan

First Year

| Fall | | Credit Hours |
|-------------------------|--------------------------------------------------------------------------------------|--------------|
| WRC 1013 | Freshman Composition I (core) | 3 |
| MAT 1214 | Calculus I (core and CBK) ¹ | 4 |
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| IS 1403 or IS 1413 | Business Information Systems Fluency (CBK) or Excel for Business Information Systems | 3 |
| American History (core) | | 3 |
| Credit Hours | | 16 |

Spring

| | | |
|----------------------|--------------------------------------------------------------------------|----|
| WRC 1023 | Freshman Composition II (core) | 3 |
| MAT 1224 | Calculus II (major) | 4 |
| ECO 2023 | Introductory Microeconomics (core and CBK) ¹ | 3 |
| STA 3003 | Applied Statistics (CBK) | 3 |
| COM 1053 or COM 1063 | Business and Professional Speech (CBK) or Digital Business Communication | 3 |
| Credit Hours | | 16 |

Second Year

Fall

| | | |
|---------------------------------------|-----------------------------------|----|
| ACC 2013 | Principles of Accounting I (CBK) | 3 |
| MAT 2214 | Calculus III (major) | 4 |
| ECO 2013 | Introductory Macroeconomics (CBK) | 3 |
| STA 3513 | Probability and Statistics (CBK) | 3 |
| Language, Philosophy & Culture (core) | | 3 |
| Credit Hours | | 16 |

Spring

| | | |
|---------------------------------|--------------------------------------|----|
| ACC 2033 | Principles of Accounting II (CBK) | 3 |
| FIN 3013 | Principles of Business Finance (CBK) | 3 |
| STA 3523 | Mathematical Statistics (major) | 3 |
| American History (core) | | 3 |
| Life & Physical Sciences (core) | | 3 |
| Credit Hours | | 15 |

Third Year

Fall

| | | |
|-------------------------------------|----------------------------------------------------------------|----|
| MS 3053 | Management Science and Operations Technology (CBK) | 3 |
| STA 4133 | Introduction to Programming and Data Management in SAS (major) | 3 |
| STA 4713 | Applied Regression Analysis (major) | 3 |
| MGT 3003 | Business Communication and Professional Development (CBK) | 3 |
| Government-Political Science (core) | | 3 |
| Credit Hours | | 15 |

| Spring | | |
|---------------------------------------------------------------------|---------------------------------------------------------------------|-----|
| IS 3003 | Principles of Information Systems for Management (CBK) | 3 |
| MGT 3013 | Introduction to Organization Theory, Behavior, and Management (CBK) | 3 |
| MKT 3013 | Principles of Marketing (CBK) | 3 |
| STA 4753 | Time-Series Analysis (major) | 3 |
| Upper-division FIN or STA Directed Elective (support work in major) | | 3 |
| Credit Hours | | 15 |
| Fourth Year | | |
| Fall | | |
| GBA 2013 | Legal, Social and Ethical Issues in Business (CBK) | 3 |
| Upper-division FIN or STA Directed Elective (support work in major) | | 3 |
| Upper-division FIN or STA Directed Elective (support work in major) | | 3 |
| Component Area Option (core) | | 3 |
| Government-Political Science (core) | | 3 |
| Credit Hours | | 15 |
| Spring | | |
| MGT 4893 | Management Strategy (CBK) | 3 |
| Upper-division FIN or STA Directed Elective (support work in major) | | 3 |
| Creative Arts (core) | | 3 |
| Life & Physical Sciences (core) | | 3 |
| Credit Hours | | 12 |
| Total Credit Hours | | 120 |

1

College of Business students should take MAT 1214 and ECO 2023 to satisfy both Core Curriculum and CBK requirements.

Bachelor of Business Administration Degree in Business Analytics

Solving problems and making decisions are integral parts of every organization's daily operations. Students will have the opportunity to develop and apply analytical models and to acquire essential quantitative and computer skills necessary to aid in solving problems in the increasingly technical business environments. The focus of this degree is on applications and appropriate software with a view toward how a manager can effectively apply quantitative models to improve the decision-making process.

The minimum number of semester credit hours required for the Bachelor of Business Administration (B.B.A.) in Business Analytics is 120, at least 39 of which must be at the upper-division level.

All candidates seeking this degree must fulfill the Core Curriculum requirements, the Common Body of Knowledge (CBK) requirements, and the degree requirements, which are listed below.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the B.B.A. degree in Business Analytics must fulfill University Core Curriculum Requirements in the same manner as other students.

MAT 1053 and MAT 1133 should be used to satisfy the core requirement in Mathematics (020) and the core requirement in the Component Area Option (090). ECO 2023 should be used to satisfy the core requirement in social and Behavioral Sciences (080).

MAT 1133 and ECO 2023 may be used to satisfy both Core Curriculum requirements and Common Body of Knowledge (CBK) requirements.

All degrees in the College of Business require 120 hours. If students elect to take a course that satisfies both a Core and COB requirement, students may need to take an additional course to meet the 120 hours.

Core Curriculum Component Area Requirements (p. 7)

| | |
|-----------------------------------|----|
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |
| Life and Physical Sciences | 6 |
| Language, Philosophy and Culture | 3 |
| Creative Arts | 3 |
| American History | 6 |
| Government-Political Science | 6 |
| Social and Behavioral Sciences | 3 |
| Component Area Option | 3 |
| Total Credit Hours | 42 |

Common Body of Knowledge (CBK)

All students seeking a B.B.A. degree in the College of Business must complete the following Common Body of Knowledge (CBK) courses in addition to the Core Curriculum.

| | | |
|-------------|--------------------------------------------------------------------------------------------------------------------------------------------|---|
| ACC 2013 | Principles of Accounting I | 3 |
| ACC 2033 | Principles of Accounting II | 3 |
| COM 1053 | Business and Professional Speech | 3 |
| or COM 1063 | Digital Business Communication | |
| ECO 2013 | Introductory Macroeconomics | 3 |
| ECO 2023 | Introductory Microeconomics (satisfies Social and Behavioral Sciences Core Curriculum requirement) | 3 |
| FIN 3013 | Principles of Business Finance | 3 |
| GBA 2013 | Legal, Social and Ethical Issues in Business | 3 |
| IS 1403 | Business Information Systems Fluency | 3 |
| or IS 1413 | Excel for Business Information Systems | |
| IS 3003 | Principles of Information Systems for Management | 3 |
| MAT 1133 | Calculus for Business (satisfies Mathematics Core Curriculum requirement, Actuarial Science majors must take MAT 1214 in lieu of MAT 1133) | 3 |
| MGT 3003 | Business Communication and Professional Development | 3 |
| MGT 3013 | Introduction to Organization Theory, Behavior, and Management | 3 |
| MGT 4893 | Management Strategy (taken in semester of graduation) | 3 |

| | | |
|----------|--------------------------------------------------------------------------------------------------------------------|---|
| MKT 3013 | Principles of Marketing | 3 |
| MS 1023 | Business Statistics with Computer Applications I (Actuarial Science majors must take STA 3003 in lieu of MS 1023) | 3 |
| MS 3043 | Business Statistics with Computer Applications II (Actuarial Science majors must take STA 3513 in lieu of MS 3043) | 3 |
| MS 3053 | Management Science and Operations Technology | 3 |

Note: Students majoring in Accounting, Actuarial Science, Economics, Finance, Management Science, Business Analytics, and Statistics and Data Science are strongly encouraged to select IS 1413 Excel for Business Information Systems.

In addition to the Core Curriculum requirements and requirements from the College of Business Common body of Knowledge (CBK), all candidates for the degree must complete the following degree requirements.

Gateway Course

Students pursuing the B.B.A. degree in Business Analytics must successfully complete the following Gateway Course with a grade of "C-" or better in no more than two attempts. A student who is unable to successfully complete this course within two attempts, including dropping the course with a grade of "W", or by taking an equivalent course at another institution, will be required to change his or her major.

| | | |
|----------|--------------------------|---|
| MAT 1053 | Mathematics for Business | 3 |
|----------|--------------------------|---|

Degree Requirements

A. Major Requirements 18

| | | |
|----------|----------------------------------------|--|
| MS 3003 | Visualization in Business Analytics | |
| MS 3073 | Business Intelligence and Analytics | |
| MS 3083 | Data Management for Business Analytics | |
| MS 4203 | Business Analytics Applications | |
| MS 4383 | Predictive Operational Analytics | |
| STA 4143 | Data Mining | |

B. Support Work in Major 15

Select five courses from the following:

| | | |
|----------|---------------------------------------------|--|
| FIN 4523 | Introduction to Risk Management | |
| FIN 4873 | Computer Modeling of Financial Applications | |
| MKT 3083 | Marketing Research | |
| MS 3063 | Decision Support Systems | |
| MS 3313 | Business Applications of Statistics | |
| MS 3413 | Purchasing and Inventory Management | |
| MS 4313 | Six Sigma and Lean Operations | |
| MS 4323 | Simulation Applications in Business | |
| MS 4333 | Project Management | |
| MS 4343 | Production/Operations Management | |
| MS 4353 | Service Operations Management | |
| MS 4363 | Quality Management and Control | |
| MS 4373 | Knowledge Discovery for Business Analytics | |
| MS 4543 | Supply Chain Management | |
| MS 4913 | Independent Study in Management Science | |
| MS 4933 | Internship in Management Science | |
| MS 4953 | Special Studies in Management Science | |
| STA 3003 | Applied Statistics | |

| | | |
|----------|--------------------------------------------------------|--|
| STA 3313 | Experiments and Sampling | |
| STA 4133 | Introduction to Programming and Data Management in SAS | |
| STA 4233 | Introduction to Programming and Data Management in R | |
| STA 4753 | Time-Series Analysis | |

Course Sequence Guide for B.B.A. Degree in Business Analytics

This course sequence guide is designed to assist students in completing their UTSA undergraduate business degree requirements. This is a term-by-term sample course guide. Students must satisfy other requirements in their catalog and meet with their academic advisor for an individualized degree plan. Progress within this guide depends upon such factors as course availability, individual student academic preparation, student time management, work obligations, and individual financial considerations. Students may choose to take courses during Summer terms to reduce course loads during long semesters.

Recommended Four-Year Academic Plan

First Year

| | | Credit Hours |
|-------------|-----------------------------------------|--------------|
| Fall | | |
| MAT 1053 | Mathematics for Business (core) | 3 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| | American History (core) | 3 |
| | Life & Physical Sciences (core) | 3 |
| | Credit Hours | 15 |

Spring

| | | |
|-----------------------|-----------------------------------------------------------------------------------------|-----------|
| MAT 1133 | Calculus for Business (core and CBK) ¹ | 3 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| ECO 2023 | Introductory Microeconomics (core and CBK) ¹ | 3 |
| IS 1403 or IS 1413 | Business Information Systems Fluency (CBK) or Excel for Business Information Systems | 3 |
| ACC 2013 | Principles of Accounting I (CBK) | 3 |
| | Credit Hours | 15 |

Second Year

| | | |
|-------------------------|-----------------------------------------------------------------------------|-----------|
| Fall | | |
| ECO 2013 | Introductory Macroeconomics (CBK) | 3 |
| MS 1023 | Business Statistics with Computer Applications I (CBK) | 3 |
| COM 1053 or COM 1063 | Business and Professional Speech (CBK) or Digital Business Communication | 3 |
| IS 3003 | Principles of Information Systems for Management (CBK) | 3 |
| ACC 2033 | Principles of Accounting II (CBK) | 3 |
| | Credit Hours | 15 |

| Spring | | |
|---------------|---------------------------------------------------------------------|----|
| MS 3043 | Business Statistics with Computer Applications II (CBK) | 3 |
| MGT 3003 | Business Communication and Professional Development (CBK) | 3 |
| MKT 3013 | Principles of Marketing (CBK) | 3 |
| MGT 3013 | Introduction to Organization Theory, Behavior, and Management (CBK) | 3 |
| FIN 3013 | Principles of Business Finance (CBK) | 3 |
| Credit Hours | | 15 |

| Third Year | | |
|---------------------------------|----------------------------------------------------|----|
| Fall | | |
| MS 3053 | Management Science and Operations Technology (CBK) | 3 |
| MS 3073 | Business Intelligence and Analytics (major) | 3 |
| MS 4203 | Business Analytics Applications (major) | 3 |
| American History (core) | | 3 |
| Life & Physical Sciences (core) | | 3 |
| Credit Hours | | 15 |

| Spring | | |
|----------------------------------------------------------|------------------------------------------------|----|
| MS 3003 | Visualization in Business Analytics (major) | 3 |
| MS 3083 | Data Management for Business Analytics (major) | 3 |
| Upper-division Business elective (support work in major) | | 3 |
| Upper-division Business elective (support work in major) | | 3 |
| Government-Political Science (core) | | 3 |
| Credit Hours | | 15 |

| Fourth Year | | |
|----------------------------------------------------------|----------------------------------------------------|----|
| Fall | | |
| GBA 2013 | Legal, Social and Ethical Issues in Business (CBK) | 3 |
| MS 4383 | Predictive Operational Analytics (major) | 3 |
| Upper-division Business elective (support work in major) | | 3 |
| Upper-division Business elective (support work in major) | | 3 |
| Government-Political Science (core) | | 3 |
| Credit Hours | | 15 |

| Spring | | |
|----------------------------------------------------------|---------------------------|-----|
| MGT 4893 | Management Strategy (CBK) | 3 |
| STA 4143 | Data Mining (major) | 3 |
| Upper-division Business Elective (support work in major) | | 3 |
| Creative Arts (core) | | 3 |
| Language, Philosophy & Culture (core) | | 3 |
| Credit Hours | | 15 |
| Total Credit Hours | | 120 |

1

College of Business students should take MAT 1214 and ECO 2023 to satisfy both Core Curriculum and CBK requirements.

Bachelor of Business Administration Degree in Operations and Supply Chain Management (formerly named Management Science)

Note: Starting September 1, 2021, the B.B.A. degree in Management Science was renamed to B.B.A. degree in Operations and Supply Chain Management.

Solving problems and making decisions are integral parts of every organization's daily operations. The discipline of Operations and Supply Chain Management focuses on the development and application of scientific and mathematical modeling to aid organizations in making these decisions. Students will have the opportunity to develop and apply analytical models and to acquire essential computer skills necessary in the increasingly technical business environments. Many organizations hire management science majors for managerial positions because of their computing skills and problem-solving abilities. These skills are essential in business environments that are seeking increased efficiency and productivity. The focus of this degree is on applications and appropriate software with a view toward how a manager can effectively apply quantitative models to improve the decision-making process.

The diverse courses offered provide students with an opportunity to specialize in professional fields such as operations and logistics. Thus, students have the option of emphasizing operations and logistics or using their breadth of marketable skills and abilities to solve problems in a variety of organizations and functional areas. The degree is designed to prepare students for careers in manufacturing, materials management, service operations, procurement, third party logistics, transportation processes, and management consulting. Since management science majors study a wide variety of topics dealing with daily activities and problems faced by managers in today's ever-changing world, many career tracks are available to them. The minimum number of semester credit hours required for the Bachelor of Business Administration (B.B.A.) in Operations and Supply Chain Management is 120, at least 39 of which must be at the upper-division level.

All candidates seeking this degree must fulfill the Core Curriculum requirements, the Common Body of Knowledge (CBK) requirements, and the degree requirements, which are listed below.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the B.B.A. degree in Operations and Supply Chain Management must fulfill University Core Curriculum Requirements in the same manner as other students.

MAT 1053 and MAT 1133 should be used to satisfy the core requirement in Mathematics (020) and the core requirement in the Component Area Option (090). ECO 2023 should be used to satisfy the core requirement in Social and Behavioral Sciences (080).

MAT 1133 and ECO 2023 may be used to satisfy both Core Curriculum requirements and Common Body of Knowledge (CBK) requirements.

All degrees in the College of Business require 120 hours. If students elect to take a course that satisfies both a Core and COB requirement, students may need to take an additional course to meet the 120 hours.

| Core Curriculum Component Area Requirements (p. 7) | |
|----------------------------------------------------|-----------|
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |
| Life and Physical Sciences | 6 |
| Language, Philosophy and Culture | 3 |
| Creative Arts | 3 |
| American History | 6 |
| Government-Political Science | 6 |
| Social and Behavioral Sciences | 3 |
| Component Area Option | 3 |
| Total Credit Hours | 42 |

Common Body of Knowledge (CBK)

All students seeking a B.B.A. degree in the College of Business must complete the following Common Body of Knowledge (CBK) courses in addition to the Core Curriculum.

| | | |
|-------------|--------------------------------------------------------------------------------------------------------------------------------------------|---|
| ACC 2013 | Principles of Accounting I | 3 |
| ACC 2033 | Principles of Accounting II | 3 |
| COM 1053 | Business and Professional Speech | 3 |
| or COM 1063 | Digital Business Communication | |
| ECO 2013 | Introductory Macroeconomics | 3 |
| ECO 2023 | Introductory Microeconomics (satisfies Social and Behavioral Sciences Core Curriculum requirement) | 3 |
| FIN 3013 | Principles of Business Finance | 3 |
| GBA 2013 | Legal, Social and Ethical Issues in Business | 3 |
| IS 1403 | Business Information Systems Fluency | 3 |
| or IS 1413 | Excel for Business Information Systems | |
| IS 3003 | Principles of Information Systems for Management | 3 |
| MAT 1133 | Calculus for Business (satisfies Mathematics Core Curriculum requirement, Actuarial Science majors must take MAT 1214 in lieu of MAT 1133) | 3 |
| MGT 3003 | Business Communication and Professional Development | 3 |
| MGT 3013 | Introduction to Organization Theory, Behavior, and Management | 3 |
| MGT 4893 | Management Strategy (taken in semester of graduation) | 3 |
| MKT 3013 | Principles of Marketing | 3 |
| MS 1023 | Business Statistics with Computer Applications I (Actuarial Science majors must take STA 3003 in lieu of MS 1023) | 3 |
| MS 3043 | Business Statistics with Computer Applications II (Actuarial Science majors must take STA 3513 in lieu of MS 3043) | 3 |
| MS 3053 | Management Science and Operations Technology | 3 |

Note: Students majoring in Accounting, Actuarial Science, Economics, Finance, Management Science, Business Analytics, and Statistics and Data Science are strongly encouraged to select IS 1413 Excel for Business Information Systems.

In addition to the Core Curriculum requirements and requirements from the College of Business Common Body of Knowledge (CBK),

all candidates for the degree must complete the following degree requirements.

Gateway Course

Students pursuing the B.B.A. degree in Operations and Supply Chain Management must successfully complete the following Gateway Course with a grade of "C-" or better in no more than two attempts. A student who is unable to successfully complete this course within two attempts, including dropping the course with a grade of "W", or by taking an equivalent course at another institution, will be required to change his or her major.

| | | |
|----------|--------------------------|---|
| MAT 1053 | Mathematics for Business | 3 |
|----------|--------------------------|---|

Degree Requirements (without track)

A. Major Requirements 9

| | |
|---------|----------------------------------|
| MS 3403 | Logistics Management |
| MS 4333 | Project Management |
| MS 4343 | Production/Operations Management |

B. Support Work in Major 15

Select five courses from the following: ¹

| | |
|----------|--------------------------------------------------------|
| FIN 4523 | Introduction to Risk Management |
| FIN 4873 | Computer Modeling of Financial Applications |
| MKT 3083 | Marketing Research |
| MS 3003 | Visualization in Business Analytics |
| MS 3063 | Decision Support Systems |
| MS 3073 | Business Intelligence and Analytics |
| MS 3083 | Data Management for Business Analytics |
| MS 3313 | Business Applications of Statistics |
| MS 3413 | Purchasing and Inventory Management |
| MS 4203 | Business Analytics Applications |
| MS 4313 | Six Sigma and Lean Operations |
| MS 4323 | Simulation Applications in Business |
| MS 4353 | Service Operations Management |
| MS 4363 | Quality Management and Control |
| MS 4373 | Knowledge Discovery for Business Analytics |
| MS 4383 | Predictive Operational Analytics |
| MS 4543 | Supply Chain Management |
| MS 4913 | Independent Study in Management Science |
| MS 4933 | Internship in Management Science |
| MS 4953 | Special Studies in Management Science |
| STA 3003 | Applied Statistics |
| STA 3313 | Experiments and Sampling |
| STA 4133 | Introduction to Programming and Data Management in SAS |
| STA 4233 | Introduction to Programming and Data Management in R |
| STA 4753 | Time-Series Analysis |
| STA 4803 | Statistical Quality Control |

C. Additional Support Work 9

Select 9 semester credit hours of upper-division coursework.

Option 1: Complete 9 semester credit hours of upper division business electives.

Option 2: Complete a business competency (9 semester credit hours in a competency)

Option 3: Complete 9 semester credit hours of free electives.

Total Credit Hours 33

1

To substitute another course for one of the above electives, a student should submit a petition to their academic advisor and receive approval from the chair of the Management Science and Statistics department or department designee before registering for the course.

Course Sequence Guide for B.B.A. Degree in Operations and Supply Chain Management (formerly named Management Science)

This course sequence guide is designed to assist students in completing their UTSA undergraduate business degree requirements. This is a term-by-term sample course guide. Students must satisfy other requirements in their catalog and meet with their academic advisor for an individualized degree plan. Progress within this guide depends upon such factors as course availability, individual student academic preparation, student time management, work obligations, and individual financial considerations. Students may choose to take courses during Summer terms to reduce course loads during long semesters.

For options in designing and selecting career tracks and/or certificates, contact the chair of the Management Science and Statistics department or department designee.

Recommended Four-Year Academic Plan

First Year

| Fall | | Credit Hours |
|---------------------------------|-----------------------------------------|--------------|
| MAT 1053 | Mathematics for Business (core) | 3 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| American History (core) | | 3 |
| Life & Physical Sciences (core) | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|-----------------------|-----------------------------------------------------------------------------------------------|----|
| MAT 1133 | Calculus for Business (core and CBK) ¹ | 3 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| ECO 2023 | Introductory Microeconomics (core and CBK) ¹ | 3 |
| ACC 2013 | Principles of Accounting I (CBK) | 3 |
| IS 1403 or IS 1413 | Business Information Systems Fluency (CBK) or Excel for Business Information Systems | 3 |
| Credit Hours | | 15 |

Second Year

Fall

| | | |
|-------------------------|--------------------------------------------------------------------------------|---|
| MS 1023 | Business Statistics with Computer Applications I (CBK) | 3 |
| COM 1053 or COM 1063 | Business and Professional Speech (CBK) or Digital Business Communication | 3 |
| ECO 2013 | Introductory Macroeconomics (CBK) | 3 |

| | | |
|--------------|--------------------------------------------------------|----|
| IS 3003 | Principles of Information Systems for Management (CBK) | 3 |
| ACC 2033 | Principles of Accounting II (CBK) | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|--------------|---------------------------------------------------------------------|----|
| MS 3043 | Business Statistics with Computer Applications II (CBK) | 3 |
| MGT 3003 | Business Communication and Professional Development (CBK) | 3 |
| MKT 3013 | Principles of Marketing (CBK) | 3 |
| MGT 3013 | Introduction to Organization Theory, Behavior, and Management (CBK) | 3 |
| FIN 3013 | Principles of Business Finance (CBK) | 3 |
| Credit Hours | | 15 |

Third Year

Fall

| | | |
|----------------------------------------------------------|----------------------------------------------------|----|
| MS 3053 | Management Science and Operations Technology (CBK) | 3 |
| MS 4343 | Production/Operations Management (major) | 3 |
| Upper-division Business elective (support work in major) | | 3 |
| American History (core) | | 3 |
| Creative Arts (core) | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|----------------------------------------------------------|------------------------------|----|
| MS 3403 | Logistics Management (major) | 3 |
| MS 4333 | Project Management (major) | 3 |
| Upper-division Business elective (support work in major) | | 3 |
| Upper-division Business elective (support work in major) | | 3 |
| Life & Physical Sciences (core) | | 3 |
| Credit Hours | | 15 |

Fourth Year

Fall

| | | |
|----------------------------------------------------------------------------------------------------------|----------------------------------------------------|----|
| Upper-division Business elective (support work in major) | | 3 |
| GBA 2013 | Legal, Social and Ethical Issues in Business (CBK) | 3 |
| Upper division Business elective, Business Competency course, or free elective (additional support work) | | 3 |
| Language, Philosophy & Culture (core) | | 3 |
| Government-Political Science (core) | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|----------------------------------------------------------------------------------------------------------|---------------------------|-----|
| Upper-division Business elective (support work in major) | | 3 |
| MGT 4893 | Management Strategy (CBK) | 3 |
| Upper-division Business elective, Business Competency course, or free elective (additional support work) | | 3 |
| Upper-division Business elective, Business Competency course, or free elective (additional support work) | | 3 |
| Government-Political Science (core) | | 3 |
| Credit Hours | | 15 |
| Total Credit Hours | | 120 |

1

College of Business students should take MAT 1133 and ECO 2023 to satisfy both Core Curriculum and CBK requirements.

Degree Requirements for Business Analytics (BSA) Track

| | |
|-----------------------------------------|--------------------------------------------------------|
| A. Major Requirements | 9 |
| MS 3403 | Logistics Management |
| MS 4333 | Project Management |
| MS 4343 | Production/Operations Management |
| B. Support Work in Major | 15 |
| Select five courses from the following: | |
| MS 4313 | Six Sigma and Lean Operations |
| MS 4323 | Simulation Applications in Business |
| MS 4383 | Predictive Operational Analytics |
| MS 4913 | Independent Study in Management Science |
| MS 4933 | Internship in Management Science |
| MS 4953 | Special Studies in Management Science |
| STA 3333 | Introduction to Data Science and Analytics |
| STA 4133 | Introduction to Programming and Data Management in SAS |
| STA 4143 | Data Mining |
| STA 4233 | Introduction to Programming and Data Management in R |
| STA 4753 | Time-Series Analysis |
| C. Additional Support Work | 9 |
| MS 3063 | Decision Support Systems |
| MS 3073 | Business Intelligence and Analytics |
| MS 3313 | Business Applications of Statistics |
| Total Credit Hours | 33 |

Degree Requirements for Operations and Supply Chain Management (OSCM) Track

| | |
|-----------------------------------------|-----------------------------------------|
| A. Major Requirements | 9 |
| MS 3403 | Logistics Management |
| MS 4333 | Project Management |
| MS 4343 | Production/Operations Management |
| B. Support Work in Major | 15 |
| Select five courses from the following: | |
| MS 3063 | Decision Support Systems |
| MS 3313 | Business Applications of Statistics |
| MS 3413 | Purchasing and Inventory Management |
| MS 4313 | Six Sigma and Lean Operations |
| MS 4323 | Simulation Applications in Business |
| MS 4353 | Service Operations Management |
| MS 4363 | Quality Management and Control |
| MS 4383 | Predictive Operational Analytics |
| MS 4543 | Supply Chain Management |
| MS 4913 | Independent Study in Management Science |
| MS 4933 | Internship in Management Science |
| MS 4953 | Special Studies in Management Science |
| STA 4753 | Time-Series Analysis |
| C. Additional Support Work | 9 |

Select 9 semester credit hours of upper-division coursework

Option 1: Complete 9 semester credit hours of upper division business electives.

Option 2: Complete a business competency (9 semester credit hours in a competency).

Option 3: Complete 9 semester credit hours of free electives.

Total Credit Hours 33

Bachelor of Science Degree in Statistics and Data Science

Statistics is a science that deals with principles and procedures for obtaining and processing information in order to make decisions in the face of uncertainty. In particular, it deals with collection, organization, analysis, and interpretation of numerical information to answer questions in almost every aspect of modern-day life. Statistical methods are used to address complex questions common in business, government, and science. Employers such as research divisions in pharmaceutical companies, clinical research units at medical centers, quality control or reliability departments in manufacturing companies, corporate planning and financial analysis units, and government agencies require persons with advanced quantitative skills.

The Bachelor of Science (B.S.) degree in Statistics and Data Science provides students with access to such skills preparing them for careers as statistical analysts or for further graduate academic training. The minimum number of semester credit hours required for the Bachelor of Science degree in Statistics and Data Science is 120, at least 39 of which must be at the upper-division level.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the B.S. degree in Statistics and Data Science must fulfill University Core Curriculum requirements. The courses listed below satisfy both degree requirements and Core Curriculum requirements.

MAT 1214 should be used to satisfy the core requirement in Mathematics (020). ECO 2023 should be used to satisfy the core requirement in Social and Behavioral Sciences (080).

All degrees in the College of Business require 120 hours. If students elect to take a course that satisfies both a Core and COB requirement, students may need to take an additional course to meet the 120 hours.

Core Curriculum Component Area Requirements (p. 7)

| | |
|-----------------------------------|----|
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |
| Life and Physical Sciences | 6 |
| Language, Philosophy and Culture | 3 |
| Creative Arts | 3 |
| American History | 6 |
| Government-Political Science | 6 |
| Social and Behavioral Sciences | 3 |
| Component Area Option | 3 |
| Total Credit Hours | 42 |

Degree Requirements

A. Required courses in the computational and mathematical sciences 15

| | |
|----------|----------------|
| MAT 1214 | Calculus I |
| MAT 1224 | Calculus II |
| MAT 2214 | Calculus III |
| MAT 2233 | Linear Algebra |

B. Courses required for the major 39

1. Required Statistics courses:

| | |
|----------|--------------------------------------------------------|
| STA 3003 | Applied Statistics |
| STA 3013 | Multivariate Analysis for the Life and Social Sciences |
| STA 3313 | Experiments and Sampling |
| STA 3513 | Probability and Statistics |
| STA 3523 | Mathematical Statistics |
| STA 4133 | Introduction to Programming and Data Management in SAS |
| STA 4233 | Introduction to Programming and Data Management in R |
| STA 4713 | Applied Regression Analysis |
| STA 4723 | Introduction to the Design of Experiments |

2. Select four of the following:

| | |
|----------|--------------------------------------|
| MS 3073 | Business Intelligence and Analytics |
| MS 4363 | Quality Management and Control |
| STA 4143 | Data Mining |
| STA 4643 | Introduction to Stochastic Processes |
| STA 4753 | Time-Series Analysis |
| STA 4903 | Applied Survival Analysis |
| STA 4933 | Internship in Statistics |

C. Electives in disciplines where statistics is actively applied and practiced¹ 18

1. Specialization in Actuarial Science:

| | |
|-------------|---------------------------------------------|
| ACC 2013 | Principles of Accounting I |
| ECO 2013 | Introductory Macroeconomics |
| ECO 2023 | Introductory Microeconomics |
| FIN 3013 | Principles of Business Finance |
| FIN 3023 | Intermediate Corporate Finance |
| or FIN 4873 | Computer Modeling of Financial Applications |
| STA 4963 | Actuarial Science Examination Preparation |

2. Specialization in Biology:

| | |
|----------|-----------------------|
| BIO 2313 | Genetics |
| BIO 3283 | Principles of Ecology |
| BIO 3323 | Evolution |
| BIO 3333 | Plants and Society |
| BIO 3433 | Neurobiology |
| BIO 4033 | Conservation Biology |

3. Specialization in Business:

| | |
|----------|-------------------------------------------------------|
| ECO 3123 | Introduction to Econometrics and Business Forecasting |
| MKT 3083 | Marketing Research |
| MS 3063 | Decision Support Systems |
| MS 4313 | Six Sigma and Lean Operations |
| MS 4343 | Production/Operations Management |
| MS 4363 | Quality Management and Control |

4. Specialization in Education:

| | |
|----------|-----------------------------------------------------------------------|
| BBL 3403 | Cultural and Linguistic Equity for Schooling |
| EDP 3203 | Learning and Development in the Secondary School Adolescent |
| EDU 2103 | Social Foundations for Education in a Diverse U.S. Society |
| ESL 3023 | Second Language Teaching and Learning in EC-6 |
| IDS 2013 | Introduction to Learning and Teaching in a Culturally Diverse Society |
| SPE 3603 | Introduction to Special Education |

5. Specialization in Mathematics:

| | |
|----------|--------------------------|
| MAT 2233 | Linear Algebra |
| MAT 3213 | Foundations of Analysis |
| MAT 3223 | Complex Variables |
| MAT 3613 | Differential Equations I |
| MAT 3633 | Numerical Analysis |
| MAT 4213 | Real Analysis I |

6. Specialization in Psychology:

| | |
|-------------------------------------------------------------|--------------------------------------|
| PSY 1013 | Introduction to Psychology |
| PSY 2503 | Developmental Psychology |
| PSY 3403 | Experimental Psychology |
| PSY 3413 | Experimental Projects and Laboratory |
| Two additional psychology courses at the 3000 or 4000 level | |

7. Specialization in Social Sciences:

| | |
|-----------------------------------------------------------|------------------------------------------------|
| SOC 1013 | Introduction to Sociology |
| SOC 3223 | Population Dynamics and Demographic Techniques |
| SOC 3323 | Introduction to Social Research |
| SOC 3373 | Qualitative Research Methods |
| SOC 3393 | Quantitative Research Methods |
| One additional sociology course at the 3000 or 4000 level | |

D. Lower-division or upper-division business or non-business electives 6

Select 6 semester credit hours of lower-division or upper-division business or non-business electives.

Total Credit Hours 78

1

Nine (9) semester credit hours must be upper division. The department has given pre-approval to the following plans of study for specializations in actuarial science, biology, business, education, mathematics, psychology, and social sciences. Other specialization plans and the relevant courses may be submitted for approval to the designated statistics faculty member.

Course Sequence Guide for B.S. Degree in Statistics and Data Science

This course sequence guide is designed to assist students in completing their UTSA undergraduate business degree requirements. This is a term-by-term sample course guide. Students must satisfy other requirements in their catalog and meet with their academic advisor for an individualized degree plan. Progress within this guide depends upon such factors as course availability, individual student academic preparation, student time management, work obligations, and individual financial

considerations. Students may choose to take courses during Summer terms to reduce course loads during long semesters.

Recommended Four-Year Academic Plan

First Year

| Fall | | Credit Hours |
|---------------------------------|-----------------------------------------|--------------|
| MAT 1214 | Calculus I (core and major) | 4 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| American History (core) | | 3 |
| Life & Physical Sciences (core) | | 3 |
| Credit Hours | | 16 |

Spring

| | | |
|---------------------------------|--------------------------------|----|
| MAT 1224 | Calculus II (major) | 4 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| STA 3003 | Applied Statistics (major) | 3 |
| American History (core) | | 3 |
| Life & Physical Sciences (core) | | 3 |
| Credit Hours | | 16 |

Second Year

| Fall | | Credit Hours |
|-------------------------------------|------------------------------------|--------------|
| MAT 2214 | Calculus III (major) | 4 |
| STA 3313 | Experiments and Sampling (major) | 3 |
| STA 3513 | Probability and Statistics (major) | 3 |
| Creative Arts (core) | | 3 |
| Government-Political Science (core) | | 3 |
| Credit Hours | | 16 |

Spring

| | | |
|-------------------------------------|----------------------------------------------------------------|----|
| MAT 2233 | Linear Algebra (major) | 3 |
| STA 3013 | Multivariate Analysis for the Life and Social Sciences (major) | 3 |
| STA 3523 | Mathematical Statistics (major) | 3 |
| ECO 2023 | Introductory Microeconomics (core) | 3 |
| Government-Political Science (core) | | 3 |
| Credit Hours | | 15 |

Third Year

| Fall | | Credit Hours |
|------------------------------------------------------|----------------------------------------------------------------|--------------|
| STA 4133 | Introduction to Programming and Data Management in SAS (major) | 3 |
| Upper-division Business elective (major) | | 3 |
| Course option in specialization track (support work) | | 3 |
| Course option in specialization track (support work) | | 3 |
| Language, Philosophy & Culture (core) | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|------------------------------------------------------|--------------------------------------------------------------|----|
| STA 4233 | Introduction to Programming and Data Management in R (major) | 3 |
| Upper-division Business elective (major) | | 3 |
| Course option in specialization track (support work) | | 3 |
| Course option in specialization track (support work) | | 3 |
| Component Area Option (core) | | 3 |
| Credit Hours | | 15 |

Fourth Year

Fall

| | | |
|-------------------------------------------------------------|-------------------------------------|----|
| STA 4713 | Applied Regression Analysis (major) | 3 |
| Upper-division Business elective (major) | | 3 |
| Course option in specialization track (support work) | | 3 |
| Business or non-business elective (additional support work) | | 3 |
| Business or non-business elective (additional support work) | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|-------------------------------------------------------------|---------------------------------------------------|-----|
| STA 4723 | Introduction to the Design of Experiments (major) | 3 |
| Upper-division Business elective (major) | | 3 |
| Course option in specialization track (support work) | | 3 |
| Business or non-business elective (additional support work) | | 3 |
| Credit Hours | | 12 |
| Total Credit Hours | | 120 |

- Minor in Actuarial Science (p. 67)
- Minor in Adaptive Decision Models for Business (p. 67)
- Minor in Management Science (p. 68)
- Minor in Statistics (p. 68)

Minor in Actuarial Science

The Minor in Actuarial Science is open to all majors in the University. All students pursuing the minor must complete 18 semester credit hours.

A. Required Business courses

| | | |
|----------|-----------------------------|---|
| ECO 2013 | Introductory Macroeconomics | 6 |
| ECO 2023 | Introductory Microeconomics | |

B. Select four of the following courses

| | | |
|----------|--------------------------------------|----|
| STA 3513 | Probability and Statistics | 12 |
| STA 3523 | Mathematical Statistics | |
| STA 4643 | Introduction to Stochastic Processes | |
| STA 4713 | Applied Regression Analysis | |
| STA 4753 | Time-Series Analysis | |
| STA 4933 | Internship in Statistics | |

Total Credit Hours 18

To declare a Minor in Actuarial Science, obtain advice, and seek approval of substitutions for course requirements, students must consult with their academic advisor.

Minor in Adaptive Decision Models for Business

The Minor in Adaptive Decision Models for Business is open to all majors in the University. All students pursuing the minor must complete 18 semester credit hours.

A. Course option

| | | |
|------------------------------|----------------------------------------------|---|
| Select one of the following: | | |
| CS 3333 | Mathematical Foundations of Computer Science | 3 |
| ME 3113 | Measurements and Instrumentation | |

| | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|----------|
| MS 3053 | Management Science and Operations Technology | |
| B. Additional courses | | 6 |
| ACC 2013 | Principles of Accounting I | |
| FIN 3003 | Survey of Finance | |
| | or FIN 3013 Principles of Business Finance | |
| C. Models | | 6 |
| Select 6 semester credit hours of the following: | | |
| Analytical Models | | |
| MS 3063 | Decision Support Systems | |
| MS 3073 | Business Intelligence and Analytics | |
| MS 3313 | Business Applications of Statistics | |
| MS 4323 | Simulation Applications in Business | |
| MS 4333 | Project Management | |
| MS 4383 | Predictive Operational Analytics | |
| Operational Models | | |
| MS 3403 | Logistics Management | |
| MS 3413 | Purchasing and Inventory Management | |
| MS 4313 | Six Sigma and Lean Operations | |
| MS 4343 | Production/Operations Management | |
| MS 4353 | Service Operations Management | |
| MS 4363 | Quality Management and Control | |
| MS 4543 | Supply Chain Management | |
| D. Upper-division electives | | 3 |
| Select 3 semester credit hours of upper-division electives in disciplines where quantitative methods are actively applied and practiced. These courses should be approved by the designated management science faculty member. | | |
| Total Credit Hours | | 18 |

To declare a minor in Adaptive Decision Models for Business and seek approval of substitutions for course requirements, students must consult with their academic advisor or the designated management science faculty member.

Minor in Management Science

The Minor in Management Science is open to all majors in the University. All students pursuing the minor must complete 18 semester credit hours.

| | | |
|------------------------------------------------|-------------------------------------------------------|-----------|
| A. Required courses | | 6 |
| MS 3053 | Management Science and Operations Technology | |
| MS 4343 | Production/Operations Management | |
| B. Select four of the following courses | | 12 |
| ECO 3123 | Introduction to Econometrics and Business Forecasting | |
| FIN 4523 | Introduction to Risk Management | |
| FIN 4873 | Computer Modeling of Financial Applications | |
| MKT 3083 | Marketing Research | |
| MS 3063 | Decision Support Systems | |
| MS 3073 | Business Intelligence and Analytics | |
| MS 3313 | Business Applications of Statistics | |
| MS 3403 | Logistics Management | |
| MS 3413 | Purchasing and Inventory Management | |
| MS 4313 | Six Sigma and Lean Operations | |
| MS 4323 | Simulation Applications in Business | |

| | | |
|--------------------|--------------------------------------------------------|----|
| MS 4333 | Project Management | |
| MS 4353 | Service Operations Management | |
| MS 4363 | Quality Management and Control | |
| MS 4383 | Predictive Operational Analytics | |
| MS 4543 | Supply Chain Management | |
| MS 4913 | Independent Study in Management Science | |
| MS 4933 | Internship in Management Science | |
| MS 4953 | Special Studies in Management Science | |
| STA 3003 | Applied Statistics | |
| STA 3313 | Experiments and Sampling | |
| STA 4133 | Introduction to Programming and Data Management in SAS | |
| STA 4753 | Time-Series Analysis | |
| STA 4803 | Statistical Quality Control | |
| Total Credit Hours | | 18 |

To declare a Minor in Management Science, obtain advice, and seek approval of substitutions for course requirements, students must consult with their academic advisor.

Minor in Statistics

The Minor in Statistics is open to all majors in the University. All students pursuing the minor must complete 18 semester credit hours.

| | | |
|------------------------------------------------|--------------------------------------------------------|-----------|
| A. Sequence options | | 6 |
| Select two courses from the following: | | |
| 1. Option 1 | | |
| STA 1403 | Probability and Statistics for the Biosciences | |
| STA 3003 | Applied Statistics | |
| 2. Option 2 | | |
| POL 2703 | Quantitative Methods in Political Science | |
| PSY 2073 | Statistics for Psychology | |
| 3. Option 3 | | |
| MS 1023 | Business Statistics with Computer Applications I | |
| MS 3043 | Business Statistics with Computer Applications II | |
| 4. Option 4 | | |
| STA 3003 | Applied Statistics | |
| and one of the following: | | |
| STA 2303 | Applied Probability and Statistics for Engineers | |
| STA 3513 | Probability and Statistics | |
| B. Select four of the following courses | | 12 |
| MS 3073 | Business Intelligence and Analytics | |
| STA 3013 | Multivariate Analysis for the Life and Social Sciences | |
| STA 3313 | Experiments and Sampling | |
| STA 3523 | Mathematical Statistics | |
| STA 4133 | Introduction to Programming and Data Management in SAS | |
| STA 4143 | Data Mining | |
| STA 4233 | Introduction to Programming and Data Management in R | |
| STA 4713 | Applied Regression Analysis | |
| STA 4723 | Introduction to the Design of Experiments | |
| STA 4753 | Time-Series Analysis | |

| | | |
|--------------------|--------------------------------|----|
| STA 4803 | Statistical Quality Control | |
| or MS 4363 | Quality Management and Control | |
| STA 4903 | Applied Survival Analysis | |
| STA 4933 | Internship in Statistics | |
| STA 4953 | Special Studies in Statistics | |
| Total Credit Hours | | 18 |

To declare a Minor in Statistics, obtain advice, and seek approval of substitutions for course requirements, students must consult with their academic advisor or the designated statistics faculty member.

- Certificate in Business Analytics (p. 69)
- Certificate in Operations and Supply Chain Management (p. 69)

Certificate in Business Analytics

The Business Analytics certificate is designed to prepare business students with a foundational knowledge in analytics. It certifies to employers that students awarded the certificate have completed coursework that will help them understand different forms of analytics (descriptive, predictive, and prescriptive) and the methods used in each. Moreover, this certificate program will help students learn cutting-edge techniques to sift through large volumes of data and understand how analytics can help improve decisions throughout an organization.

To earn a Business Analytics certificate, students must earn 15 semester credit hours as follows:

| | | |
|----------------------------|--------------------------------------------------------|----------|
| A. Required courses | | 9 |
| MS 3073 | Business Intelligence and Analytics | |
| STA 4133 | Introduction to Programming and Data Management in SAS | |
| STA 4233 | Introduction to Programming and Data Management in R | |
| B. Elective Courses | | 6 |
| MS 3003 | Visualization in Business Analytics | |
| MS 3063 | Decision Support Systems | |
| MS 3083 | Data Management for Business Analytics | |
| MS 3313 | Business Applications of Statistics | |
| MS 4203 | Business Analytics Applications | |
| MS 4323 | Simulation Applications in Business | |
| MS 4373 | Knowledge Discovery for Business Analytics | |
| STA 3013 | Multivariate Analysis for the Life and Social Sciences | |
| STA 4143 | Data Mining | |
| Total Credit Hours | | 15 |

To apply for the Business Analytics Certificate, students should consult with Department of Management Science and Statistics for specific information about certificate requirements and consult with their academic advisors to verify that they have met all university requirements as specified in chapter 2 (p. 17) of this catalog. All courses used to satisfy the requirements of this undergraduate certificate program must be college-level courses taken at UTSA.

Certificate in Operations and Supply Chain Management

This certificate is designed to prepare business students with a foundational knowledge in operations and supply chain management (OSCM). It certifies to employers that students awarded the certificate have completed coursework that will help them understand a myriad of issues, challenges, problems, and decision tools that relate to the internal and external flow of materials and requisite knowledge. Production/operations management, logistics management, and procurement topics are included to resolve the myriad of complex problems facing organizations. Moreover, this certificate program will help students learn cutting edge techniques and best practices to leverage their operations and supply chain complexities to achieve competitive advantage.

To earn an Operations and Supply Chain Management Certificate (OSCM), students must earn 15 semester credit hours as follows:

| | | |
|---------------------------------------|-------------------------------------|----------|
| A. Required courses | | 6 |
| MS 3403 | Logistics Management | |
| MS 4543 | Supply Chain Management | |
| B. Select one of the following | | 3 |
| MS 4343 | Production/Operations Management | |
| MS 4353 | Service Operations Management | |
| C. Select one of the following | | 3 |
| MS 4313 | Six Sigma and Lean Operations | |
| MS 4363 | Quality Management and Control | |
| D. Select one of the following | | 3 |
| MS 3413 | Purchasing and Inventory Management | |
| MS 4333 | Project Management | |
| MS 4383 | Predictive Operational Analytics | |
| Total Credit Hours | | 15 |

To apply for the Operations and Supply Chain Management Certificate, students should consult with Department of Management Science and Statistics for specific information about certificate requirements and consult with their academic advisors to verify that they have met all university requirements as specified in chapter 2 (p. 17) of this catalog. All courses used to satisfy the requirements of this undergraduate certificate program must be college-level courses taken at UTSA.

Department of Marketing

Mission Statement

The Department of Marketing is dedicated to creating knowledge through cutting-edge research that enhances the understanding of marketing and consumer behavior and provides benefits to consumers, business, and public policy; and to sharing knowledge by providing students with the highest quality marketing education through a nurturing environment of hands-on learning.

The Department of Marketing offers a Bachelor of Business Administration (B.B.A.) degree in Marketing. Within the marketing degree, a track in Sport, Event and Tourism Management may also be pursued.

The marketing degree provides students with the theory and methods used by businesses to develop strategies for designing, pricing, distributing, and promoting the firm's offerings. Courses present practical treatment of such topics as marketing strategy, customer demand analysis, market segmentation, promotion management, consumer behavior and decision making, and international marketing. Graduates can choose from a wide range of careers including marketing management, advertising, personal selling, retailing, international marketing, and marketing research.

The sport, event, and tourism management track provides the opportunity for a comprehensive business education that can allow students to enter into careers in sport management and marketing, event management, travel and tourism, and destination marketing.

- B.B.A. degree in Marketing (p. 70)
- B.B.A. degree in Marketing - Sport, Entertainment & Tourism Management (SET) Track (p. 71)

Bachelor of Business Administration Degree in Marketing

The minimum number of semester credit hours required for Bachelor of Business Administration (B.B.A.) degree in Marketing is 120, at least 39 of which must be at the upper-division level.

All candidates seeking this degree must fulfill the Core Curriculum requirements, the Common Body of Knowledge (CBK) requirements, and the degree requirements, which are listed below.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the B.B.A. degree in Marketing must fulfill University Core Curriculum requirements in the same manner as other students.

MAT 1053 and MAT 1133 should be used to satisfy the core requirement in Mathematics (020) and the core requirement in the Component Area Option (090). ECO 2023 should be used to satisfy the core requirement in Social and Behavioral Sciences (080).

MAT 1133 and ECO 2023 may be used to satisfy both Core Curriculum requirements and Common Body of Knowledge (CBK) requirements.

All degrees in the College of Business require 120 hours. If students elect to take a course that satisfies both a Core and COB requirement, students may need to take an additional course to meet the 120 hours.

Core Curriculum Component Area Requirements (p. 7)

| | |
|-----------------------------------|-----------|
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |
| Life and Physical Sciences | 6 |
| Language, Philosophy and Culture | 3 |
| Creative Arts | 3 |
| American History | 6 |
| Government-Political Science | 6 |
| Social and Behavioral Sciences | 3 |
| Component Area Option | 3 |
| Total Credit Hours | 42 |

Common Body of Knowledge (CBK)

All students seeking a B.B.A. degree in the College of Business must complete the following Common Body of Knowledge (CBK) courses in addition to the Core Curriculum.

| | | |
|----------|--------------------------------------------------------------------------------------------------------------------------------------------|---|
| ACC 2013 | Principles of Accounting I | 3 |
| ACC 2033 | Principles of Accounting II | 3 |
| COM 1053 | Business and Professional Speech | 3 |
| | or COM 1063 Digital Business Communication | |
| ECO 2013 | Introductory Macroeconomics | 3 |
| ECO 2023 | Introductory Microeconomics (satisfies Social and Behavioral Sciences Core Curriculum requirement) | 3 |
| FIN 3013 | Principles of Business Finance | 3 |
| GBA 2013 | Legal, Social and Ethical Issues in Business | 3 |
| IS 1403 | Business Information Systems Fluency | 3 |
| | or IS 1413 Excel for Business Information Systems | |
| IS 3003 | Principles of Information Systems for Management | 3 |
| MAT 1133 | Calculus for Business (satisfies Mathematics Core Curriculum requirement, Actuarial Science majors must take MAT 1214 in lieu of MAT 1133) | 3 |
| MGT 3003 | Business Communication and Professional Development | 3 |
| MGT 3013 | Introduction to Organization Theory, Behavior, and Management | 3 |
| MGT 4893 | Management Strategy (taken in semester of graduation) | 3 |
| MKT 3013 | Principles of Marketing | 3 |
| MS 1023 | Business Statistics with Computer Applications I (Actuarial Science majors must take STA 3003 in lieu of MS 1023) | 3 |
| MS 3043 | Business Statistics with Computer Applications II (Actuarial Science majors must take STA 3513 in lieu of MS 3043) | 3 |
| MS 3053 | Management Science and Operations Technology | 3 |

Note: Students majoring in Accounting, Actuarial Science, Economics, Finance, Management Science, Business Analytics, and Statistics and Data Science are strongly encouraged to select IS 1413 Excel for Business Information Systems.

In addition to the Core Curriculum requirements and requirements from the College of Business Common Body of Knowledge (CBK),

all candidates for the degree must complete the following degree requirements.

Gateway Course

Students pursuing the B.B.A. degree in Marketing must successfully complete the following Gateway Course with a grade of "C-" or better in no more than two attempts. A student who is unable to successfully complete this course within two attempts, including dropping the course with a grade of "W", or by taking an equivalent course at another institution, will be required to change his or her major.

| | | |
|----------|--------------------------|---|
| MAT 1053 | Mathematics for Business | 3 |
|----------|--------------------------|---|

Degree Requirements (without track)

| | |
|------------------------------------------------------------------------------------|-----------|
| A. Major Requirements | 15 |
| MKT 3063 Personal Selling | |
| MKT 3083 Marketing Research | |
| MKT 4073 International Marketing | |
| MKT 4093 Consumer Behavior | |
| MKT 4893 Marketing Capstone | |
| B. Support work in Major | 6 |
| 6 semester hours of upper-division Marketing electives ¹ | |
| C. Additional Support Work | 9 |
| Option 1: Complete a Business Competency (9 semester credit hours in a competency) | |
| Option 2: Complete 9 semester credit hours of upper-division business courses | |
| D. Free Electives | 3 |
| 3 semester credit hours of free electives | |
| Total Credit Hours | 33 |

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The Marketing department recommends MKT 4933 Internship in Marketing

Degree Requirements for Sport, Event and Tourism Management (SET) Track

| | |
|----------------------------------------------------------------|-----------|
| A. Major requirements | 15 |
| MKT 3063 Personal Selling | |
| MKT 4073 International Marketing | |
| MKT 3083 Marketing Research | |
| MKT 4093 Consumer Behavior | |
| MKT 4893 Marketing Capstone | |
| B. Support work in major: SET Track | 12 |
| Select four of the following courses: | |
| MKT 4143 Sports Marketing | |
| SET 3283 Sport and Event Media Relations | |
| SET 3233 Sport Management | |
| SET 3333 Event Management | |
| SET 4543 Destination Marketing | |
| SET 4813 Special Topics in Sport, Event and Tourism Management | |
| SET 4943 Internship in Sport, Event and Tourism Management | |
| C. Additional Support Work | 6 |

6 semester credit hours of upper-division business courses

| | |
|---------------------------|-----------|
| Total Credit Hours | 33 |
|---------------------------|-----------|

Students who choose the SET track may have the designation indicated on their transcripts. The track designation will not appear on the diploma.

Course Sequence Guide for B.B.A. Degree in Marketing

This course sequence guide is designed to assist students in completing their UTSA undergraduate business degree requirements. This is a term-by-term sample course guide. Students must satisfy other requirements in their catalog and meet with their academic advisor for an individualized degree plan. Progress within this guide depends upon such factors as course availability, individual student academic preparation, student time management, work obligations, and individual financial considerations. Students may choose to take courses during Summer terms to reduce course loads during long semesters.

Recommended Four-Year Academic Plan

First Year

| Fall | Credit Hours |
|--------------------------------------------------|--------------|
| MAT 1053 Mathematics for Business (core) | 3 |
| WRC 1013 Freshman Composition I (core) | 3 |
| AIS 1203 Academic Inquiry and Scholarship (core) | 3 |
| American History (core) | 3 |
| Life & Physical Sciences (core) | 3 |
| Credit Hours | 15 |

Spring

| | |
|---------------------------------------------------------------------------------------------------------|-----------|
| MAT 1133 Calculus for Business (core and CBK) ¹ | 3 |
| WRC 1023 Freshman Composition II (core) | 3 |
| ECO 2023 Introductory Microeconomics (core and CBK) ¹ | 3 |
| IS 1403 Business Information Systems Fluency (CBK) or IS 1413 or Excel for Business Information Systems | 3 |
| ACC 2013 Principles of Accounting I (CBK) | 3 |
| Credit Hours | 15 |

Second Year

Fall

| | |
|-----------------------------------------------------------------------------------------------|-----------|
| MS 1023 Business Statistics with Computer Applications I (CBK) | 3 |
| COM 1053 Business and Professional Speech (CBK) or COM 1063 or Digital Business Communication | 3 |
| ECO 2013 Introductory Macroeconomics (CBK) | 3 |
| IS 3003 Principles of Information Systems for Management (CBK) | 3 |
| ACC 2033 Principles of Accounting II (CBK) | 3 |
| Credit Hours | 15 |

Spring

| | |
|-----------------------------------------------------------------|---|
| MS 3043 Business Statistics with Computer Applications II (CBK) | 3 |
|-----------------------------------------------------------------|---|

| | | |
|---------------------------------------------------------------------------------|---------------------------------------------------------------------|-----|
| MGT 3003 | Business Communication and Professional Development (CBK) | 3 |
| MKT 3013 | Principles of Marketing (CBK) | 3 |
| MGT 3013 | Introduction to Organization Theory, Behavior, and Management (CBK) | 3 |
| FIN 3013 | Principles of Business Finance (CBK) | 3 |
| Credit Hours | | 15 |
| Third Year | | |
| Fall | | |
| MS 3053 | Management Science and Operations Technology (CBK) | 3 |
| MKT 3083 | Marketing Research (major) | 3 |
| MKT 3063 | Personal Selling (major) | 3 |
| Life & Physical Sciences (core) | | 3 |
| American History (core) | | 3 |
| Credit Hours | | 15 |
| Spring | | |
| MKT 4093 | Consumer Behavior (major) | 3 |
| MKT 4073 | International Marketing (major) | 3 |
| GBA 2013 | Legal, Social and Ethical Issues in Business (CBK) | 3 |
| Government-Political Science (core) | | 3 |
| Creative Arts (core) | | 3 |
| Credit Hours | | 15 |
| Fourth Year | | |
| Fall | | |
| Upper-division MKT elective (3XXX or 4XXX level) (support work in major) | | 3 |
| Upper-division business elective or competency course (additional support work) | | 3 |
| Upper-division business elective or competency course (additional support work) | | 3 |
| Business or non-business elective (free elective) | | 3 |
| Language, Philosophy & Culture (core) | | 3 |
| Credit Hours | | 15 |
| Spring | | |
| Upper-division MKT elective (3XXX or 4XXX level) (support work in major) | | 3 |
| Upper-division business elective or competency course (additional support work) | | 3 |
| MGT 4893 | Management Strategy (CBK) | 3 |
| MKT 4893 | Marketing Capstone (major) | 3 |
| Government-Political Science (core) | | 3 |
| Credit Hours | | 15 |
| Total Credit Hours | | 120 |

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College of Business students should take MAT 1133 and ECO 2023 to satisfy both Core Curriculum and CBK requirements.

Course Sequence Guide for B.B.A. Degree in Marketing with a Sport, Event and Tourism Management (SET) Track

This course sequence guide is designed to assist students in completing their UTSA undergraduate business degree requirements. This is a term-by-term sample course guide. Students must satisfy other requirements in their catalog and meet with their academic advisor for an individualized degree plan. Progress within this guide depends upon such factors as course availability, individual student academic preparation, student time management, work obligations, and individual financial considerations. Students may choose to take courses during Summer terms to reduce course loads during long semesters.

Recommended Four-Year Academic Plan

First Year

| Fall | | Credit Hours |
|---------------------------------|-----------------------------------------|--------------|
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| MAT 1053 | Mathematics for Business (core) | 3 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| American History (core) | | 3 |
| Life & Physical Sciences (core) | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|-------------------------|-----------------------------------------------------------------------------------------|----|
| COM 1053 or COM 1063 | Business and Professional Speech (CBK) or Digital Business Communication | 3 |
| ECO 2023 | Introductory Microeconomics (core and CBK) ¹ | 3 |
| IS 1403 or IS 1413 | Business Information Systems Fluency (CBK) or Excel for Business Information Systems | 3 |
| MAT 1133 | Calculus for Business (core and CBK) ¹ | 3 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| Credit Hours | | 15 |

Second Year

Fall

| | | |
|---------------------------------------|--------------------------------------------------------|----|
| ACC 2013 | Principles of Accounting I (CBK) | 3 |
| ECO 2013 | Introductory Macroeconomics (CBK) | 3 |
| MS 1023 | Business Statistics with Computer Applications I (CBK) | 3 |
| Creative Arts (core) | | 3 |
| Language, Philosophy & Culture (core) | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|----------|-----------------------------------------------------------|---|
| ACC 2033 | Principles of Accounting II (CBK) | 3 |
| MGT 3003 | Business Communication and Professional Development (CBK) | 3 |
| MKT 3013 | Principles of Marketing (CBK) | 3 |
| MS 3043 | Business Statistics with Computer Applications II (CBK) | 3 |

| | | |
|------------------------------------------------------------|---------------------------------------------------------------------|-----|
| Government-Political Science (core) | | 3 |
| Credit Hours | | 15 |
| Third Year | | |
| Fall | | |
| GBA 2013 | Legal, Social and Ethical Issues in Business (CBK) | 3 |
| MKT 3083 | Marketing Research (major) | 3 |
| MS 3053 | Management Science and Operations Technology (CBK) | 3 |
| SET Track Course (support work in major) | | 3 |
| Government-Political Science (core) | | 3 |
| Credit Hours | | 15 |
| Spring | | |
| FIN 3013 | Principles of Business Finance (CBK) | 3 |
| MKT 3063 | Personal Selling (major) | 3 |
| MKT 4093 | Consumer Behavior (major) | 3 |
| SET Track Course (support work in major) | | 3 |
| Life & Physical Sciences (core) | | 3 |
| Credit Hours | | 15 |
| Fourth Year | | |
| Fall | | |
| IS 3003 | Principles of Information Systems for Management (CBK) | 3 |
| MGT 3013 | Introduction to Organization Theory, Behavior, and Management (CBK) | 3 |
| MKT 4073 | International Marketing (major) | 3 |
| SET Track Course (support work in major) | | 3 |
| Upper-division business elective (additional support work) | | 3 |
| Credit Hours | | 15 |
| Spring | | |
| MGT 4893 | Management Strategy (CBK) | 3 |
| MKT 4893 | Marketing Capstone (major) | 3 |
| American History (core) | | 3 |
| SET Track Course (support work in major) | | 3 |
| Upper-division business elective (additional support work) | | 3 |
| Credit Hours | | 15 |
| Total Credit Hours | | 120 |

1

College of Business students should take MAT 1133 and ECO 2023 to satisfy both Core Curriculum and CBK requirements.

- Minor in Marketing (p. 73)
- Minor in Sport Management (p. 73)

Minor in Marketing

All students pursuing the Minor in Marketing must complete 18 semester credit hours.

| | |
|---------------------------------------|-------------------------|
| A. Required coursework | 3 |
| MKT 3013 | Principles of Marketing |
| B. Additional courses | 15 |
| Select five of the following courses: | |
| MKT 3043 | Advertising |

| | | |
|--------------------|-------------------------------------|----|
| MKT 3063 | Personal Selling | |
| MKT 3083 | Marketing Research | |
| MKT 3113 | Retailing | |
| MKT 4063 | Multicultural Marketing | |
| MKT 4073 | International Marketing | |
| MKT 4093 | Consumer Behavior | |
| MKT 4143 | Sports Marketing | |
| MKT 4233 | Integrated Marketing Communications | |
| MKT 4953 | Special Studies in Marketing | |
| MKT 4033 | Social Media Marketing | |
| MKT 4253 | Digital Marketing | |
| Total Credit Hours | | 18 |

To declare a Minor in Marketing, obtain advice, and seek approval of substitutions for course requirements, students must consult their academic advisor.

Minor in Sport Management

All students pursuing the Minor in Sport Management must complete 18 semester credit hours of coursework.

| | | |
|-------------------------------------------|--------------------------------------------------------------------|----|
| A. Required Courses | 9 | |
| MGT 3013 | Introduction to Organization Theory, Behavior, and Management | |
| SET 3233 | Sport Management | |
| SET 3283 | Sport and Event Media Relations | |
| B. Elective Courses | 9 | |
| Select three courses from the list below: | | |
| MKT 4143 | Sports Marketing | |
| MKT 4353 | Service Operations Management | |
| SET 3333 | Event Management | |
| SET 3543 | Sports Economics | |
| SET 4233 | Sport Facility and Event Management | |
| SET 4813 | Special Topics in Sport, Event and Tourism Management ¹ | |
| SET 4943 | Internship in Sport, Event and Tourism Management ² | |
| Total Credit Hours | | 18 |

1

Must be related to sports.

2

Must be related to sports, but can be cross-listed with other majors.

6. COLLEGE OF EDUCATION AND HUMAN DEVELOPMENT

Vision Statement

The College of Education and Human Development (COEHD) at The University of Texas at San Antonio will be an international model for developing inclusive, transformative leaders guided by principles of community, equity, respect for diversity, integrity, service, and scholarship.

Mission Statement

The College of Education and Human Development will create a democratic, collaborative learning organization in a way that:

- promotes equity, fairness, and accountability
- recognizes a healthy balance among scholarship, teaching, and service
- develops and applies new knowledge of best practices
- prepares educators/leaders to succeed in diverse contexts
- retains students, faculty, and staff
- builds community within and at large
- fosters the holistic development of all its members
- uses resources effectively and efficiently

so that the College graduates citizens who are engaged in productive contributions to self, society, and the global community.

General Information

The College of Education and Human Development is made up of six departments: Bicultural-Bilingual Studies; Counseling; Educational Leadership and Policy Studies; Educational Psychology; Interdisciplinary Learning and Teaching; and Race, Ethnicity, Gender, and Sexuality Studies.

Eight undergraduate degrees are offered within the College: the Bachelor of Arts (B.A.) in Interdisciplinary Studies; the B.A. in Mexican American Studies; the B.A. in Multicultural Early Childhood Development; and the B.A. in Women's Studies; Minors are offered in African American Studies, Bicultural Studies, English as a Second Language, and Women's Studies. For more information related to the College, visit the webpage at <http://education.utsa.edu>.

Advising and Certification Center

Academic Advising

Academic advising services are provided for students admitted to or currently enrolled at UTSA based on their academic pathways.

Mexican American Studies majors are advised in the Downtown Advising Center.

Interdisciplinary Studies, Multicultural Early Childhood Development, and Women's Studies majors are advised in the Interdisciplinary Education Advising Center.

Advising services are also provided for students seeking a teaching certificate for those Secondary and All-Level content areas that are available at UTSA. This includes students pursuing Secondary and All-Level certification, students with earned baccalaureate degrees who

would like to become certified as teachers, and teachers wishing to add additional certificates to their credentials.

Certification

The University of Texas at San Antonio is approved by the State Board for Educator Certification (SBEC) to offer teacher certificate programs for Texas certification as elementary, middle school, and high school classroom teachers.

Students interested in pursuing elementary and middle school teacher certification will major in Interdisciplinary Studies and follow the appropriate certification program for the desired level of the certificate. Students who would like to become high school teachers will major in the academic area in which certification is desired and simultaneously follow the certification program for this teaching field. Students pursuing All-Level certification will follow specialized All-Level programs in Art or Music.

Additional information about UTSA certification programs and teacher certification guidelines is available in the Teacher Certification section of this catalog and in the Interdisciplinary Education Advising and Certification Center.

Criminal History Policy and Acknowledgement

The College of Education and Human Development (COEHD) prepares educators and professionals for fields which require fieldwork, internship, practicum, service-learning and/or clinical teaching. Placements occur in educational, clinical, health care facilities, hospitals, and/or medical settings which require a criminal background check. The University of Texas at San Antonio is required to inform students of the requirements set forth by the Texas Occupation Code, Chapter 53, Sections 53.001 through 53.105 (<http://www.texas-statutes.com/occupations-code/chapter-53-consequences-of-criminal-conviction/>).

All COEHD prospective students in a licensure or certification program are required to acknowledge that they have been made aware of these requirements and that they have read the COEHD Criminal History Policy (http://education.utsa.edu/certification_program/criminal_history_policy/). For more information and for completing the acknowledgement form, please visit the Office of Professional Preparation, Assessment, and Accreditation in the College of Education and Human Development.

Department of Bicultural-Bilingual Studies

The Department of Bicultural-Bilingual Studies offers courses that may be used to fulfill the Core Curriculum requirements or that may be taken as support courses for programs within the University or as electives. Courses in Bicultural-Bilingual Studies (BBL) offer students the opportunity to prepare for bilingual and/or second language teaching and give insights into bilingual and multicultural functions in society. In particular, students who complete certification in bilingual education are able to teach in a range of cutting-edge bilingual program models, including dual language one-way immersion and dual language two-way immersion programs. Courses in teaching English as a Second Language (ESL) offer students the opportunity to learn appropriate methods and strategies for teaching at the elementary, secondary, and adult levels. Courses are designed for students who plan to teach second languages, but are also designed for those who intend to teach in other areas or to enter fields that rely heavily on an understanding of language learning and bilingualism. In addition, the Department offers advanced courses in English for international students that are appropriate for both graduate and undergraduate students as well as a minor in ESL or Bicultural Studies.

The Department of Bicultural-Bilingual Studies offers coursework required for teacher certification in the area of bilingual education and ESL. Students seeking certification in this area should complete requirements for the Early Childhood–Grade 6 Bilingual Core Subjects Certification, the Grades 4–8 Bilingual Core Subjects Certification, the Early Childhood–Grade 6 ESL Core Subjects Certification, or the Grades 4–8 ESL Certification.

Department Honors

The Department of Bicultural-Bilingual Studies awards Department Honors to certain outstanding students and provides the opportunity for advanced study under close faculty supervision.

Selection for honors designation is based on the student's academic performance and recommendation by the faculty of the student's major discipline. To be eligible for the program, students must have a minimum overall grade point average of 3.0 at UTSA and a minimum grade point average of 3.5 in their major at UTSA. The minimum grade point averages must be maintained for students to receive the approval of the Department Honors Committee and the discipline faculty. Students applying for Department Honors are expected to enroll in the appropriate honors thesis course during their final two semesters. The completed thesis must be approved by the supervising faculty sponsor and another departmental faculty member. Students interested in this program should contact their professors for additional information.

Criminal History Policy and Acknowledgement

The College of Education and Human Development (COEHD) prepares educators and professionals for fields which require fieldwork, internship, practicum, service-learning and/or clinical teaching. Placements occur in educational, clinical, health care facilities, hospitals, and/or medical settings which require a criminal background check. The University of Texas at San Antonio is required to inform students of the requirements set forth by the Texas Occupation Code, Chapter 53, Sections 53.001

through 53.105 (<http://www.texas-statutes.com/occupations-code/chapter-53-consequences-of-criminal-conviction/>).

All COEHD prospective students in a licensure or certification program are required to acknowledge that they have been made aware of these requirements and that they have read the COEHD Criminal History Policy (http://education.utsa.edu/certification_program/criminal_history_policy/). For more information and for completing the acknowledgement form, please visit the Office of Professional Preparation, Assessment, and Accreditation in the College of Education and Human Development.

- Bilingual Education and ESL Teacher Certification Concentrations
 - B.A. degree in Interdisciplinary Studies (Early Childhood–Grade 6 Bilingual Core Subjects Certification Concentration) (p. 75)
 - B.A. degree in Interdisciplinary Studies (Grades 4–8 Bilingual Core Subjects Certification Concentration) (p. 77)
 - B.A. degree in Interdisciplinary Studies (Early Childhood–Grade 6 ESL Core Subjects Certification Concentration) (p. 80)
 - B.A. degree in Interdisciplinary Studies (Grades 4–8 ESL Certification Concentration) (p. 81)
 - English as a Second Language (ESL) Supplemental Teacher Certification (p. 83)

Bilingual Education and ESL Teacher Certification Concentrations Bachelor of Arts Degree in Interdisciplinary Studies (Early Childhood–Grade 6 Bilingual Core Subjects Certification Concentration)

If you are seeking bilingual education or ESL Teacher Certification, you must apply and be accepted into the Teacher Certification Program. The minimum number of semester credit hours required for the Interdisciplinary Studies (IDS) degree with early childhood–grade 6 bilingual core subjects certification is 128, at least 39 of which must be at the upper-division level. All candidates seeking this degree must fulfill the Core Curriculum requirements and the degree requirements, which are listed below.

Spanish language proficiency requirement: Proficiency in oral and written Spanish at the advanced level is a requirement for bilingual generalist coursework and certification at UTSA. Students are required to complete the ALPS (Assessment for Language Proficiency in Spanish) prior to admission to the bilingual generalist certification program.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the B.A. degree in Interdisciplinary Studies with teacher certification must fulfill University Core Curriculum requirements. The courses listed below satisfy both degree requirements and Core Curriculum requirements.

MAT 1023 is recommended to satisfy the core requirement in Mathematics. BIO 1233 and either AST 1033 or PHY 1013 should be used to satisfy the core requirement in Life and Physical Sciences. All IDS majors must complete AIS 1203, and either AAS 2013 or MAS 2013 is recommended to satisfy the core requirements in Language, Philosophy and Culture. MAS 2023 is recommended to satisfy the core requirement

in Creative Arts. HIS 1053 and HIS 2053 are recommended to satisfy the core requirement in American History. IDS 2113 should be used to satisfy the core requirement in Social and Behavioral Sciences.

| Core Curriculum Component Area Requirements (p. 7) | |
|----------------------------------------------------|-----------|
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |
| Life and Physical Sciences | 6 |
| Language, Philosophy and Culture | 3 |
| Creative Arts | 3 |
| American History | 6 |
| Government-Political Science | 6 |
| Social and Behavioral Sciences | 3 |
| Component Area Option | 3 |
| Total Credit Hours | 42 |

Degree Requirements

A. IDS Core Courses

| | | |
|----------|--------------------------------------------|---|
| IDS 2113 | Society and Social Issues | 3 |
| IDS 3003 | STEM in Social Contexts | 3 |
| IDS 3013 | Diversity, Equity, and the Social Sciences | 3 |
| IDS 3123 | Culture, Literature, and Fine Arts | 3 |
| IDS 3713 | Interdisciplinary Inquiry | 3 |

B. IDS Support Courses

| | | |
|---------------------------------|-------------------------------------------------------------------------------------------------|-----------|
| ECE 3313 | Play, Creativity, and Learning | 3 |
| EDU 2103 | Social Foundations for Education in a Diverse U.S. Society | 3 |
| IDS 2013 | Introduction to Learning and Teaching in a Culturally Diverse Society | 3 |
| IDS 2403 & IDS 3201 or IDS 3234 | Physical Science and Inquiry in Physical Science Investigations in Physical Science | 4 |
| IDS 2413 & IDS 3211 or IDS 3224 | Earth Systems Science and Inquiry in Earth Systems Science Earth Systems Science Investigations | 4 |
| MAT 1153 | Essential Elements in Mathematics I | 3 |
| MAT 1163 | Essential Elements in Mathematics II | 3 |
| SPE 3603 | Introduction to Special Education | 3 |
| Total Credit Hours | | 41 |

Certification Requirements

Texas Success Initiative (TSI) requirements must be satisfied before enrollment in Certification, Professional Education, and Clinical Teaching coursework.

A. Early Childhood–Grade 6 Bilingual Generalist courses

| | | |
|----------------------|-----------------------------------------------------------------------------------------------|---|
| BBL 3013 | Language Analysis and Bilingualism | 3 |
| BBL 3053 | Foundations of Bilingual Studies (prerequisite to BBL 4033, BBL 4063, BBL 4073, and BBL 4403) | 3 |
| BBL 3123 or BBL 3033 | Mexican American Culture Mexican Americans in the Southwest | 3 |
| BBL 3133 | Language Development in Bilinguals | 3 |
| BBL 3143 | Children’s Literature for Bilingual Learners | 3 |
| ESL 3023 | Second Language Teaching and Learning in EC–6 | 3 |

| | | |
|-----------|------------------------------------------|---|
| ESL 3053 | Literacy in a Second Language | 3 |
| LTED 3813 | Writing Development and Instruction-EC–6 | 3 |

B. Professional Education courses

The following courses require an advisor code and are restricted to students who have applied for and been accepted into the Teacher Certification Program.

| | | |
|---------------------------|---------------------------------------------------------------------------------------|-----------|
| BBL 3823 | Reading Comprehension in Bilingual Settings | 3 |
| BBL 4033 | Assessment, Learning, and Motivation in Bicultural-Bilingual Classrooms ¹ | 3 |
| BBL 4063 | Bilingual Approaches to Content-Based Learning ¹ | 3 |
| BBL 4073 | Language Arts in a Bicultural-Bilingual Program ¹ | 3 |
| BBL 4353 | Approaches to Teaching Science EC–6 | 3 |
| BBL 4403 | Approaches to Teaching Mathematics EC–6 ¹ | 3 |
| CI 4613 or CI 4616 | Clinical Teaching: Early Childhood–Grade 6 Clinical Teaching: Early Childhood–Grade 6 | 6 |
| Total Credit Hours | | 48 |

1

Concurrent enrollment.

B.A. in Interdisciplinary Studies, Early Childhood–Grade 6 Bilingual Core Subjects Certification Concentration – Recommended Four-Year Academic Plan

First Year

| Fall | | Credit Hours |
|---------------------|--------------------------------------------------------|--------------|
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| BIO 1233 | Contemporary Biology I (core) | 3 |
| HIS 1053 | United States History: Civil War Era to Present (core) | 3 |
| MAT 1023 | College Algebra with Applications (core) | 3 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|----------------------|-----------------------------------------------------------------------|-----------|
| AST 1033 or PHY 1013 | Exploration of the Solar System (core) or Universes | 3 |
| HIS 2053 | Texas History (core) | 3 |
| IDS 2013 | Introduction to Learning and Teaching in a Culturally Diverse Society | 3 |
| POL 1013 | Introduction to American Politics (core) | 3 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| Credit Hours | | 15 |

Summer

| | | |
|----------------------------|--------------------------------------------|----------|
| IDS 2113 | Society and Social Issues (core and major) | 3 |
| POL 1133 | Texas Politics and Society (core) | 3 |
| Component Area Option core | | 3 |
| Credit Hours | | 9 |

Second Year**Fall**

| | | |
|-------------------------|-------------------------------------------------------------------------------------------------|----|
| AAS 2013 or MAS 2013 | Introduction to African American Studies (core) or Introduction to Chicano(a) Studies | 3 |
| EDU 2103 | Social Foundations for Education in a Diverse U.S. Society | 3 |
| IDS 3013 | Diversity, Equity, and the Social Sciences | 3 |
| MAS 2023 | Latino Cultural Expressions (core) | 3 |
| MAT 1153 | Essential Elements in Mathematics I | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|--------------|-----------------------------------------|----|
| BBL 3053 | Foundations of Bilingual Studies | 3 |
| IDS 2403 | Physical Science | 3 |
| IDS 3123 | Culture, Literature, and Fine Arts | 3 |
| IDS 3201 | Inquiry in Physical Science | 1 |
| MAT 1163 | Essential Elements in Mathematics II | 3 |
| Credit Hours | | 13 |

Summer

| | | |
|--------------|---------------------------------------------|----|
| IDS 2413 | Earth Systems Science | 3 |
| IDS 3211 | Inquiry in Earth Systems Science | 1 |
| LTED 3813 | Writing Development and Instruction-EC-6 | 3 |
| SPE 3603 | Introduction to Special Education | 3 |
| Credit Hours | | 10 |

Third Year**Fall**

| | | |
|------------------------------------------------|--------------------------------------------------|----|
| Admission to the Teacher Certification Program | | |
| BBL 3013 | Language Analysis and Bilingualism | 3 |
| BBL 3133 | Language Development in Bilinguals | 3 |
| ECE 3313 | Play, Creativity, and Learning | 3 |
| ESL 3023 | Second Language Teaching and Learning in EC-6 | 3 |
| IDS 3003 | STEM in Social Contexts | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|-------------------------|----------------------------------------------------------------------|----|
| BBL 3123 or BBL 3033 | Mexican American Culture or Mexican Americans in the Southwest | 3 |
| BBL 3143 | Children's Literature for Bilingual Learners | 3 |
| BBL 4353 | Approaches to Teaching Science EC-6 | 3 |
| ESL 3053 | Literacy in a Second Language | 3 |
| BBL 3823 | Reading Comprehension in Bilingual Settings | 3 |
| Credit Hours | | 15 |

Fourth Year**Fall**

| | | |
|--------------|------------------------------------------------------------------|----|
| BBL 4063 | Bilingual Approaches to Content- Based Learning ¹ | 3 |
| BBL 4073 | Language Arts in a Bicultural- Bilingual Program ¹ | 3 |
| BBL 4403 | Approaches to Teaching Mathematics EC-6 ¹ | 3 |
| CI 4613 | Clinical Teaching: Early Childhood- Grade 6 | 3 |
| Credit Hours | | 12 |

Spring

| | | |
|--------------------|-------------------------------------------------------------------------------|-----|
| BBL 4033 | Assessment, Learning, and Motivation in Bicultural-Bilingual Classrooms | 3 |
| IDS 3713 | Interdisciplinary Inquiry | 3 |
| CI 4613 | Clinical Teaching: Early Childhood- Grade 6 | 3 |
| Credit Hours | | 9 |
| Total Credit Hours | | 128 |

¹

Concurrent enrollment. Students may not register for more than these four courses in the BBL Block without permission from the department.

²

Students completing clinical teaching may not register for more than 3 semester credit hours beyond clinical teaching during this semester.

Bachelor of Arts Degree in Interdisciplinary Studies (Grades 4- 8 Bilingual Core Subjects Certification Concentration)

The minimum number of semester credit hours required for the Interdisciplinary Studies (IDS) degree with grades 4-8 bilingual core subjects certification is 132, at least 39 of which must be at the upper-division level. All candidates seeking this degree must fulfill the Core Curriculum requirements and the degree requirements, which are listed below.

Spanish language proficiency requirement: Proficiency in oral and written Spanish at the advanced level is a requirement for bilingual generalist coursework and certification at UTSA. Students are required to complete the ALPS (Assessment for Language Proficiency in Spanish) prior to admission to the bilingual generalist certification program.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the B.A. degree in Interdisciplinary Studies with teacher certification must fulfill University Core Curriculum requirements. The courses listed below satisfy both degree requirements and Core Curriculum requirements.

MAT 1023 should be used to satisfy the core requirement in Mathematics. BIO 1233 should be used to satisfy a core requirement in Life and Physical Sciences. All IDS majors must complete AIS 1203, and either AAS 2013 or MAS 2013 is recommended to satisfy the core requirement in Language, Philosophy and Culture. MAS 2023 is

recommended to satisfy the core requirement in Creative Arts. HIS 1053 and HIS 2053 should be used to satisfy the core requirement in American History. IDS 2113 should be used to satisfy the core requirement in Social and Behavioral Sciences.

Core Curriculum Component Area Requirements (p. 7)

| | |
|-----------------------------------|-----------|
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |
| Life and Physical Sciences | 6 |
| Language, Philosophy and Culture | 3 |
| Creative Arts | 3 |
| American History | 6 |
| Government-Political Science | 6 |
| Social and Behavioral Sciences | 3 |
| Component Area Option | 3 |
| Total Credit Hours | 42 |

Degree Requirements

A. IDS Core Courses

| | | |
|----------|--------------------------------------------|---|
| IDS 2113 | Society and Social Issues | 3 |
| IDS 3003 | STEM in Social Contexts | 3 |
| IDS 3013 | Diversity, Equity, and the Social Sciences | 3 |
| IDS 3123 | Culture, Literature, and Fine Arts | 3 |
| IDS 3713 | Interdisciplinary Inquiry | 3 |

B. IDS Support Courses

1. Required Courses:

| | | |
|---------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|---|
| BIO 1233 | Contemporary Biology I | 3 |
| EDP 3303 | Learning and Development in the Middle School Context (Grades 4–8) | 3 |
| EDU 2103 | Social Foundations for Education in a Diverse U.S. Society | 3 |
| GES 1023 | World Regional Geography | 3 |
| HIS 1053 | United States History: Civil War Era to Present | 3 |
| HIS 2053 | Texas History | 3 |
| IDS 2013 | Introduction to Learning and Teaching in a Culturally Diverse Society | 3 |
| IDS 2403 & IDS 3201 or IDS 3234 | Physical Science and Inquiry in Physical Science Investigations in Physical Science | 4 |
| IDS 2413 & IDS 3211 or IDS 3224 | Earth Systems Science and Inquiry in Earth Systems Science Earth Systems Science Investigations | 4 |
| MAT 1023 | College Algebra with Applications | 3 |
| MAT 1093 | Precalculus | 3 |
| MAT 1153 | Essential Elements in Mathematics I | 3 |
| MAT 1163 | Essential Elements in Mathematics II | 3 |
| MAT 1214 | Calculus I | 4 |
| LTED 3523 | Reading for Teachers-Grades 4–8 | 3 |
| LTED 3633 | Literature and Other Texts Across the Content Areas-Grades 4–8 | 3 |
| SPE 3603 | Introduction to Special Education | 3 |
| 2. Level One or Level Two Science courses in a different discipline from science courses taken for Core Curriculum requirement. | | 3 |
| 3. Select one of the following: ¹ | | 3 |

| | |
|----------|----------------------------------------------|
| BBL 4003 | Spanish for Bilingual Instructional Delivery |
| SPN 3003 | Oral and Written Expression |
| SPN 3063 | Grammar and Composition |
| SPN 4003 | Advanced Language Skills |

Total Credit Hours 75

1

Students must complete one of the four listed courses with a grade of “C-” or better. Grades of “CR” received from a Challenge Examination of a UTSA course or College Level Examination Program (CLEP) will not be accepted.

Certification Requirements

Texas Success Initiative (TSI) requirements must be satisfied before enrollment in Certification, Professional Education, and Clinical Teaching coursework.

A. Required courses

| | | |
|----------|------------------------------------------------------|---|
| BBL 3053 | Foundations of Bilingual Studies | 3 |
| BBL 3133 | Language Development in Bilinguals | 3 |
| ESL 3053 | Literacy in a Second Language | 3 |
| ESL 3073 | Second Language Teaching and Learning for Grades 4-8 | 3 |

B. Professional Education courses

The following courses require an advisor code and are restricted to students who have applied and been accepted into the Teacher Certification Program.

| | | |
|------------|--------------------------------------------------------------------------------------|---|
| BBL 4033 | Assessment, Learning, and Motivation in Bicultural-Bilingual Classrooms ¹ | 3 |
| BBL 4063 | Bilingual Approaches to Content-Based Learning ¹ | 3 |
| BBL 4073 | Language Arts in a Bicultural-Bilingual Program ¹ | 3 |
| CI 4433 | Approaches to Teaching Science—Grades 4–8 | 3 |
| or CI 4443 | Approaches to Teaching Mathematics—Grades 4–8 | |
| CI 4603 | Classroom Management Strategies—Grades 4–8 | 3 |
| CI 4633 | Clinical Teaching: Grades 4-8 | 6 |
| or CI 4626 | Clinical Teaching: Grades 4-8 | |

Total Credit Hours 33

1

Concurrent enrollment.

B.A. in Interdisciplinary Studies, Grades 4–8 Bilingual Core Subjects Certification Concentration – Recommended Four-Year Academic Plan

First Year

| Fall | | Credit Hours |
|---------------------|------------------------------------------------------------------|---------------------|
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| BIO 1233 | Contemporary Biology I (core and major) | 3 |
| HIS 1053 | United States History: Civil War Era to Present (core and major) | 3 |
| MAT 1023 | College Algebra with Applications (core and major) | 3 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| Credit Hours | | 15 |

| | | |
|---------------|-----------------------------------------------------------------------|----|
| Spring | | |
| HIS 2053 | Texas History (core and major) | 3 |
| IDS 2013 | Introduction to Learning and Teaching in a Culturally Diverse Society | 3 |
| MAS 2023 | Latino Cultural Expressions (core) | 3 |
| MAT 1093 | Precalculus (core) | 3 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| Credit Hours | | 15 |

| | | |
|-------------------------------|--------------------------------------------|---|
| Summer | | |
| IDS 2113 | Society and Social Issues (core and major) | 3 |
| POL 1013 | Introduction to American Politics (core) | 3 |
| Life & Physical Sciences core | | 3 |
| Credit Hours | | 9 |

| | | |
|-------------------------|------------------------------------------------------------------------------------------|----|
| Second Year | | |
| Fall | | |
| EDU 2103 | Social Foundations for Education in a Diverse U.S. Society | 3 |
| IDS 2413 | Earth Systems Science | 3 |
| IDS 3211 | Inquiry in Earth Systems Science | 1 |
| MAS 2013 or AAS 2013 | Introduction to Chicano(a) Studies (core) or Introduction to African American Studies | 3 |
| MAT 1153 | Essential Elements in Mathematics I | 3 |
| MAT 1214 | Calculus I | 4 |
| Credit Hours | | 17 |

| | | |
|-------------------------|---------------------------------------------------------------------------|----|
| Spring | | |
| IDS 2403 | Physical Science | 3 |
| IDS 3201 | Inquiry in Physical Science | 1 |
| IDS 3013 | Diversity, Equity, and the Social Sciences | 3 |
| IDS 3123 | Culture, Literature, and Fine Arts | 3 |
| MAT 1163 | Essential Elements in Mathematics II | 3 |
| POL 1133 or POL 1213 | Texas Politics and Society (core) or Civil Rights in Texas and America | 3 |
| Credit Hours | | 16 |

| | | |
|------------------------------------------|-----------------------------------|---|
| Summer | | |
| GES 1023 | World Regional Geography | 3 |
| SPE 3603 | Introduction to Special Education | 3 |
| Additional Life & Physical Sciences core | | 3 |
| Credit Hours | | 9 |

| | | |
|------------------------------------------------|----------------------------------|---|
| Third Year | | |
| Fall | | |
| Admission to the Teacher Certification Program | | |
| BBL 3053 | Foundations of Bilingual Studies | 3 |

| | | |
|-------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|----|
| BBL 4003 or SPN 3003 or SPN 3063 or SPN 4003 | Spanish for Bilingual Instructional Delivery or Oral and Written Expression or Grammar and Composition or Advanced Language Skills | 3 |
| EDP 3303 | Learning and Development in the Middle School Context (Grades 4–8) | 3 |
| ESL 3073 | Second Language Teaching and Learning for Grades 4-8 | 3 |
| IDS 3003 | STEM in Social Contexts | 3 |
| Credit Hours | | 15 |

| | | |
|---------------|----------------------------------------------------------------|----|
| Spring | | |
| BBL 3133 | Language Development in Bilinguals | 3 |
| ESL 3053 | Literacy in a Second Language | 3 |
| LTED 3523 | Reading for Teachers-Grades 4–8 | 3 |
| LTED 3633 | Literature and Other Texts Across the Content Areas-Grades 4–8 | 3 |
| Credit Hours | | 12 |

| | | |
|-----------------------|-----------------------------------------------------------------------------------------------|----|
| Fourth Year | | |
| Fall | | |
| BBL 4063 | Bilingual Approaches to Content-Based Learning ¹ | 3 |
| BBL 4073 | Language Arts in a Bicultural-Bilingual Program ¹ | 3 |
| CI 4433 or CI 4443 | Approaches to Teaching Science–Grades 4–8 or Approaches to Teaching Mathematics–Grades 4–8 | 3 |
| CI 4633 | Clinical Teaching: Grades 4-8 | 3 |
| Credit Hours | | 12 |

| | | |
|--------------------|-------------------------------------------------------------------------|-----|
| Spring | | |
| BBL 4033 | Assessment, Learning, and Motivation in Bicultural-Bilingual Classrooms | 3 |
| CI 4603 | Classroom Management Strategies–Grades 4–8 | 3 |
| CI 4633 | Clinical Teaching: Grades 4-8 | 3 |
| IDS 3713 | Interdisciplinary Inquiry | 3 |
| Credit Hours | | 12 |
| Total Credit Hours | | 132 |

¹ Concurrent enrollment.

² Students completing clinical teaching may not register for more than 3 semester credit hours beyond clinical teaching during this semester.

Bachelor of Arts Degree in Interdisciplinary Studies (Early Childhood–Grade 6 ESL Core Subjects Certification Concentration)

The minimum number of semester credit hours required for the Interdisciplinary Studies (IDS) degree with early childhood–grade 6 ESL core subjects certification is 125, at least 39 of which must be at the upper-division level. All candidates seeking this degree must fulfill the Core Curriculum requirements and the degree requirements, which are listed below.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the B.A. degree in Interdisciplinary Studies with teacher certification must fulfill University Core Curriculum requirements. The courses listed below satisfy both degree requirements and Core Curriculum requirements.

MAT 1023 is recommended to satisfy the core requirement in Mathematics. BIO 1233 and either AST 1033 or PHY 1013 should be used to satisfy the core requirement in Life and Physical Sciences. BBL 2003 is recommended in to satisfy the Component Area Option. MAS 2023 is recommended to satisfy the core requirement in Creative Arts. HIS 1053 and HIS 2053 should be used to satisfy the core requirement in America History. IDS 2113 should be used to satisfy the core requirement in Social and Behavioral Sciences. ENG 2013, ENG 2383, or MAS 2013 are recommended to satisfy the core requirement in Language, Philosophy and Culture.

Core Curriculum Component Area Requirements (p. 7)

| | |
|-----------------------------------|-----------|
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |
| Life and Physical Sciences | 6 |
| Language, Philosophy and Culture | 3 |
| Creative Arts | 3 |
| American History | 6 |
| Government-Political Science | 6 |
| Social and Behavioral Sciences | 3 |
| Component Area Option | 3 |
| Total Credit Hours | 42 |

Degree Requirements

A. IDS Core Courses

| | | |
|----------|--------------------------------------------|---|
| IDS 2113 | Society and Social Issues | 3 |
| IDS 3003 | STEM in Social Contexts | 3 |
| IDS 3013 | Diversity, Equity, and the Social Sciences | 3 |
| IDS 3123 | Culture, Literature, and Fine Arts | 3 |
| IDS 3713 | Interdisciplinary Inquiry | 3 |

B. IDS Support Courses

| | | |
|---------------------------------|-------------------------------------------------------------------------------------|---|
| IDS 2403 & IDS 3201 or IDS 3234 | Physical Science and Inquiry in Physical Science Investigations in Physical Science | 4 |
| IDS 2413 & IDS 3211 | Earth Systems Science and Inquiry in Earth Systems Science | 4 |

| | | |
|---------------------------|--------------------------------------|-----------|
| or IDS 3224 | Earth Systems Science Investigations | |
| MAT 1153 | Essential Elements in Mathematics I | 3 |
| MAT 1163 | Essential Elements in Mathematics II | 3 |
| Total Credit Hours | | 29 |

Certification Requirements

Programs are subject to change without notice due to changes in the state's certification and/or program approval requirements.

A. ESL Special Delivery System Core

| | | |
|----------|-----------------------------------------------|---|
| ECE 3143 | Child Growth and Development | 3 |
| ESL 3003 | Language and Schooling | 3 |
| ESL 3023 | Second Language Teaching and Learning in EC–6 | 3 |
| ESL 3033 | Foundations of English as a Second Language | 3 |
| ESL 3053 | Literacy in a Second Language | 3 |

B. Other Certification Courses

| | | |
|-----------|-----------------------------------------------------------------------|---|
| IDS 2013 | Introduction to Learning and Teaching in a Culturally Diverse Society | 3 |
| BBL 3403 | Cultural and Linguistic Equity for Schooling | 3 |
| EDU 2103 | Social Foundations for Education in a Diverse U.S. Society | 3 |
| LTED 3513 | Children's Literature EC–6 | 3 |
| LTED 3813 | Writing Development and Instruction-EC–6 | 3 |
| SPE 3603 | Introduction to Special Education | 3 |

The following course requires an advisor code and is restricted to students who have applied for and been accepted into the Teacher Certification Program.

| | | |
|-----------|----------------------------|---|
| LTED 3823 | Reading Comprehension-EC–6 | 3 |
|-----------|----------------------------|---|

C. Professional Education Requirements

The following courses require an advisor code and are restricted to students who have applied for and been accepted into the Teacher Certification Program.

| | | |
|------------|--------------------------------------------------------------------------------------|---|
| CI 4303 | Approaches to Teaching Social Studies Incorporating Language Arts and Fine Arts EC–6 | 3 |
| CI 4353 | Approaches to Teaching Science EC–6 | 3 |
| CI 4403 | Approaches to Teaching Mathematics EC–6 | 3 |
| CI 4613 | Clinical Teaching: Early Childhood–Grade 6 | 6 |
| or CI 4616 | Clinical Teaching: Early Childhood–Grade 6 | |
| ECE 4203 | Assessment and Evaluation in EC–6 | 3 |
| ESL 4003 | Approaches to Second Language Teaching | 3 |

| | |
|---------------------------|-----------|
| Total Credit Hours | 57 |
|---------------------------|-----------|

B.A. in Interdisciplinary Studies, Early Childhood–Grade 6 ESL Core Subjects Certification Concentration – Recommended Four-Year Academic Plan

First Year

| | | Credit Hours |
|-------------|--------------------------------------------------------|--------------|
| Fall | | |
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| BIO 1233 | Contemporary Biology I (core) | 3 |
| HIS 1053 | United States History: Civil War Era to Present (core) | 3 |
| MAT 1023 | College Algebra with Applications (core) | 3 |

| | | | | | |
|------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|----|--------------------|--------------------------------------------------------------------------------------------|-----|
| WRC 1013 | Freshman Composition I (core) | 3 | IDS 3003 | STEM in Social Contexts | 3 |
| | Credit Hours | 15 | LTED 3513 | Children's Literature EC-6 | 3 |
| Spring | | | ESL 3053 | Literacy in a Second Language | 3 |
| AST 1033 or PHY 1013 | Exploration of the Solar System (core) or Universes | 3 | BBL 3403 | Cultural and Linguistic Equity for Schooling | 3 |
| HIS 2053 | Texas History (core) | 3 | | Credit Hours | 15 |
| IDS 2013 | Introduction to Learning and Teaching in a Culturally Diverse Society | 3 | Spring | | |
| POL 1013 | Introduction to American Politics (core) | 3 | CI 4353 | Approaches to Teaching Science EC-6 | 3 |
| WRC 1023 | Freshman Composition II (core) | 3 | CI 4403 | Approaches to Teaching Mathematics EC-6 | 3 |
| | Credit Hours | 15 | ECE 4203 | Assessment and Evaluation in EC-6 | 3 |
| Summer | | | LTED 3823 | Reading Comprehension-EC-6 | 3 |
| BBL 2003 | Language, Culture, and Society (core) | 3 | | Credit Hours | 12 |
| IDS 2113 | Society and Social Issues (core and major) | 3 | Fourth Year | | |
| POL 1133 | Texas Politics and Society (core) | 3 | Fall | | |
| | Credit Hours | 9 | CI 4303 | Approaches to Teaching Social Studies Incorporating Language Arts and Fine Arts EC-6 | 3 |
| Second Year | | | LTED 3813 | Writing Development and Instruction-EC-6 | 3 |
| Fall | | | ESL 3023 | Second Language Teaching and Learning in EC-6 | 3 |
| EDU 2103 | Social Foundations for Education in a Diverse U.S. Society | 3 | CI 4613 | Clinical Teaching: Early Childhood- Grade 6 | 3 |
| IDS 3013 | Diversity, Equity, and the Social Sciences | 3 | | Credit Hours | 12 |
| ENG 2013 or ENG 2383 or ENG 2423 | Introduction to Literature (core) or Multiethnic Literatures of the United States or Literature of Texas and the Southwest | 3 | Spring | | |
| ESL 3003 | Language and Schooling | 3 | CI 4613 | Clinical Teaching: Early Childhood- Grade 6 | 3 |
| MAT 1153 | Essential Elements in Mathematics I | 3 | SPE 3603 | Introduction to Special Education | 3 |
| | Credit Hours | 15 | IDS 3713 | Interdisciplinary Inquiry | 3 |
| Spring | | | ESL 4003 | Approaches to Second Language Teaching | 3 |
| ESL 3033 | Foundations of English as a Second Language | 3 | | Credit Hours | 12 |
| IDS 2403 | Physical Science | 3 | | Total Credit Hours | 125 |
| IDS 3201 | Inquiry in Physical Science | 1 | | | |
| MAT 1163 | Essential Elements in Mathematics II | 3 | | | |
| IDS 3123 | Culture, Literature, and Fine Arts | 3 | | | |
| | Credit Hours | 13 | | | |
| Summer | | | | | |
| IDS 2413 | Earth Systems Science | 3 | | | |
| IDS 3211 | Inquiry in Earth Systems Science | 1 | | | |
| MAS 2023 | Latino Cultural Expressions | 3 | | | |
| | Credit Hours | 7 | | | |
| Third Year | | | | | |
| Fall | | | | | |
| Admission to the Teacher Certification Program | | | | | |
| ECE 3143 | Child Growth and Development | 3 | | | |

1

Students completing clinical teaching may not register for more than 3 semester credit hours beyond clinical teaching during this semester.

Bachelor of Arts Degree in Interdisciplinary Studies (Grades 4-8 ESL Certification Concentration)

Students pursuing Grades 4-8 ESL certification will complete a program of study that focuses on the content areas of reading, language arts and social studies. The minimum number of semester credit hours required for the IDS degree with Grades 4-8 ESL certification is 123, at least 39 of which must be at the upper-division level. All candidates seeking this degree must fulfill the Core Curriculum requirements and the degree requirements, which are listed below.

Core Curriculum requirements (42 semester credit hours)

Students seeking the B.A. degree in Interdisciplinary Studies (Grades 4-8 ESL certification concentration) must fulfill University Core Curriculum

requirements. The courses listed below satisfy both degree requirements and Core Curriculum requirements.

MAT 1023 is recommended to satisfy the core requirement in Mathematics. BIO 1233 and either AST 1033 or PHY 1013 should be used to satisfy the core requirement in Life and Physical Sciences. BBL 2003 is recommended to satisfy the Component Area Option. MAS 2023 is recommended to satisfy the core requirement in Creative Arts. HIS 1053 and HIS 2053 should be used to satisfy the core requirement in American History. IDS 2113 should be used to satisfy the core requirement in Social and Behavioral Sciences. ENG 2013 or ENG 2383 are recommended to satisfy the core requirement in Language, Philosophy and Culture.

Core Curriculum Component Area Requirements (p. 7)

| | |
|-----------------------------------|-----------|
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |
| Life and Physical Sciences | 6 |
| Language, Philosophy and Culture | 3 |
| Creative Arts | 3 |
| American History | 6 |
| Government-Political Science | 6 |
| Social and Behavioral Sciences | 3 |
| Component Area Option | 3 |
| Total Credit Hours | 42 |

Degree Requirements

A. IDS Core Courses

| | | |
|----------|--------------------------------------------|---|
| IDS 2113 | Society and Social Issues | 3 |
| IDS 3003 | STEM in Social Contexts | 3 |
| IDS 3013 | Diversity, Equity, and the Social Sciences | 3 |
| IDS 3123 | Culture, Literature, and Fine Arts | 3 |
| IDS 3713 | Interdisciplinary Inquiry | 3 |

B. IDS Support Courses

| | | |
|------------------------------|--------------------------------------------------------------------------------------|-----------|
| IDS 2083 | Learning with Technology | 3 |
| IDS 2403 | Physical Science | 3 |
| IDS 2413 | Earth Systems Science | 3 |
| MAT 1023 | College Algebra with Applications | 3 |
| MAT 1153 | Essential Elements in Mathematics I | 3 |
| MAT 1163 | Essential Elements in Mathematics II | 3 |
| Select one of the following: | | 3 |
| BBL 2243 | Bilingual Families, Communities, and Schools: National and Transnational Experiences | |
| BBL 3033 | Mexican Americans in the Southwest | |
| MAS 3413 | Mexican American Family | |
| SOC 3043 | Race and Ethnic Relations | |
| SOC 3283 | Poverty | |
| SOC 3423 | Mass Media in Society | |
| Total Credit Hours | | 36 |

Certification Requirements

Programs are subject to change without notice due to changes in the state's certification and/or program approval requirements.

A. ESL Special Delivery System Core

| | | |
|----------|------------------------|---|
| ESL 3003 | Language and Schooling | 3 |
|----------|------------------------|---|

| | | |
|----------|------------------------------------------------------|---|
| ESL 3033 | Foundations of English as a Second Language | 3 |
| ESL 3053 | Literacy in a Second Language | 3 |
| ESL 3073 | Second Language Teaching and Learning for Grades 4-8 | 3 |

B. Other Certification Courses

| | | |
|--------------|-----------------------------------------------------------------------|---|
| BBL 3403 | Cultural and Linguistic Equity for Schooling | 3 |
| EDP 3303 | Learning and Development in the Middle School Context (Grades 4–8) | 3 |
| EDU 2103 | Social Foundations for Education in a Diverse U.S. Society | 3 |
| IDS 2013 | Introduction to Learning and Teaching in a Culturally Diverse Society | 3 |
| LTED 3523 | Reading for Teachers-Grades 4–8 | 3 |
| LTED 3533 | Reading and Writing Across the Disciplines-Grades 4–8 | 3 |
| or LTED 3633 | Literature and Other Texts Across the Content Areas-Grades 4–8 | |
| LTED 3803 | Writing Development, Processes, and Instruction-Grades 4–8 | 3 |
| SPE 3603 | Introduction to Special Education | 3 |

C. Professional Education Courses

The following courses require an advisor code and are restricted to students who have applied for and been accepted into the Teacher Certification Program.

| | | |
|---------------------------|--------------------------------------------------|-----------|
| CI 4543 | Approaches to Teaching Social Studies–Grades 4–8 | 3 |
| CI 4633 | Clinical Teaching: Grades 4-8 | 6 |
| or CI 4626 | Clinical Teaching: Grades 4-8 | |
| EDP 4203 | Assessment and Evaluation | 3 |
| ESL 4003 | Approaches to Second Language Teaching | 3 |
| Total Credit Hours | | 51 |

B.A. in Interdisciplinary Studies, Grades 4–8 ESL Certification Concentration – Recommended Four-Year Academic Plan

First Year

| | | Credit Hours |
|-------------------------------|----------------------------------------------------|---------------------|
| Fall | | |
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| MAT 1023 | College Algebra with Applications (core and major) | 3 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| American History core | | 3 |
| Life & Physical Sciences core | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|-------------------------------|-----------------------------------------------------------------------|-----------|
| IDS 2013 | Introduction to Learning and Teaching in a Culturally Diverse Society | 3 |
| POL 1013 | Introduction to American Politics (core) | 3 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| American History core | | 3 |
| Life & Physical Sciences core | | 3 |
| Credit Hours | | 15 |

Summer

| | | |
|--------------|--------------------------------------------|---|
| BBL 2003 | Language, Culture, and Society (core) | 3 |
| IDS 2113 | Society and Social Issues (core and major) | 3 |
| IDS 2403 | Physical Science | 3 |
| Credit Hours | | 9 |

Second Year**Fall**

| | | |
|--------------|------------------------------------------------------------|----|
| EDU 2103 | Social Foundations for Education in a Diverse U.S. Society | 3 |
| ESL 3003 | Language and Schooling | 3 |
| IDS 2413 | Earth Systems Science | 3 |
| IDS 3013 | Diversity, Equity, and the Social Sciences | 3 |
| MAT 1153 | Essential Elements in Mathematics I | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|-------------------------|-----------------------------------------------------------------------------------|----|
| ENG 2013 or ENG 2383 | Introduction to Literature (core) or Multiethnic Literatures of the United States | 3 |
| ESL 3033 | Foundations of English as a Second Language | 3 |
| IDS 2083 | Learning with Technology | 3 |
| IDS 3003 | STEM in Social Contexts | 3 |
| MAT 1163 | Essential Elements in Mathematics II | 3 |
| Credit Hours | | 15 |

Summer

| | | |
|-------------------------|------------------------------------------------------------------------|----|
| ESL 3053 | Literacy in a Second Language | 3 |
| MAS 2023 | Latino Cultural Expressions (core) | 3 |
| POL 1133 or POL 1213 | Texas Politics and Society (core) or Civil Rights in Texas and America | 3 |
| SPE 3603 | Introduction to Special Education | 3 |
| Credit Hours | | 12 |

Third Year**Fall**

| | | |
|------------------------------------------------|--------------------------------------------------------------------|---|
| Admission to the Teacher Certification Program | | |
| EDP 3303 | Learning and Development in the Middle School Context (Grades 4–8) | 3 |
| IDS 3713 | Interdisciplinary Inquiry | 3 |
| LTED 3803 | Writing Development, Processes, and Instruction-Grades 4–8 | 3 |
| Credit Hours | | 9 |

Spring

| | | |
|------------------------------|------------------------------------------------------|---|
| BBL 3403 | Cultural and Linguistic Equity for Schooling | 3 |
| ESL 3073 | Second Language Teaching and Learning for Grades 4-8 | 3 |
| LTED 3523 | Reading for Teachers-Grades 4–8 | 3 |
| Select one of the following: | | 3 |

| | | |
|--------------|--------------------------------------------------------------------------------------|----|
| BBL 2243 | Bilingual Families, Communities, and Schools: National and Transnational Experiences | |
| BBL 3033 | Mexican Americans in the Southwest | |
| MAS 3413 | Mexican American Family | |
| SOC 3043 | Race and Ethnic Relations | |
| SOC 3283 | Poverty | |
| SOC 3423 | Mass Media in Society | |
| Credit Hours | | 12 |

Fourth Year**Fall**

| | | |
|---------------------------|-------------------------------------------------------------------------------------------------------------------------|----|
| CI 4543 | Approaches to Teaching Social Studies–Grades 4–8 | 3 |
| EDP 4203 | Assessment and Evaluation | 3 |
| ESL 4003 | Approaches to Second Language Teaching | 3 |
| IDS 3123 | Culture, Literature, and Fine Arts | 3 |
| LTED 3533 or LTED 3633 | Reading and Writing Across the Disciplines-Grades 4–8 or Literature and Other Texts Across the Content Areas-Grades 4–8 | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|--------------------|--------------------------------------------|-----|
| CI 4626 | Clinical Teaching: Grades 4-8 ¹ | 6 |
| Credit Hours | | 6 |
| Total Credit Hours | | 123 |

1

Students completing clinical teaching may not register for more than 3 semester credit hours beyond clinical teaching during this semester.

English as a Second Language (ESL) Supplemental Teacher Certification

ESL Supplemental Teacher Certification may be completed by any teacher certification student. Courses in this sequence will provide the necessary coursework addressing the TExES ESL Supplemental examination. Eighteen (18) semester credit hours are required for the ESL Supplemental Teacher Certification, however, 6 of these hours are already included in other teacher certification programs. Students pursuing EC–6 and grades 4–8 teacher certification may complete the ESL Supplemental Teacher Certification with only 12 additional hours of coursework.

| | | |
|----------|----------------------------------------------------------------------------------------------------------------|---|
| BBL 3123 | Mexican American Culture | 3 |
| or | | |
| BBL 3403 | Cultural and Linguistic Equity for Schooling (required for EC–6 and grades 4–8 teacher certification programs) | |
| ESL 3003 | Language and Schooling | 3 |
| ESL 3023 | Second Language Teaching and Learning in EC–6 (required for EC–6 teacher certification programs) | 3 |
| or | | |
| ESL 3073 | Second Language Teaching and Learning for Grades 4-8 | |

| | | |
|----------|---------------------------------------------|---|
| ESL 3033 | Foundations of English as a Second Language | 3 |
| ESL 3053 | Literacy in a Second Language | 3 |
| ESL 4003 | Approaches to Second Language Teaching | 3 |

- Minor in Bicultural Studies (p. 84)
- Minor in English as a Second Language (p. 84)

Minor in Bicultural Studies

All students pursuing a Minor in Bicultural Studies must complete 18 semester credit hours.

A. Bicultural Studies

Select two of the following: 6

| | |
|----------|------------------------------------|
| BBL 2003 | Language, Culture, and Society |
| BBL 2023 | Latino Cultural Expressions |
| MAS 2013 | Introduction to Chicano(a) Studies |

B. Language

Select two of the following: 6

| | |
|----------|------------------------------------|
| BBL 3013 | Language Analysis and Bilingualism |
| BBL 3133 | Language Development in Bilinguals |
| ESL 3003 | Language and Schooling |

C. Culture and Society

Select two of the following: 6

| | |
|----------|-----------------------------------------------|
| BBL 2033 | Multiculturalism in the Southwest |
| BBL 3033 | Mexican Americans in the Southwest |
| BBL 3063 | Historical Legacies: Chicanas/os in Education |
| BBL 3123 | Mexican American Culture |

Total Credit Hours 18

To declare a Minor in Bicultural Studies, obtain advice, or seek approval of substitutions for course requirements, students should consult their academic advisor.

Minor in English as a Second Language

All students pursuing a Minor in English as a Second Language must complete 18 semester credit hours.

A. Courses in English as a second language

| | | |
|----------|---------------------------------------------|---|
| ESL 3003 | Language and Schooling | 3 |
| ESL 3033 | Foundations of English as a Second Language | 3 |
| ESL 3053 | Literacy in a Second Language | 3 |

Select one of the following: 3

| | |
|----------|------------------------------------------------------|
| BBL 3013 | Language Analysis and Bilingualism |
| BBL 3133 | Language Development in Bilinguals |
| ESL 3023 | Second Language Teaching and Learning in EC-6 |
| ESL 3073 | Second Language Teaching and Learning for Grades 4-8 |

B. Culture and society

Select one of the following: 3

| | |
|----------|------------------------------------|
| BBL 2033 | Multiculturalism in the Southwest |
| BBL 3033 | Mexican Americans in the Southwest |
| BBL 3123 | Mexican American Culture |

C. Language minority education

Select one of the following: 3

| | |
|----------|----------------------------------|
| BBL 3053 | Foundations of Bilingual Studies |
|----------|----------------------------------|

| | |
|----------|-------------------------------------------------------------------------|
| BBL 4033 | Assessment, Learning, and Motivation in Bicultural-Bilingual Classrooms |
| BBL 4953 | Special Studies in Bilingual and Bicultural Studies |

Total Credit Hours 18

To declare a Minor in English as a Second Language, obtain advice, or seek approval of substitutions for course requirements, students should consult their academic advisor.

Department of Counseling

The Department of Counseling provides support work for undergraduate degrees and offers a Master of Education degree in School Counseling, a Master of Science degree in Clinical Mental Health Counseling, and a Doctor of Philosophy degree in Counselor Education and Supervision. The nationally CACREP (Council for Accreditation of Counseling and Related Educational Programs) accredited master's and doctoral degrees offer the opportunity for advanced study and professional development in the field of counseling. (See the *UTSA Graduate Catalog* for further information.)

Department of Educational Leadership and Policy Studies

The Department of Educational Leadership and Policy Studies prepares educators to become transformational leaders who can work effectively in diverse, ambiguous, and challenging contexts. The goals of this transformational leadership include equity, excellence, social justice, democracy, risk-taking, and responsiveness to community needs. Faculty in the Department of Educational Leadership and Policy Studies are strongly committed to developing collaborative and responsive relationships with area schools and communities. The Department offers the Master of Education degree in Educational Leadership and Policy Studies and the Doctor of Education degree in Educational Leadership. (See the *UTSA Graduate Catalog* for further information.)

Department of Educational Psychology

Mission Statement

The mission of the Department of Educational Psychology is to promote the development and application of scientific knowledge. To do so, our faculty members are committed to: Producing high-quality, innovative research and scholarship; Providing effective and culturally inclusive instructional technologies to prepare practitioners and researchers to use the tools, resources, and strategies necessary to improve the educational experience of all learners; Preparing culturally competent scientist-practitioners and researchers to effectively contribute to the applied psychological development and well-being of children and adolescents; Providing responsive educational and psychological services to the local community, schools, and beyond; and, Engaging in participatory and leadership roles in local, national, and international institutions and organizations.

The Department of Educational Psychology faculty provide valuable support to other departments and program areas within the College of Education and Human Development and throughout the University by teaching courses based on foundational educational psychology concepts in areas such as learning, motivation, development, assessment, and research methods. At this time, the Department of Educational Psychology offers two graduate degrees: the Master of Arts in Educational Psychology and the Master of Arts in School Psychology. The Department also offers three graduate certificates: Certificate in Applied Behavior Analysis, Certificate in Language Acquisition and Bilingual Psychoeducational Assessment, and Certificate

in Program Evaluation. (See the *UTSA Graduate Catalog* for further information.)

Criminal History Policy and Acknowledgement

The College of Education and Human Development (COEHD) prepares educators and professionals for fields which require fieldwork, internship, practicum, service-learning and/or clinical teaching. Placements occur in educational, clinical, health care facilities, hospital, and/or medical settings which require a criminal background check. The University of Texas at San Antonio is required to inform students of the requirements set forth by the Texas Occupation Code, Chapter 53, Sections 53.001 through 53.105 (<http://www.texas-statutes.com/occupations-code/chapter-53-consequences-of-criminal-conviction/>).

All COEHD prospective students in a licensure or certification program are required to acknowledge that they have been made aware of these requirements and that they have read the COEHD Criminal History Policy (http://education.utsa.edu/certification_program/criminal_history_policy/). For more information and for completing the acknowledgement form, please visit the Office of Professional Preparation, Assessment, and Accreditation in the College of Education and Human Development.

Department of Interdisciplinary Learning and Teaching

Mission Statement

The mission of the Department of Interdisciplinary Learning and Teaching is to:

- Advance the intellectual and professional development of students and faculty through research, critical reflection and dialogue, civic responsibility, and transformative leadership;
- Promote equality and social justice by advocating for educational change and reform; and
- Nurture the personal and professional integrity of all learners.

Vision Statement

To be a model interdisciplinary education program that prepares professionals to work with diverse learners in a global setting.

Core Values

The Department of Interdisciplinary Learning and Teaching will create a context of equitable access that nurtures interdisciplinary learners who embody the following core values:

- **Intellectual:** Demonstrates content, cultural, and technological knowledge, as well as pedagogical-content knowledge;
- **Transformative:** Recognizes and engages in research-based, developmentally, culturally and linguistically responsive practices, that are life-changing for all learners;
- **Inquisitive:** Critically analyzes, produces, and disseminates research;
- **Critically conscious:** Understands the interrelationship among socio-cultural, historical, and political contexts of U.S. education and engages in empowering practices;
- **Ethical:** Exhibits ethical behavior in all their interactions with all populations; and
- **Professional:** Articulates a philosophy and demonstrates a strong professional identity that respects a diverse global society.

Department Honors

The Department of Interdisciplinary Learning and Teaching awards Department Honors to certain outstanding students and provides the opportunity for advanced study under close faculty supervision.

Selection for honors designation is based on the student's academic performance and recommendation by the faculty of the student's major discipline. To be eligible for the program, students must have a minimum overall grade point average of 3.0 at UTSA and a minimum grade point average of 3.5 in their major at UTSA. The minimum grade point averages must be maintained for students to receive the approval of the Department Honors Committee and the discipline faculty. Students applying for Department Honors are expected to enroll in the appropriate honors thesis course during their final two semesters. The completed thesis must be approved by the supervising faculty sponsor and another departmental faculty member. Students interested in this program should contact their professors for additional information.

Department Information

The Department of Interdisciplinary Learning and Teaching offers the following degrees and certifications:

1. Bachelor of Arts Degree in Interdisciplinary Studies

a. Degree-Only Concentration

The Bachelor of Arts (B.A.) in Interdisciplinary Studies (IDS) degree-only concentration may be used as preparation for a number of career paths; for example, government, service industry, and non-profit work. This degree also has an associated opportunity for graduate or professional study in areas such as educational psychology, business, counseling, or social work. The minimum number of semester credit hours required for the B.A. in IDS degree-only concentration, including the Core Curriculum requirements, is 120, at least 39 of which must be at the upper-division level. Students selecting this concentration also choose an academic specialization. See the section entitled "Bachelor of Arts Degree in Interdisciplinary Studies (degree-only concentration)" for a listing of the requirements for this degree.

b. Degrees with Certifications

Students who choose the IDS major may also seek teacher certification. You must apply and be admitted into the Teacher Certification Program. The IDS program is designed to give successful students the opportunity to become teachers. To be a teacher, you must understand the thinking and learning processes and be able to successfully foster children's conceptual, intellectual, and emotional growth. Within the Department of Interdisciplinary Learning and Teaching, IDS majors who select teacher certification can choose from four concentrations: early childhood–grade 6 (EC–6) core subjects certification, grades 4–8 language arts/reading/social studies certification, grades 4–8 mathematics/science certification, or EC–12 special education certification. For additional certification requirements, consult the section of this catalog titled, "IDS Degree Program with Teacher Certification Concentrations." You should also consult with your academic advisor for information regarding certification requirements and for admission information to the Teacher Certification Program.

IDS majors seeking bilingual EC–6 and 4–8 should refer to the section of this catalog entitled Department of Bicultural-Bilingual Studies. IDS majors seeking ESL certification should consider challenging the ESL certification test after completing the EC–6 grade certification test.

Please note that certification programs and requirements are subject to change depending on changes mandated by the state.

2. Bachelor of Arts Degree in Multicultural Early Childhood Development

The Bachelor of Arts degree in Multicultural Early Childhood Development (B.A. MECD) is grounded on principles of child development as well as culturally relevant pedagogy. This program's curriculum is based on five premises that will help early childhood educators develop an in-depth knowledge of cognitive, linguistic, physical and socio-emotional development as well as appropriate teaching and learning practices. Specifically, the B.A. MECD curriculum focuses on early learning experiences for very young children of diverse cultural and linguistic backgrounds and examines the following: (1) quality early learning experiences, (2) collaboration with families, (3) programs for dual language learners, (4) early intervention principles and practices, and (5) leadership and advocacy in early childhood settings. The curriculum for this bachelor's degree aligns with the National Association for the Education of Young Children (NAEYC) Standards for Early Childhood

Professional Preparation. The program will accept 60–66 hours of transfer credit hours with approval. The B.A. in Multicultural Early Childhood Development offers students the opportunity to select a minor in Early Dual Immersion (English language learners) that will help them specialize in areas that are currently in high demand. The minor provides students with more in-depth knowledge regarding English language learners.

3. Secondary Certification

The Department of Interdisciplinary Learning and Teaching offers coursework required for students seeking secondary certification (grades 7–12). Students seeking certification to teach at the secondary level must obtain a bachelor's degree in the academic area in which they plan to teach. They should consult with an advisor in the college in which their degree is contained. They should also consult with their academic advisor for information regarding secondary certification requirements and for information on admission to the Teacher Certification Program. For additional information regarding secondary certification requirements, students should consult the section of this catalog entitled "Secondary Certification Programs."

Teacher certification requirements are subject to change; students should consult with an advisor for the most current certification requirements.

Criminal History Policy and Acknowledgement

The College of Education and Human Development (COEHD) prepares educators and professionals for fields which require fieldwork, internship, practicum, service-learning and/or clinical teaching. Placements occur in educational, clinical, health care facilities, hospitals, and/or medical settings which require a criminal background check. The University of Texas at San Antonio is required to inform students of the requirements set forth by the Texas Occupation Code, Chapter 53, Sections 53.001 through 53.105 (<http://www.texas-statutes.com/occupations-code/chapter-53-consequences-of-criminal-conviction/>).

All COEHD prospective students in a licensure or certification program are required to acknowledge that they have been made aware of these requirements and that they have read the COEHD Criminal History Policy (http://education.utsa.edu/certification_program/criminal_history_policy/). For more information and for completing the acknowledgement form, please visit the Office of Professional Preparation, Assessment, and Accreditation in the College of Education and Human Development.

- B.A. degree in Interdisciplinary Studies (degree-only concentration) (p. 87)
- B.A. degree in Multicultural Early Childhood Development (p. 88)

Bachelor of Arts Degree in Interdisciplinary Studies (degree-only concentration)

The minimum number of semester credit hours required for this degree is 120, at least 39 of which must be at the upper-division level. All candidates seeking this degree must fulfill the Core Curriculum requirements and the degree requirements, which are listed below.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the B.A. degree in Interdisciplinary Studies without teacher certification must fulfill University Core Curriculum requirements. The courses listed below satisfy both degree requirements and Core Curriculum requirements.

MAT 1023 should be used to satisfy the core requirement in Mathematics. IDS 2113 should be used to satisfy the core requirement in Social and Behavioral Sciences.

Core Curriculum Component Area Requirements (p. 7)

| | |
|-----------------------------------|----|
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |
| Life and Physical Sciences | 6 |
| Language, Philosophy and Culture | 3 |
| Creative Arts | 3 |
| American History | 6 |
| Government-Political Science | 6 |
| Social and Behavioral Sciences | 3 |
| Component Area Option | 3 |
| Total Credit Hours | 42 |

IDS Degree Requirements

A. IDS core courses

| | | |
|----------|--------------------------------------------|---|
| IDS 2113 | Society and Social Issues | 3 |
| IDS 3003 | STEM in Social Contexts | 3 |
| IDS 3013 | Diversity, Equity, and the Social Sciences | 3 |
| IDS 3123 | Culture, Literature, and Fine Arts | 3 |
| IDS 3713 | Interdisciplinary Inquiry | 3 |

B. IDS required courses

| | | |
|----------|--------------------------------------|---|
| IDS 2403 | Physical Science | 3 |
| IDS 2413 | Earth Systems Science | 3 |
| IDS 3201 | Inquiry in Physical Science | 1 |
| IDS 3211 | Inquiry in Earth Systems Science | 1 |
| MAT 1153 | Essential Elements in Mathematics I | 3 |
| MAT 1163 | Essential Elements in Mathematics II | 3 |

C. Area of specialization 18-24

One area of specialization must be selected by the student seeking the IDS degree-only concentration. This involves a sequence of courses, with a minimum of 18–24 semester credit hours, including 6 hours at the upper-division level, in one specific area or discipline. The area of specialization should not include coursework in the IDS core or IDS required courses. Assistance in selection is available from the Interdisciplinary Education Advising and Certification Center. Students are encouraged to select their area of specialization as early in their program as possible.

D. Electives 28-34

Upper-division courses to complete a minimum total of 120 semester credit hours. Advisors in the Interdisciplinary Education Advising and Certification Center will assist interdisciplinary studies degree-only majors to use their electives to develop a coherent program of study using existing UTSA course offerings.

B.A. in Interdisciplinary Studies, Degree-only Concentration – Recommended Four-Year Academic Plan

First Year

| | | Credit Hours |
|-----------------------|------------------------------------------|--------------|
| Fall | | |
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| POL 1013 | Introduction to American Politics (core) | 3 |
| MAT 1023 | College Algebra with Applications (core) | 3 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| American History core | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|-------------------------------|---------------------------------------------------------------------------|----|
| IDS 2113 | Society and Social Issues (core and major) | 3 |
| POL 1133 or POL 1213 | Texas Politics and Society (core) or Civil Rights in Texas and America | 3 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| American History core | | 3 |
| Life & Physical Sciences core | | 3 |
| Credit Hours | | 15 |

Second Year

Fall

| | | |
|-------------------------------------|--------------------------------------------|----|
| IDS 3013 | Diversity, Equity, and the Social Sciences | 3 |
| MAT 1153 | Essential Elements in Mathematics I | 3 |
| Creative Arts core | | 3 |
| Language, Philosophy & Culture core | | 3 |
| Life & Physical Sciences core | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|-------------------------------|------------------------------------------------------------------------|----|
| IDS 2403 or IDS 3234 | Physical Science or Investigations in Physical Science | 3 |
| IDS 3201 or IDS 3224 | Inquiry in Physical Science or Earth Systems Science Investigations | 1 |
| MAT 1163 | Essential Elements in Mathematics II | 3 |
| Area of Specialization course | | 3 |
| Component Area Option core | | 3 |
| Upper-division elective | | 3 |
| Credit Hours | | 16 |

Third Year

Fall

| | | |
|-------------------------|-----------------------------------------------------------------------------|---|
| IDS 2413 or IDS 3224 | Earth Systems Science or Earth Systems Science Investigations | 3 |
| IDS 3211 or IDS 3224 | Inquiry in Earth Systems Science or Earth Systems Science Investigations | 1 |
| IDS 3123 | Culture, Literature, and Fine Arts | 3 |

| | |
|-------------------------------|----|
| Area of Specialization course | 3 |
| Area of Specialization course | 3 |
| Upper-division elective | 3 |
| Credit Hours | 16 |

Spring

| | | |
|-------------------------------|-------------------------|---|
| IDS 3003 | STEM in Social Contexts | 3 |
| Area of Specialization course | 3 | |
| Upper-division elective | 3 | |
| Upper-division elective | 3 | |
| Upper-division elective | 3 | |
| Credit Hours | 15 | |

Fourth Year

Fall

| | | |
|----------------------------------------------|---------------------------|---|
| IDS 3713 | Interdisciplinary Inquiry | 3 |
| Upper-division Area of Specialization course | 3 | |
| Upper-division elective | 3 | |
| Upper-division elective | 3 | |
| Upper-division elective | 3 | |
| Credit Hours | 15 | |

Spring

| | |
|----------------------------------------------------|-----|
| Upper-division Area of Specialization course | 3 |
| Upper-division elective | 3 |
| Upper-division elective | 3 |
| Upper-division elective | 3 |
| Upper-division elective (to meet 120 hour minimum) | 1 |
| Credit Hours | 13 |
| Total Credit Hours | 120 |

Bachelor of Arts Degree in Multicultural Early Childhood Development

The minimum number of semester credit hours required for the Multicultural Early Childhood Development degree is 120, at least 39 of which must be at the upper-division level. All candidates seeking this degree must fulfill the Core Curriculum requirements and the degree requirements, which are listed below.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the B.A. degree in Multicultural Early Childhood Development must fulfill University Core Curriculum requirements. The courses listed below satisfy both degree requirements and Core Curriculum requirements.

MAT 1043 should be used to satisfy the core requirement in Mathematics. AAS 2013 is recommended to satisfy the core requirement in Language, Philosophy, and Culture. MAS 2023 should be used to satisfy the core requirement in Creative Arts. BBL 2003 should be used to satisfy the core requirement in Social and Behavioral Sciences. AAS 2113, MAS 2013, PSY 1013, or SOC 1013 should be used to satisfy the Component Area Option core requirement.

Core Curriculum Component Area Requirements (p. 7)

| | |
|-----------------------------------|---|
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |

| | |
|----------------------------------|-----------|
| Life and Physical Sciences | 6 |
| Language, Philosophy and Culture | 3 |
| Creative Arts | 3 |
| American History | 6 |
| Government-Political Science | 6 |
| Social and Behavioral Sciences | 3 |
| Component Area Option | 3 |
| Total Credit Hours | 42 |

Degree Requirements

A. Early Childhood core

| | | |
|-------------|---------------------------------------------------------------------------------------|---|
| ECE 2013 | Introduction to Multicultural Early Childhood Education | 3 |
| ECE 2123 | Diversity in Early Childhood (Credit cannot be earned for both ECE 2123 and BBL 2123) | 3 |
| or BBL 2123 | Diversity in Early Childhood | |
| ECE 3143 | Child Growth and Development | 3 |
| EDP 2113 | Theories of Learning | 3 |
| HTH 3013 | Survey of Human Nutrition | 3 |
| SPE 3603 | Introduction to Special Education | 3 |

B. Upper-division coursework

| | | |
|-----------|-------------------------------------------------------------------------|---|
| COU 3203 | Child Abuse and Domestic Violence | 3 |
| ECE 3133 | Programs and Policies in Early Childhood Education | 3 |
| ECE 3153 | Movement, Music and Health in Early Childhood | 3 |
| ECE 3313 | Play, Creativity, and Learning | 3 |
| ECE 3603 | Language and Literacy Acquisition | 3 |
| ECE 4103 | Guidance of Young Children in Groups | 3 |
| ECE 4123 | Family and Community Resources in Early Childhood | 3 |
| ECE 4153 | Culturally Appropriate Assessment for Infants and Young Children | 3 |
| ECE 4253 | STEM in Early Childhood Contexts | 3 |
| ECE 4342 | Internship in Multicultural Early Childhood Development I - Infants | 2 |
| ECE 4412 | Internship in Multicultural Early Childhood Development II - Toddlers | 2 |
| ECE 4552 | Internship in Multicultural Early Childhood Development III - Preschool | 2 |
| ECE 4653 | Leadership and Management of Early Childhood Settings | 3 |
| ESL 3003 | Language and Schooling | 3 |
| LTED 3643 | Children's Literature for Young Diverse Learners - Infants and Toddlers | 3 |

C. Minor in Early Dual Immersion **18**

| | | |
|----------|---------------------------------------------------------------------|--|
| BBL 3043 | Social Psychological Considerations in Mexican American Communities | |
| BBL 3053 | Foundations of Bilingual Studies | |
| BBL 3133 | Language Development in Bilinguals | |
| BBL 3143 | Children's Literature for Bilingual Learners | |
| BBL 4043 | Dual Language Education in Early Childhood | |

| | | |
|---------------------------|-------------------------------------------------------------------------|-----------|
| ESL 4023 | Teaching and Learning Language Development of Young Emergent Bilinguals | |
| Total Credit Hours | | 78 |

B.A. in Multicultural Early Childhood Development Recommended Four-Year Academic Plan

First Year

| Fall | | Credit Hours |
|-----------------------|------------------------------------------|--------------|
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| MAT 1043 | Introduction to Mathematics (core) | 3 |
| POL 1013 | Introduction to American Politics (core) | 3 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| American History core | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|-------------------------------|---------------------------------------------------------------------------|----|
| BBL 2003 | Language, Culture, and Society (core) | 3 |
| POL 1133 or POL 1213 | Texas Politics and Society (core) or Civil Rights in Texas and America | 3 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| American History core | | 3 |
| Life & Physical Sciences core | | 3 |
| Credit Hours | | 15 |

Second Year

Fall

| | | |
|-------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| AAS 2013 | Introduction to African American Studies (core) | 3 |
| AAS 2113 or MAS 2013 or PSY 1013 or SOC 1013 | African American Culture, Leadership and Social Issues (core) or Introduction to Chicano(a) Studies or Introduction to Psychology or Introduction to Sociology | 3 |
| ECE 2013 | Introduction to Multicultural Early Childhood Education | 3 |
| MAS 2023 | Latino Cultural Expressions (core) | 3 |
| Life & Physical Sciences core | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|-------------------------|-----------------------------------------------------------------|----|
| ECE 2123 or BBL 2123 | Diversity in Early Childhood or Diversity in Early Childhood | 3 |
| EDP 2113 | Theories of Learning | 3 |
| HTH 3013 | Survey of Human Nutrition | 3 |
| SPE 3603 | Introduction to Special Education | 3 |
| BBL 3053 | Foundations of Bilingual Studies | 3 |
| Credit Hours | | 15 |

Third Year

Fall

| | | |
|----------|-----------------------------------|---|
| COU 3203 | Child Abuse and Domestic Violence | 3 |
| ECE 3143 | Child Growth and Development | 3 |
| ECE 3313 | Play, Creativity, and Learning | 3 |

| | | |
|--------------|----------------------------------------------|----|
| ECE 3603 | Language and Literacy Acquisition | 3 |
| ESL 3003 | Language and Schooling | 3 |
| BBL 3143 | Children's Literature for Bilingual Learners | 3 |
| Credit Hours | | 18 |

Spring

| | | |
|--------------|-------------------------------------------------------------------------|----|
| ECE 3133 | Programs and Policies in Early Childhood Education | 3 |
| ECE 3153 | Movement, Music and Health in Early Childhood | 3 |
| LTED 3643 | Children's Literature for Young Diverse Learners - Infants and Toddlers | 3 |
| BBL 3043 | Social Psychological Considerations in Mexican American Communities | 3 |
| BBL 3133 | Language Development in Bilinguals | 3 |
| Credit Hours | | 15 |

Fourth Year

Fall

| | | |
|--------------|------------------------------------------------------------------|----|
| ECE 4103 | Guidance of Young Children in Groups | 3 |
| ECE 4123 | Family and Community Resources in Early Childhood | 3 |
| ECE 4153 | Culturally Appropriate Assessment for Infants and Young Children | 3 |
| ECE 4253 | STEM in Early Childhood Contexts | 3 |
| BBL 4043 | Dual Language Education in Early Childhood | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|--------------------|-------------------------------------------------------------------------|-----|
| ECE 4653 | Leadership and Management of Early Childhood Settings | 3 |
| ECE 4342 | Internship in Multicultural Early Childhood Development I - Infants | 2 |
| ECE 4412 | Internship in Multicultural Early Childhood Development II - Toddlers | 2 |
| ECE 4552 | Internship in Multicultural Early Childhood Development III - Preschool | 2 |
| ESL 4023 | Teaching and Learning Language Development of Young Emergent Bilinguals | 3 |
| Credit Hours | | 12 |
| Total Credit Hours | | 120 |

- B.A. degree in Interdisciplinary Studies (Early Childhood–Grade 6 Core Subjects Certification Concentration) (p. 90)
- B.A. degree in Interdisciplinary Studies (Grades 4–8 Language Arts/ Reading/Social Studies Certification Concentration) (p. 92)
- B.A. degree in Interdisciplinary Studies (Grades 4–8 Mathematics/ Science Certification Concentration) (p. 94)

- B.A. degree in Interdisciplinary Studies (EC–12 Special Education Certification Concentration) (p. 96)

IDS Degree Program with Teacher Certification Concentrations

Programs are subject to change without notice due to changes in the state's certification and/or program approval requirements. Teacher certification programs address standards of the State Board for Educator Certification. Standards can be found at <http://www.tea.state.tx.us>.

Bachelor of Arts Degree in Interdisciplinary Studies (Early Childhood–Grade 6 Core Subjects Certification Concentration)

The minimum number of semester credit hours required for the IDS degree with Early Childhood–Grade 6 core subjects certification is 125, at least 39 of which must be at the upper-division level. All candidates seeking this degree must fulfill the Core Curriculum requirements and the degree requirements, which are listed below.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the B.A. degree in Interdisciplinary Studies with teacher certification must fulfill University Core Curriculum requirements. The courses listed below satisfy both degree requirements and Core Curriculum requirements.

MAT 1023 should be used to satisfy the core requirement in Mathematics. BIO 1233 and either AST 1033 or PHY 1013 should be used to satisfy the core requirement in Life and Natural Sciences. All IDS majors must complete AIS 1203, and either AAS 2013 or MAS 2013 is recommended to satisfy the core requirements in Language, Philosophy and Culture. HIS 2053 is recommended to satisfy a core requirement in American History. IDS 2113 should be used to satisfy the core requirement in Social and Behavioral Sciences. MAS 2023 is recommended to satisfy the core requirement in Creative Arts.

Core Curriculum Component Area Requirements (p. 7)

| | |
|-----------------------------------|----|
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |
| Life and Physical Sciences | 6 |
| Language, Philosophy and Culture | 3 |
| Creative Arts | 3 |
| American History | 6 |
| Government-Political Science | 6 |
| Social and Behavioral Sciences | 3 |
| Component Area Option | 3 |
| Total Credit Hours | 42 |

IDS Degree Requirements

A. IDS core courses

| | | |
|----------|--------------------------------------------|---|
| IDS 2113 | Society and Social Issues | 3 |
| IDS 3003 | STEM in Social Contexts | 3 |
| IDS 3013 | Diversity, Equity, and the Social Sciences | 3 |
| IDS 3123 | Culture, Literature, and Fine Arts | 3 |

| | | |
|----------|---------------------------|---|
| IDS 3713 | Interdisciplinary Inquiry | 3 |
|----------|---------------------------|---|

B. IDS support courses

| | | |
|---------------------------------------|-------------------------------------------------------------------------------------------------------|----|
| IDS 2403 & IDS 3201 or IDS 3234 | Physical Science and Inquiry in Physical Science Investigations in Physical Science | 4 |
| IDS 2413 & IDS 3211 or IDS 3224 | Earth Systems Science and Inquiry in Earth Systems Science Earth Systems Science Investigations | 4 |
| MAT 1153 | Essential Elements in Mathematics I | 3 |
| MAT 1163 | Essential Elements in Mathematics II | 3 |
| Total Credit Hours | | 29 |

Certification Requirements

| | | |
|-----------|-----------------------------------------------------------------------|---|
| BBL 3403 | Cultural and Linguistic Equity for Schooling | 3 |
| ECE 3313 | Play, Creativity, and Learning | 3 |
| ECE 3603 | Language and Literacy Acquisition | 3 |
| ECE 4143 | Principles and Practices of Differentiated Education EC-6 | 3 |
| EDU 2103 | Social Foundations for Education in a Diverse U.S. Society | 3 |
| ESL 3023 | Second Language Teaching and Learning in EC-6 | 3 |
| IDS 2013 | Introduction to Learning and Teaching in a Culturally Diverse Society | 3 |
| LTED 3513 | Children's Literature EC-6 | 3 |
| LTED 3813 | Writing Development and Instruction-EC-6 | 3 |
| SPE 3603 | Introduction to Special Education | 3 |

The following courses require an advisor code and are restricted to students who have applied for and been accepted into the Teacher Certification Program.

| | | |
|--------------------|------------------------------------------------------------------|----|
| LTED 3823 | Reading Comprehension-EC-6 | 3 |
| LTED 4833 | Organizing Literacy Programs for Differentiated Instruction-EC-6 | 3 |
| Total Credit Hours | | 36 |

Professional Education Requirements

The following courses require an advisor code and are restricted to students who have applied for and been accepted into the Teacher Certification Program.

| | | |
|-----------------------|------------------------------------------------------------------------------------------|----|
| CI 4303 | Approaches to Teaching Social Studies Incorporating Language Arts and Fine Arts EC-6 | 3 |
| CI 4353 | Approaches to Teaching Science EC-6 | 3 |
| CI 4403 | Approaches to Teaching Mathematics EC-6 | 3 |
| CI 4613 or CI 4616 | Clinical Teaching: Early Childhood-Grade 6 Clinical Teaching: Early Childhood-Grade 6 | 6 |
| ECE 3143 | Child Growth and Development | 3 |
| ECE 4203 | Assessment and Evaluation in EC-6 | 3 |
| Total Credit Hours | | 21 |

B.A. in Interdisciplinary Studies, Early Childhood-Grade 6 Core Subjects Certification Concentration – Recommended Four-Year Academic Plan**First Year**

| Fall | | Credit Hours |
|-------------------------------|------------------------------------------|---------------------|
| AIS 1253 | AIS: Interdisciplinary Education | 3 |
| MAT 1023 | College Algebra with Applications (core) | 3 |
| Life & Physical Sciences core | BIO 1233 recommended | 3 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| American History core | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|-------------------------------|-----------------------------------------------------------------------|----|
| American History core | HIS 2053 recommended | 3 |
| IDS 2013 | Introduction to Learning and Teaching in a Culturally Diverse Society | 3 |
| Life & Physical Sciences core | AST 1033 or PHY 1013 recommended | 3 |
| POL 1013 | Introduction to American Politics (core) | 3 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| Credit Hours | | 15 |

Summer

| | | |
|-----------------------------------|--------------------------------------------|---|
| IDS 2113 | Society and Social Issues (core and major) | 3 |
| Government-Political Science core | POL 1133 recommended | 3 |
| Component Area Option core | | 3 |
| Credit Hours | | 9 |

Second Year**Fall**

| | | |
|-------------------------------------|------------------------------------------------------------|----|
| Language, Philosophy & Culture core | AAS 2013 or MAS 2013 recommended | 3 |
| EDU 2103 | Social Foundations for Education in a Diverse U.S. Society | 3 |
| IDS 3123 | Culture, Literature, and Fine Arts | 3 |
| MAT 1153 | Essential Elements in Mathematics I | 3 |
| Creative Arts core | MAS 2023 recommended | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|--------------|--------------------------------------------|----|
| ECE 3143 | Child Growth and Development | 3 |
| IDS 2403 | Physical Science | 3 |
| IDS 3013 | Diversity, Equity, and the Social Sciences | 3 |
| IDS 3201 | Inquiry in Physical Science | 1 |
| MAT 1163 | Essential Elements in Mathematics II | 3 |
| Credit Hours | | 13 |

Summer

| | | |
|----------|-----------------------|---|
| IDS 2413 | Earth Systems Science | 3 |
|----------|-----------------------|---|

| | | |
|--------------|-----------------------------------|---|
| IDS 3211 | Inquiry in Earth Systems Science | 1 |
| SPE 3603 | Introduction to Special Education | 3 |
| Credit Hours | | 7 |

Third Year

Fall

Admission to the Teacher Certification Program

| | | |
|--------------|------------------------------------------------------------------------|----|
| IDS 3003 | STEM in Social Contexts | 3 |
| ECE 3313 | Play, Creativity, and Learning ¹ | 3 |
| ECE 3603 | Language and Literacy Acquisition ¹ | 3 |
| ECE 4143 | Principles and Practices of Differentiated Education EC-6 ¹ | 3 |
| LTED 3513 | Children's Literature EC-6 ¹ | 3 |
| Credit Hours | | 15 |

Spring

(must be taken Fall or Spring semesters)

| | | |
|--------------|------------------------------------------------------|----|
| CI 4353 | Approaches to Teaching Science EC-6 ² | 3 |
| CI 4403 | Approaches to Teaching Mathematics EC-6 ² | 3 |
| ECE 4203 | Assessment and Evaluation in EC-6 ² | 3 |
| LTED 3823 | Reading Comprehension-EC-6 | 3 |
| Credit Hours | | 12 |

Summer

| | | |
|--------------|----------------------------------------------|---|
| BBL 3403 | Cultural and Linguistic Equity for Schooling | 3 |
| Credit Hours | | 3 |

Fourth Year

Fall

(must be taken Fall or Spring semesters)

| | | |
|--------------|---------------------------------------------------------------------------------------------------|----|
| CI 4303 | Approaches to Teaching Social Studies Incorporating Language Arts and Fine Arts EC-6 ³ | 3 |
| CI 4613 | Clinical Teaching: Early Childhood-Grade 6 | 3 |
| ESL 3023 | Second Language Teaching and Learning in EC-6 | 3 |
| LTED 4833 | Organizing Literacy Programs for Differentiated Instruction-EC-6 | 3 |
| Credit Hours | | 12 |

Spring

(must be taken Fall or Spring semesters)

| | | |
|--------------------|--------------------------------------------|-----|
| CI 4613 | Clinical Teaching: Early Childhood-Grade 6 | 3 |
| IDS 3713 | Interdisciplinary Inquiry | 3 |
| LTED 3813 | Writing Development and Instruction-EC-6 | 3 |
| Credit Hours | | 9 |
| Total Credit Hours | | 125 |

1

Must be taken concurrently.

2

Must be taken concurrently.

3

Must be taken concurrently.

Bachelor of Arts Degree in Interdisciplinary Studies (Grades 4-8 Language Arts/Reading/Social Studies Certification Concentration)

The minimum number of semester credit hours required for the IDS degree with grades 4-8 Language Arts/Reading/Social Studies certification is 120, at least 39 of which must be at the upper-division level. All candidates seeking this degree must fulfill the Core Curriculum requirements and the degree requirements, which are listed below.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the B.A. degree in Interdisciplinary Studies with teacher certification must fulfill University Core Curriculum requirements. The courses listed below satisfy both degree requirements and Core Curriculum requirements.

MAT 1023 should be used to satisfy the core requirement in Mathematics. BIO 1233 and BIO 1243 should be used to satisfy the core requirement in Life and Natural Sciences. All IDS majors must complete AIS 1203, and either AAS 2013 or MAS 2013 is recommended to satisfy the core requirements in Language, Philosophy and Culture. HIS 2053 is recommended to satisfy a core requirement in American History. IDS 2113 should be used to satisfy the core requirement in Social and Behavioral Sciences. MAS 2023 is recommended to satisfy the core requirement in Creative Arts. COM 2113 is recommended to satisfy the Component Area Option.

Core Curriculum Component Area Requirements (p. 7)

| | |
|-----------------------------------|----|
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |
| Life and Physical Sciences | 6 |
| Language, Philosophy and Culture | 3 |
| Creative Arts | 3 |
| American History | 6 |
| Government-Political Science | 6 |
| Social and Behavioral Sciences | 3 |
| Component Area Option | 3 |
| Total Credit Hours | 42 |

IDS Degree Requirements

A. IDS core courses

| | | |
|----------|--------------------------------------------|---|
| IDS 2113 | Society and Social Issues | 3 |
| IDS 3003 | STEM in Social Contexts | 3 |
| IDS 3013 | Diversity, Equity, and the Social Sciences | 3 |
| IDS 3123 | Culture, Literature, and Fine Arts | 3 |
| IDS 3713 | Interdisciplinary Inquiry | 3 |

B. IDS support courses

| | | |
|----------|----------------------------------------------|---|
| BBL 3403 | Cultural and Linguistic Equity for Schooling | 3 |
| GES 1013 | Fundamentals of Geography | 3 |

| | | |
|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------|----|
| HIS 1043 | United States History: Pre-Columbus to Civil War Era (3 hours in addition to the History courses used to satisfy the core requirements) | 3 |
| or HIS 1053 | United States History: Civil War Era to Present | |
| or HIS 2053 | Texas History | |
| HIS 3623 | History of the Civil Rights Movement | 3 |
| or HIS 3843 | Migration and History | |
| HIS 3123 | Colonial Texas under Spanish and Mexican Rule to 1836 | 3 |
| or GES 3153 | Geography of Texas | |
| ENG 3303 | Theory and Practice of Composition | 3 |
| Total Credit Hours | | 33 |

Certification Requirements

| | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|----|
| EDP 3303 | Learning and Development in the Middle School Context (Grades 4–8) | 3 |
| EDP 4203 | Assessment and Evaluation | 3 |
| EDU 2103 | Social Foundations for Education in a Diverse U.S. Society | 3 |
| ESL 3073 | Second Language Teaching and Learning for Grades 4-8 | 3 |
| IDS 2013 | Introduction to Learning and Teaching in a Culturally Diverse Society | 3 |
| LTED 3523 | Reading for Teachers-Grades 4–8 | 3 |
| LTED 3633 | Literature and Other Texts Across the Content Areas-Grades 4–8 | 3 |
| LTED 3803 | Writing Development, Processes, and Instruction-Grades 4–8 | 3 |
| SPE 3603 | Introduction to Special Education | 3 |
| The following course requires an advisor code and is restricted to students who have applied for and been accepted into the Teacher Certification Program. | | |
| LTED 3533 | Reading and Writing Across the Disciplines-Grades 4–8 | 3 |
| Total Credit Hours | | 30 |

Professional Education Requirements

The following courses require an advisor code and are restricted to students who have applied for and been accepted into the Teacher Certification Program.

| | | |
|--------------------|-------------------------------------------------------------|----|
| CI 4543 | Approaches to Teaching Social Studies–Grades 4–8 | 3 |
| CI 4553 | Approaches to Service-Learning in Social Studies–Grades 4–8 | 3 |
| CI 4603 | Classroom Management Strategies–Grades 4–8 | 3 |
| CI 4623 | Applied Teaching: Grades 4–8 | 3 |
| CI 4633 | Clinical Teaching: Grades 4-8 | 6 |
| or CI 4626 | Clinical Teaching: Grades 4-8 | |
| Total Credit Hours | | 18 |

B.A. in Interdisciplinary Studies, Grades 4–8 Language Arts/Reading/Social Studies Certification Concentration – Recommended Four-Year Academic Plan

| First Year | | Credit Hours |
|------------------------------------------------------------------------|-----------------------------------------------------------------------|--------------|
| Fall | | |
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| HIS 1043 | United States History: Pre-Columbus to Civil War Era (core and major) | 3 |
| MAT 1023 | College Algebra with Applications (core) | 3 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| Life & Physical Sciences core (BIO 1233 recommended) | | 3 |
| Credit Hours | | 15 |
| Spring | | |
| HIS 1053 | United States History: Civil War Era to Present (core and major) | 3 |
| IDS 2113 | Society and Social Issues (core and major) | 3 |
| IDS 2013 | Introduction to Learning and Teaching in a Culturally Diverse Society | 3 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| Life & Physical Sciences core (BIO 1243 recommended) | | 3 |
| Credit Hours | | 15 |
| Summer | | |
| HIS 2053 | Texas History | 3 |
| Component Area Option core (COM 2113 recommended) | | 3 |
| Credit Hours | | 6 |
| Second Year | | |
| Fall | | |
| EDU 2103 | Social Foundations for Education in a Diverse U.S. Society | 3 |
| HIS 3623 | History of the Civil Rights Movement | 3 |
| or HIS 3843 | Migration and History | |
| IDS 3003 | STEM in Social Contexts | 3 |
| POL 1013 | Introduction to American Politics (core) | 3 |
| Language, Philosophy & Culture core (AAS 2013 or MAS 2013 recommended) | | 3 |
| Credit Hours | | 15 |
| Spring | | |
| ENG 3303 | Theory and Practice of Composition | 3 |
| HIS 3123 | Colonial Texas under Spanish and Mexican Rule to 1836 | 3 |
| or GES 3153 | Geography of Texas | |
| IDS 3013 | Diversity, Equity, and the Social Sciences | 3 |
| POL 1133 | Texas Politics and Society (core) | 3 |
| MAS 2023 | Latino Cultural Expressions (core) | 3 |
| Credit Hours | | 15 |

Third Year

Fall

| | | |
|-----------|------------------------------------------------------------|----|
| ESL 3073 | Second Language Teaching and Learning for Grades 4-8 | 3 |
| GES 1013 | Fundamentals of Geography | 3 |
| IDS 3713 | Interdisciplinary Inquiry | 3 |
| IDS 3123 | Culture, Literature, and Fine Arts | 3 |
| LTED 3803 | Writing Development, Processes, and Instruction-Grades 4–8 | 3 |
| | Credit Hours | 15 |

Spring

| | | |
|-----------|--------------------------------------------------------------------|----|
| BBL 3403 | Cultural and Linguistic Equity for Schooling | 3 |
| EDP 3303 | Learning and Development in the Middle School Context (Grades 4–8) | 3 |
| LTED 3523 | Reading for Teachers-Grades 4–8 | 3 |
| LTED 3633 | Literature and Other Texts Across the Content Areas-Grades 4–8 | 3 |
| SPE 3603 | Introduction to Special Education | 3 |
| | Credit Hours | 15 |

Summer

| | | |
|----------|---------------------------|---|
| EDP 4203 | Assessment and Evaluation | 3 |
| | Credit Hours | 3 |

Fourth Year

Fall

| | | |
|-----------|--------------------------------------------------------------------------|----|
| CI 4543 | Approaches to Teaching Social Studies–Grades 4–8 ¹ | 3 |
| CI 4553 | Approaches to Service-Learning in Social Studies–Grades 4–8 ¹ | 3 |
| CI 4603 | Classroom Management Strategies–Grades 4–8 ¹ | 3 |
| CI 4623 | Applied Teaching: Grades 4–8 ¹ | 3 |
| LTED 3533 | Reading and Writing Across the Disciplines-Grades 4–8 | 3 |
| | Credit Hours | 15 |

Spring

| | | |
|---------|--------------------------------------------|-----|
| CI 4626 | Clinical Teaching: Grades 4-8 ² | 6 |
| | Credit Hours | 6 |
| | Total Credit Hours | 120 |

1

Admission to the Teacher Certification Program is required. Courses must be taken concurrently.

2

A grade of "C" or better is required to be recommended for the Teacher Certification.

Bachelor of Arts Degree in Interdisciplinary Studies (Grades 4–8 Mathematics/Science Certification Concentration)

The minimum number of semester credit hours required for the IDS degree with Grades 4–8 Mathematics/Science certification is 120 hours, at least 39 of which must be at the upper-division level. All candidates seeking this degree must fulfill the Core Curriculum requirements and the degree requirements, which are listed below.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the B.A. degree in Interdisciplinary Studies with teacher certification must fulfill University Core Curriculum requirements. The courses listed below satisfy both degree requirements and Core Curriculum requirements.

MAT 1023 should be used to satisfy the core requirement in Mathematics. BIO 1233 and AST 1013 or AST 1033 should be used to satisfy the core requirement in Life and Natural Sciences. All IDS majors must complete AIS 1203, and either AAS 2013 or MAS 2013 is recommended to satisfy the core requirements in Language, Philosophy and Culture. HIS 2053 is recommended to satisfy a core requirement in American History. IDS 2113 should be used to satisfy the core requirement in Social and Behavioral Sciences. MAS 2023 is recommended to satisfy the core requirement in Creative Arts. COM 2113 is recommended to satisfy the Component Area Option.

Core Curriculum Component Area Requirements (p. 7)

| | |
|-----------------------------------|----|
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |
| Life and Physical Sciences | 6 |
| Language, Philosophy and Culture | 3 |
| Creative Arts | 3 |
| American History | 6 |
| Government-Political Science | 6 |
| Social and Behavioral Sciences | 3 |
| Component Area Option | 3 |
| Total Credit Hours | 42 |

IDS Degree Requirements

A. IDS core courses

| | | |
|----------|--------------------------------------------|---|
| IDS 2113 | Society and Social Issues | 3 |
| IDS 3003 | STEM in Social Contexts | 3 |
| IDS 3013 | Diversity, Equity, and the Social Sciences | 3 |
| IDS 3123 | Culture, Literature, and Fine Arts | 3 |
| IDS 3713 | Interdisciplinary Inquiry | 3 |

B. IDS support courses

| | | |
|-------------|----------------------------------|---|
| AST 1013 | Introduction to Astronomy | 3 |
| or AST 1033 | Exploration of the Solar System | |
| IDS 2403 | Physical Science | 3 |
| IDS 2413 | Earth Systems Science | 3 |
| IDS 3201 | Inquiry in Physical Science | 1 |
| IDS 3211 | Inquiry in Earth Systems Science | 1 |

| | | |
|--------------------|------------------------------------|----|
| MAT 1093 | Precalculus | 3 |
| MAT 2113 | Functions and Modeling | 3 |
| MAT 3103 | Data Analysis and Interpretation | 3 |
| MAT 3123 | Fundamentals of Geometry | 3 |
| PHY 1603 | Algebra-based Physics I | 3 |
| PHY 1611 | Algebra-based Physics I Laboratory | 1 |
| Total Credit Hours | | 42 |

Certification Requirements

| | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|----|
| EDP 3303 | Learning and Development in the Middle School Context (Grades 4–8) | 3 |
| EDP 4203 | Assessment and Evaluation | 3 |
| EDU 2103 | Social Foundations for Education in a Diverse U.S. Society | 3 |
| ESL 3073 | Second Language Teaching and Learning for Grades 4-8 | 3 |
| IDS 2013 | Introduction to Learning and Teaching in a Culturally Diverse Society | 3 |
| SPE 3603 | Introduction to Special Education | 3 |
| LTED 3523 | Reading for Teachers-Grades 4–8 | 3 |
| The following course requires an advisor code and is restricted to students who have applied for and been accepted into the Teacher Certification Program. | | |
| LTED 3533 | Reading and Writing Across the Disciplines-Grades 4–8 | 3 |
| Total Credit Hours | | 24 |

Professional Education Requirements

The following courses require an advisor code and are restricted to students who have applied for and been accepted into the Teacher Certification Program.

| | | |
|--------------------|-----------------------------------------------|----|
| CI 4433 | Approaches to Teaching Science–Grades 4–8 | 3 |
| CI 4443 | Approaches to Teaching Mathematics–Grades 4–8 | 3 |
| CI 4603 | Classroom Management Strategies–Grades 4–8 | 3 |
| CI 4623 | Applied Teaching: Grades 4–8 | 3 |
| CI 4633 | Clinical Teaching: Grades 4-8 | 6 |
| or CI 4626 | Clinical Teaching: Grades 4-8 | |
| Total Credit Hours | | 18 |

B.A. in Interdisciplinary Studies, Grades 4–8 Mathematics/Science Certification Concentration – Recommended Four-Year Academic Plan

First Year

| Fall | | Credit Hours |
|------------------------------------------------------|------------------------------------------|--------------|
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| MAT 1023 | College Algebra with Applications (core) | 3 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| American History core (HIS 1053 recommended) | | 3 |
| Life & Physical Sciences core (BIO 1233 recommended) | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|----------------------------------------------|----------------------------------------------------------------------------------|----|
| AST 1013 or AST 1033 | Introduction to Astronomy (core and major) or Exploration of the Solar System | 3 |
| IDS 2013 | Introduction to Learning and Teaching in a Culturally Diverse Society | 3 |
| MAT 1093 | Precalculus | 3 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| American History core (HIS 2053 recommended) | | 3 |
| Credit Hours | | 15 |

Summer

| | | |
|---------------------------------------------------|-------------------------------------------------------|---|
| IDS 2403 & IDS 3211 | Physical Science and Inquiry in Earth Systems Science | 4 |
| or | | |
| IDS 3224 | Earth Systems Science Investigations | |
| Component Area Option core (COM 2113 recommended) | | 3 |
| Credit Hours | | 7 |

Second Year

Fall

| | | |
|------------------------------------------------------------------------|------------------------------------------------------------|----|
| EDU 2103 | Social Foundations for Education in a Diverse U.S. Society | 3 |
| IDS 2113 | Society and Social Issues (core and major) | 3 |
| MAT 2113 | Functions and Modeling | 3 |
| POL 1013 | Introduction to American Politics (core) | 3 |
| Language, Philosophy & Culture core (AAS 2013 or MAS 2013 recommended) | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|-------------------------------------------|---------------------------------------------------------------------------|----|
| IDS 3013 | Diversity, Equity, and the Social Sciences | 3 |
| MAT 3123 | Fundamentals of Geometry | 3 |
| PHY 1603 | Algebra-based Physics I | 3 |
| PHY 1611 | Algebra-based Physics I Laboratory | 1 |
| POL 1133 or POL 1213 | Texas Politics and Society (core) or Civil Rights in Texas and America | 3 |
| Creative Arts core (MAS 2023 recommended) | | 3 |
| Credit Hours | | 16 |

Summer

| | | |
|------------------------|-------------------------------------------------------|---|
| IDS 2413 & IDS 3201 | Earth Systems Science and Inquiry in Physical Science | 4 |
| IDS 3234 | Investigations in Physical Science | |
| Credit Hours | | 4 |

Third Year

Fall

| | | |
|------------------------------------------------|--------------------------------------------------------------------|---|
| Admission to the Teacher Certification Program | | |
| EDP 3303 | Learning and Development in the Middle School Context (Grades 4–8) | 3 |

| | | |
|--------------------|--------------------------------------------------------------|-----|
| IDS 3003 | STEM in Social Contexts | 3 |
| IDS 3123 | Culture, Literature, and Fine Arts | 3 |
| MAT 3103 | Data Analysis and Interpretation | 3 |
| | Credit Hours | 12 |
| Spring | | |
| EDP 4203 | Assessment and Evaluation ¹ | 3 |
| ESL 3073 | Second Language Teaching and Learning for Grades 4-8 | 3 |
| IDS 3713 | Interdisciplinary Inquiry | 3 |
| LTED 3523 | Reading for Teachers-Grades 4-8 | 3 |
| SPE 3603 | Introduction to Special Education | 3 |
| | Credit Hours | 15 |
| Fourth Year | | |
| Fall | | |
| CI 4433 | Approaches to Teaching Science—Grades 4-8 ^{1,2} | 3 |
| CI 4443 | Approaches to Teaching Mathematics—Grades 4-8 ^{1,2} | 3 |
| CI 4603 | Classroom Management Strategies—Grades 4-8 ^{1,2} | 3 |
| CI 4623 | Applied Teaching: Grades 4-8 ^{1,2} | 3 |
| LTED 3533 | Reading and Writing Across the Disciplines-Grades 4-8 | 3 |
| | Credit Hours | 15 |
| Spring | | |
| CI 4626 | Clinical Teaching: Grades 4-8 ³ | 6 |
| | Credit Hours | 6 |
| | Total Credit Hours | 120 |

1

Admission to the Teacher Certification Program is required.

2

Must be taken concurrently.

3

A grade of "C" or better is required to be recommended for the Teacher Certification.

Bachelor of Arts Degree in Interdisciplinary Studies (EC-12 Special Education Certification Concentration)

The minimum number of semester credit hours required for the IDS degree with EC-12 Special Education certification is 120, at least 39 of which must be at the upper-division level. All candidates seeking this degree must fulfill the Core Curriculum requirements and the degree requirements, which are listed below. The following courses have been approved by the Behavior Analyst Certification Board to align with the Board Certified Assistant Behavior Analyst task list: SPE 3303, SPE 3633, SPE 3673, SPE 4673, and SPE 4683.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the B.A. degree in Interdisciplinary Studies with teacher certification must fulfill University Core Curriculum requirements.

The courses listed below satisfy both degree requirements and Core Curriculum requirements.

MAT 1023 should be used to satisfy the core requirement in Mathematics. BIO 1233 and either AST 1033 or PHY 1013 should be used to satisfy the core requirement in Life and Physical Sciences. AAS 2013 or MAS 2013 is recommended to satisfy the core requirement in Language, Philosophy, and Culture. MAS 2023 should be used to satisfy the core requirement in Creative Arts. HIS 2053 is recommended to satisfy a core requirement in American History. IDS 2113 should be used to satisfy the core requirement in Social and Behavioral Sciences.

Core Curriculum Component Area Requirements (p. 7)

| | |
|-----------------------------------|----|
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |
| Life and Physical Sciences | 6 |
| Language, Philosophy and Culture | 3 |
| Creative Arts | 3 |
| American History | 6 |
| Government-Political Science | 6 |
| Social and Behavioral Sciences | 3 |
| Component Area Option | 3 |
| Total Credit Hours | 42 |

IDS Degree Requirements

A. IDS core courses

| | | |
|----------|--------------------------------------------|---|
| IDS 2113 | Society and Social Issues | 3 |
| IDS 3003 | STEM in Social Contexts | 3 |
| IDS 3013 | Diversity, Equity, and the Social Sciences | 3 |
| IDS 3123 | Culture, Literature, and Fine Arts | 3 |
| IDS 3713 | Interdisciplinary Inquiry | 3 |

B. IDS support courses

| | | |
|--------------------|--------------------------------------|----|
| MAT 1153 | Essential Elements in Mathematics I | 3 |
| MAT 1163 | Essential Elements in Mathematics II | 3 |
| Total Credit Hours | | 21 |

Certification Requirements

| | | |
|-----------|-----------------------------------------------------------------------|---|
| ECE 3603 | Language and Literacy Acquisition | 3 |
| EDU 2103 | Social Foundations for Education in a Diverse U.S. Society | 3 |
| IDS 2013 | Introduction to Learning and Teaching in a Culturally Diverse Society | 3 |
| LTED 3523 | Reading for Teachers-Grades 4-8 | 3 |
| LTED 3803 | Writing Development, Processes, and Instruction-Grades 4-8 | 3 |
| SPE 3603 | Introduction to Special Education | 3 |
| SPE 3693 | Special Education Law | 3 |

The following courses require an advisor code and are restricted to students who have applied for and been accepted into the Teacher Certification Program.

| | | |
|----------|---------------------------------------------------------------------------|---|
| SPE 3623 | Assessment of Students with Mild/Moderate Disabilities | 3 |
| SPE 3633 | Classroom and Behavior Management | 3 |
| SPE 3673 | Behavioral Assessment of Students with Autism and Developmental Disorders | 3 |

| | | |
|--------------------|-------------------------------------------------------------------------------|----|
| SPE 3683 | Special Education Across the Lifespan | 3 |
| SPE 4683 | Ethics and Professionalism in Special Education and Applied Behavior Analysis | 3 |
| SPE 4693 | Assistive Technology | 3 |
| Total Credit Hours | | 39 |

Professional Education Requirements

The following courses require an advisor code and are restricted to students who have applied for and been accepted into the Teacher Certification Program. IDS degree requirements and IDS support courses listed above are prerequisite to enrollment in Professional Special Education courses.

| | | |
|-----------------------|-------------------------------------------------------------------------------|----|
| SPE 3653 | Practicum in Special Education (Mild/Moderate Disabilities) | 3 |
| SPE 4623 | Mathematics Instruction for Students with Disabilities | 3 |
| SPE 4643 | Instruction for Students with Mild/Moderate Disabilities | 3 |
| SPE 4653 | Practicum in Special Education (Moderate/Severe Disabilities) | 3 |
| SPE 4673 | Behavioral Instruction of Students with Autism and Developmental Disabilities | 3 |
| Clinical Teaching: | | |
| CI 4713 or CI 4716 | Clinical Teaching: All Level EC-12 Clinical Teaching: All Level EC-12 | 6 |
| Total Credit Hours | | 21 |

B.A. in Interdisciplinary Studies, EC-12 Special Education Certification Concentration – Recommended Four-Year Academic Plan

First Year

| Fall | | Credit Hours |
|--------------|------------------------------------------|--------------|
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| BIO 1233 | Contemporary Biology I (core) | 3 |
| MAT 1023 | College Algebra with Applications (core) | 3 |
| POL 1013 | Introduction to American Politics (core) | 3 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|-------------------------|-----------------------------------------------------------------------|----|
| AST 1033 or PHY 1013 | Exploration of the Solar System (core) or Universes | 3 |
| HIS 2053 | Texas History (core) | 3 |
| IDS 2013 | Introduction to Learning and Teaching in a Culturally Diverse Society | 3 |
| IDS 2113 | Society and Social Issues (core and major) | 3 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| Credit Hours | | 15 |

Summer

| | | |
|----------------------------|------------------------------------------------------------------------------------------|----|
| AAS 2013 or MAS 2013 | Introduction to African American Studies (core) or Introduction to Chicano(a) Studies | 3 |
| MAS 2023 | Latino Cultural Expressions (core) | 3 |
| POL 1133 or POL 1213 | Texas Politics and Society (core) or Civil Rights in Texas and America | 3 |
| Component Area Option core | | 3 |
| Credit Hours | | 12 |

Second Year

Fall

| | | |
|-----------------------|------------------------------------------------------------|----|
| EDU 2103 | Social Foundations for Education in a Diverse U.S. Society | 3 |
| IDS 3123 | Culture, Literature, and Fine Arts | 3 |
| MAT 1153 | Essential Elements in Mathematics I | 3 |
| LTED 3803 | Writing Development, Processes, and Instruction-Grades 4-8 | 3 |
| American History core | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|--------------|--------------------------------------------|----|
| ECE 3603 | Language and Literacy Acquisition | 3 |
| IDS 3013 | Diversity, Equity, and the Social Sciences | 3 |
| MAT 1163 | Essential Elements in Mathematics II | 3 |
| SPE 3603 | Introduction to Special Education | 3 |
| SPE 3693 | Special Education Law | 3 |
| Credit Hours | | 15 |

Third Year

Fall

| | | |
|------------------------------------------------|--------------------------------------------------------------------------|----|
| Admission to the Teacher Certification Program | | |
| LTED 3523 | Reading for Teachers-Grades 4-8 | 3 |
| SPE 3623 | Assessment of Students with Mild/Moderate Disabilities ¹ | 3 |
| SPE 3653 | Practicum in Special Education (Mild/Moderate Disabilities) ¹ | 3 |
| SPE 4623 | Mathematics Instruction for Students with Disabilities ¹ | 3 |
| SPE 4643 | Instruction for Students with Mild/Moderate Disabilities ¹ | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|----------|----------------------------------------------------------------------------------------|---|
| IDS 3003 | STEM in Social Contexts | 3 |
| SPE 3633 | Classroom and Behavior Management ² | 3 |
| SPE 3673 | Behavioral Assessment of Students with Autism and Developmental Disorders ² | 3 |
| SPE 3683 | Special Education Across the Lifespan ² | 3 |

| | | |
|--------------|--------------------------------------------------------------------------------------------|----|
| SPE 4673 | Behavioral Instruction of Students with Autism and Developmental Disabilities ² | 3 |
| Credit Hours | | 15 |

Fourth Year

Fall

| | | |
|--------------|--------------------------------------------------------------------------------------------|----|
| IDS 3713 | Interdisciplinary Inquiry | 3 |
| SPE 4653 | Practicum in Special Education (Moderate/Severe Disabilities) ³ | 3 |
| SPE 4683 | Ethics and Professionalism in Special Education and Applied Behavior Analysis ³ | 3 |
| SPE 4693 | Assistive Technology ³ | 3 |
| Credit Hours | | 12 |

Spring

| | | |
|--------------------|------------------------------------|-----|
| CI 4716 | Clinical Teaching: All Level EC-12 | 6 |
| Credit Hours | | 6 |
| Total Credit Hours | | 120 |

¹
Must be taken concurrently.

²
Must be taken concurrently.

³
Must be taken concurrently.

Secondary Certification Programs

Students seeking certification to teach at the secondary level (grades 7-12) must obtain a bachelor's degree in the academic area in which they plan to teach. They should consult with their advisor in the department in which their degree is contained. They should also consult with their academic advisor for information regarding secondary certification requirements and admission to the Teacher Certification Program. Requirements for degrees and certification have been carefully coordinated; however, there may be specific degree requirements that are not required in the certification program, and specific certification requirements that may not be required in the degree program. Certification program requirements are approved by the State of Texas.

Core Curriculum Requirements: Students should refer to the appropriate section of this catalog for a listing of Core Curriculum requirements for the degree they are seeking.

The number of semester credit hours required for secondary certification is 33. There are additional requirements for students seeking certification in English Language Arts and Reading (ELAR). Students seeking certification in ELAR should consult their certification advisor for information.

Certification Requirements

(For proper sequencing of these courses, students should consult a certification advisor.)

| | | |
|----------|-------------------------------------------------------------|---|
| BBL 3403 | Cultural and Linguistic Equity for Schooling | 3 |
| EDP 3203 | Learning and Development in the Secondary School Adolescent | 3 |
| EDU 2103 | Social Foundations for Education in a Diverse U.S. Society | 3 |

| | | |
|----------|-----------------------------------------------------------------------|---|
| ESL 3083 | Second Language Teaching and Learning for Grades 7-12 | 3 |
| IDS 2013 | Introduction to Learning and Teaching in a Culturally Diverse Society | 3 |
| SPE 3603 | Introduction to Special Education | 3 |

Professional Education and Reading Coursework

Students must be admitted to the Teacher Certification Program before enrolling in Professional Education and Clinical Teaching coursework.

| | | |
|-----------|-----------------------------------------------------------------|---|
| CI 4203 | Models of Teaching in the Content Areas of the Secondary School | 3 |
| EDP 4203 | Assessment and Evaluation | 3 |
| LTED 3773 | Reading and Writing Across the Disciplines-Grades 7-12 | 3 |

CI 4203, EDP 4203, and LTED 3773 are restricted classes. Advisor authorization for these classes will be issued only if all prerequisites have been completed. CI 4203 is not offered during the Summer semester.

Clinical Teaching Component

| | | |
|--------------------|--------------------------------|----|
| CI 4643 | Clinical Teaching: Grades 7-12 | 6 |
| or CI 4646 | Clinical Teaching: Grades 7-12 | |
| Total Credit Hours | | 33 |

Department of Race, Ethnicity, Gender, and Sexuality Studies

The Department of Race, Ethnicity, Gender, and Sexuality Studies offers a Bachelor of Arts (B.A.) degree in Mexican American Studies, a Bachelor of Arts (B.A.) degree in Women's Studies, as well as minors in African American Studies and Women's Studies. The B.A. in Mexican American Studies prepares students to enter graduate school or pursue a career as an educator, researcher, community leader, or community advocate. The Department also offers courses that may be used to fulfill the Core Curriculum requirements or that may be taken as support courses for programs within the University or as electives.

Department Honors

The Department of Race, Ethnicity, Gender, and Sexuality Studies awards Department Honors to certain outstanding students and provides the opportunity for advanced study under close faculty supervision. Selection for honors designation is based on the student's academic performance and recommendation by the faculty of the student's major discipline.

To be eligible for the program in the Mexican American Studies major, students must have a minimum overall grade point average of 3.0 at UTSA and a minimum grade point average of 3.5 in their major at UTSA. The minimum grade point averages must be maintained for students to receive the approval of the Department Honors Committee and the discipline faculty. Students applying for Department Honors are expected to enroll in the appropriate honors thesis course during their final two semesters. The completed thesis must be approved by the supervising faculty sponsor and another departmental faculty member. Students interested in this program should contact their professors for additional information.

Students whose grade point average in Women's Studies major coursework before the start of their final year at UTSA is 3.25 or above, and whose overall grade point average is 3.00, may earn Honors in Women's Studies. Students must complete 6 semester credit hours of WGSS 4993 Honors Thesis, complete a substantial research paper approved by the Women's Studies Program Scholarship and Honors Committee, and maintain a 3.25 grade point average in the major. The grade point average requirements apply to all transfer work as well as all courses taken at UTSA. Students are advised to consult with the Undergraduate Advisor of Record for the Women's Studies Program regarding requirements and appropriate deadlines.

Criminal History Policy and Acknowledgement

The College of Education and Human Development (COEHD) prepares educators and professionals for fields which require fieldwork, internship, practicum, service-learning and/or clinical teaching. Placements occur in educational, clinical, health care facilities, hospital, and/or medical settings which require a criminal background check. The University of Texas at San Antonio is required to inform students of the requirements set forth by the Texas Occupation Code, Chapter 53, Sections 53.001 through 53.105 (<http://www.texas-statutes.com/occupations-code/chapter-53-consequences-of-criminal-conviction/>).

All COEHD prospective students in a licensure or certification program are required to acknowledge that they have been made aware of these requirements and that they have read the COEHD Criminal

History Policy (http://education.utsa.edu/certification_program/criminal_history_policy/). For more information and for completing the acknowledgement form, please visit the Office of Professional Preparation, Assessment, and Accreditation in the College of Education and Human Development.

- B.A. degree in Mexican American Studies (p. 99)
- B.A. degree in Women's Studies (p. 102)

Bachelor of Arts Degree in Mexican American Studies

The Bachelor of Arts (B.A.) in Mexican American Studies is an interdisciplinary program integrating Mexican American studies with a specific liberal arts discipline. Majors are required to complete 39 semester credit hours from a prescribed program of study that must include 18 semester credit hours from one of nine concentrations: Anthropology; Communities, Families, and Children; History; Interdisciplinary Studies; Literary and Cultural Studies; Nonprofit Management; Political Science; Sociology; or Spanish.

The minimum number of semester credit hours required for this degree, including the Core Curriculum requirements, is 120. Thirty-nine of the 120 hours must be upper-division. A maximum of 66 community college semester credit hours may be applied to this program. All candidates for this degree must fulfill the Core Curriculum requirements and the degree requirements, which are listed below.

Mexican American Studies majors are encouraged to select a double major in the 39-semester-hour content of their concentration (i.e., Anthropology, Bicultural Bilingual Studies, Business Administration, English, History, Interdisciplinary Studies, Political Science, Sociology, Spanish).

Core Curriculum Requirements (42 semester credit hours)

Students seeking the B.A. degree in Mexican American Studies must fulfill University Core Curriculum requirements in the same manner as other students. The courses listed below satisfy both degree requirements and Core Curriculum requirements; however, if these courses are taken to satisfy both requirements, then students may need to take additional courses in order to meet the minimum number of semester credit hours required for this degree.

ANT 2033 is recommended to satisfy a core requirement in Life and Physical Sciences. ENG 2213, ENG 2383, or ENG 2423 is recommended to satisfy a core requirement in Language, Philosophy and Culture. MAS 2023 is recommended to satisfy the core requirement in Creative Arts. BBL 2003, BBL 2243, or SOC 2013 is recommended to satisfy the core requirement in Social and Behavioral Sciences. ANT 2053 or ANT 2063 is recommended to satisfy the core requirement under the Component Area Option.

Core Curriculum Component Area Requirements (p. 7)

| | |
|-----------------------------------|---|
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |
| Life and Physical Sciences | 6 |
| Language, Philosophy and Culture | 3 |
| Creative Arts | 3 |
| American History | 6 |

| | |
|--------------------------------|-----------|
| Government-Political Science | 6 |
| Social and Behavioral Sciences | 3 |
| Component Area Option | 3 |
| Total Credit Hours | 42 |

Degree Requirements

A. Mexican American Studies

1. Required courses:

| | | |
|-------------|-------------------------------------------------------|---|
| BBL 2003 | Language, Culture, and Society | 3 |
| or BBL 3133 | Language Development in Bilinguals | |
| ENG 3513 | Mexican American Literature | 3 |
| or ENG 4613 | Topics in Mexican American Literature | |
| MAS 2013 | Introduction to Chicano(a) Studies | 3 |
| MAS 2023 | Latino Cultural Expressions | 3 |
| MAS 2043 | Selena: A Mexican American Identity and Experience | 3 |
| MAS 3033 | Mexican Americans in the Southwest | 3 |
| MAS 4083 | Research Seminar in Mexican American Studies | 3 |
| REGS 2003 | Teaching to Power: Critical and Liberating Pedagogies | 3 |

2. Select one course from the following:

| | | |
|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| BBL 3123 | Mexican American Culture (required for anthropology concentration) | 3 |
| ENG 3613 | African American Literature (may substitute for MAS 4953 when course not offered) | |
| MAS 3003 | Chicana/o/x Music | |
| MAS 3013 | Chicana/o Queer Communities, Identities and Theories | |
| MAS 3043 | Social Psychological Considerations in Mexican American Communities | |
| MAS 3063 | Historical Legacies: Chicanas/os in Education | |
| MAS 3413 | Mexican American Family | |
| MAS 4013 | Sí se puede! Latino Leadership, Activism and Organizing | |
| MAS 4953 | Special Studies in Mexican American Studies (Anthropology concentration students may substitute this course for BBL 3023 when topic is on Mexican Americans and cultural anthropology.) | |
| POL 2403 | Mexican American Politics (required for political science concentration) | |
| SPN 3463 | Latin American Literature to Modernism (if not taken for the concentration) | |
| SPN 3473 | Latin American Literature since Modernism (if not taken for the concentration) | |
| WGSS 4623 | Feminist Theories | |

B. Areas of concentration

Select one of the following areas of concentration. Students are encouraged to select their area of concentration as early in their program as possible. 18

Concentration in Anthropology

1. Select three of the following:

| | |
|----------|-----------------------------------------|
| ANT 2033 | Introduction to Biological Anthropology |
| ANT 2043 | Introduction to Archaeology |
| ANT 2053 | Introduction to Cultural Anthropology |
| ANT 2063 | Language, Thought, and Culture |

2. Required upper-division courses:

| | |
|----------|-----------------------------|
| AHC 3423 | Arts of Ancient Mesoamerica |
| MAS 3003 | Chicana/o/x Music |

Select one of the following:

| | |
|-----------|---------------------------------------|
| ANT 4123 | Archaeology of the American Southwest |
| WGSS 4623 | Feminist Theories ¹ |

Concentration in Communities, Families, and Children

| | |
|----------|------------------------------------------------------|
| BBL 3053 | Foundations of Bilingual Studies |
| BBL 3143 | Children's Literature for Bilingual Learners |
| ECE 3143 | Child Growth and Development |
| ESL 3023 | Second Language Teaching and Learning in EC-6 |
| MAS 3013 | Chicana/o Queer Communities, Identities and Theories |
| MAS 3413 | Mexican American Family |

Concentration in History

1. Required courses:

| | |
|----------|-------------------------------------|
| MAS 3003 | Chicana/o/x Music |
| HIS 3033 | The Spanish and Mexican Borderlands |
| HIS 3303 | History of Mexico |
| HIS 4973 | Seminar in History |

2. Select two of the following:

| | |
|----------|-------------------------------------|
| HIS 3083 | History of the American West |
| HIS 3333 | Mexican American History since 1900 |
| HIS 3423 | United States-Mexico Border |

Concentration in Interdisciplinary Studies

| | |
|----------|-----------------------------------------------------------------------|
| BBL 3143 | Children's Literature for Bilingual Learners |
| IDS 2013 | Introduction to Learning and Teaching in a Culturally Diverse Society |
| IDS 3013 | Diversity, Equity, and the Social Sciences |
| IDS 3123 | Culture, Literature, and Fine Arts |
| MAS 3063 | Historical Legacies: Chicanas/os in Education |
| MAS 3413 | Mexican American Family |

Concentration in Literary and Cultural Studies

1. Methods. Note: This requirement must be completed before continuing with any other concentration requirements.

| | |
|----------|----------------------------------------------|
| ENG 2213 | Literary Criticism and Analysis ¹ |
|----------|----------------------------------------------|

2. Select one of the following:

| | |
|----------|-----------------------------------------------------------|
| ENG 2383 | Multiethnic Literatures of the United States ¹ |
| ENG 2423 | Literature of Texas and the Southwest ¹ |

3. Select one of the following:

| | |
|-----------|-------------------------------|
| ENG 4393 | Feminist Theory of Literature |
| WGSS 3953 | Special Topics |

4. Select one of the following:

| | |
|----------|--------------------------------------------------------------------------------|
| ENG 3513 | Mexican American Literature (if not taken for the major requirement) |
| ENG 3713 | Topics in Multiethnic Literatures of the United States ¹ |
| ENG 4613 | Topics in Mexican American Literature (if not taken for the major requirement) |

5. Select one of the following:

| | |
|----------|-------------------------------------------------------------------|
| BBL 3123 | Mexican American Culture (if not taken for the major requirement) |
| ENG 3613 | African American Literature |

HUM 3103 American Film ¹

6. Select one of the following:

ENG 4953 Special Studies in English ¹

ENG 4973 Seminar for English Majors ¹

Concentration in Nonprofit Management

1. Required courses:

MAS 4933 Internship in Mexican American Studies

PAD 3003 Fundraising in Nonprofit Agencies

PAD 3033 Introduction to Nonprofit Agencies

PAD 3043 Public and Nonprofit Financial Management

2. Select two courses from the following:

COM 3893 Organizational Communication

PAD 3113 Managing Nonprofit Organizations

PAD 3123 Strategic Planning in the Public and Nonprofit Sectors

PAD 4963 Special Topics in Public Administration

Concentration in Political Science

1. Required courses:

POL 1133 Texas Politics and Society (may be used to fulfill a core requirement in Government-Political Science)

POL 2703 Quantitative Methods in Political Science

POL 2403 Mexican American Politics

2. Select one of the following:

POL 2503 Introduction to Political Theory

POL 2533 Introduction to Political Science

POL 2623 Law and Society

POL 2633 Comparative Politics

3. Three upper-division political science courses selected from three of the categories below:

American Politics

POL 3183 Women in Politics

POL 3203 African American Political Thought

POL 3303 Race and American Politics

POL 3413 Urban Development: Politics Planning, and Power

Comparative or International Politics

Comparative Politics

POL 3393 Latin American Politics

POL 3453 Politics of Mexico

POL 3463 Politics of the Developing World

POL 3553 The Welfare State in Comparative Perspective

International Politics

GLA 3233 Theories of International Justice

POL 3763 Globalization

Political Theory

POL 3153 Political Philosophy: Contemporary

Public Administration or Public Law

Public Administration

POL 3413 Urban Development: Politics Planning, and Power

Public Law

POL 3013 The American Legal Process

POL 3173 Justice and Social Policy

Concentration in Sociology

1. Required courses:

SOC 1013 Introduction to Sociology

SOC 3043 Race and Ethnic Relations

SOC 3353 Sociological Theory

SOC 3373 Qualitative Research Methods
or SOC 3393 Quantitative Research Methods

2. Select two courses from the following:

SOC 3013 Social Stratification

SOC 3093 Religion and Society

SOC 3263 Latinas in U.S. Society

SOC 3283 Poverty

Concentration in Spanish

1. Required courses:

SPN 3013 Spanish Phonetics and Phonology
or SPN 3113 Linguistic Structures of Spanish

SPN 3043 Introduction to Literature

SPN 3063 Grammar and Composition

SPN 3463 Latin American Literature to Modernism
or SPN 3473 Latin American Literature since Modernism

SPN 3623 Latin American Culture and Civilization

2. Select one of the following:

BBL 4003 Spanish for Bilingual Instructional Delivery

ENG 4613 Topics in Mexican American Literature (when content includes Spanish literature and if not taken for the major requirement)

SPN 4123 The Spanish of the United States

C. Electives

Select 39 semester credit hours of electives 39

Total Credit Hours 84

¹

Denotes course substitution accepted when taught by a Mexican American Studies affiliate or focus is on Chicano/Latino content.

B.A. in Mexican American Studies – Recommended Four-Year Academic Plan

First Year

| | | Credit Hours |
|------------------|-------------------------------------------------|--------------|
| Fall | | |
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| ANT 2033 | Introduction to Biological Anthropology (core) | 3 |
| BBL 2003 | Language, Culture, and Society (core and major) | 3 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| Mathematics core | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|-------------------------------|----------------------------------------------|----|
| MAS 2023 | Latino Cultural Expressions (core and major) | 3 |
| POL 1013 | Introduction to American Politics (core) | 3 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| American History core | | 3 |
| Life & Physical Sciences core | | 3 |
| Credit Hours | | 15 |

Second Year

Fall

| | | |
|---------------------------------------|------------------------------------------------------------------------------------------|----|
| ANT 2053 or ANT 2063 | Introduction to Cultural Anthropology (core and major) or Language, Thought, and Culture | 3 |
| ECO 2003 | Economic Principles and Issues (core) | 3 |
| MAS 2013 | Introduction to Chicano(a) Studies (core) | 3 |
| POL 1133 or POL 1213 | Texas Politics and Society (core) or Civil Rights in Texas and America | 3 |
| Concentration courses (see Section B) | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|----|
| MAS 3033 | Mexican Americans in the Southwest | 3 |
| ENG 2213 or ENG 2383 or ENG 2423 | Literary Criticism and Analysis (core) or Multiethnic Literatures of the United States or Literature of Texas and the Southwest | 3 |
| Concentration courses (see Section B) | | 3 |
| Concentration courses (see Section B) | | 3 |
| Elective in MAS (MAS 3043 or MAS 3413) | | 3 |
| Credit Hours | | 15 |

Third Year

Fall

| | | |
|------------------------------------------|-------------------------------------------------------|----|
| REGS 2003 | Teaching to Power: Critical and Liberating Pedagogies | 3 |
| Concentration courses (see Section B) | | 6 |
| Elective in MAS | | 3 |
| Upper-division electives (see Section C) | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|------------------------------------------|--|----|
| Concentration courses (see Section B) | | 6 |
| Upper-division electives (see Section C) | | 9 |
| Credit Hours | | 15 |

Fourth Year

Fall

| | | |
|----------------------------------------------------------------------------|--|----|
| Electives (enough upper-division hours to meet required 39, see Section C) | | 12 |
| Credit Hours | | 12 |

Spring

| | | |
|----------------------------------------------------------------------------|-----------------------------------------------------------|-----|
| MAS 4083 | Research Seminar in Mexican American Studies ¹ | 3 |
| American History core | | 3 |
| Electives (enough upper-division hours to meet required 39; see Section C) | | 12 |
| Credit Hours | | 18 |
| Total Credit Hours | | 120 |

1

It is recommended that MAS and concentration courses be completed before taking MAS 4083, as this is the capstone course for the major.

Bachelor of Arts Degree in Women's Studies

The Bachelor of Arts (B.A.) in Women's Studies provides students with the opportunity to examine the social, historical, political, and cultural experiences of women and men from an interdisciplinary perspective. Emphasis on cross-disciplinary research methods enables students to pursue a theoretically-informed understanding of women and issues of gender and sexuality in diverse U.S. and global cultures and across time.

The minimum number of semester credit hours required for this degree, including the Core Curriculum requirements, is 120. Thirty-nine of the total semester credit hours required for the degree must be at the upper-division level.

All candidates seeking this degree must fulfill the Core Curriculum requirements and the degree requirements, which are listed below.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the B.A. degree in Women's Studies must fulfill University Core Curriculum requirements in the same manner as other students. If courses are taken to satisfy both degree and Core Curriculum requirements, then students may need to take additional courses in order to meet the minimum number of semester credit hours required for this degree.

Core Curriculum Component Area Requirements (p. 7)

| | |
|-----------------------------------|-----------|
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |
| Life and Physical Sciences | 6 |
| Language, Philosophy and Culture | 3 |
| Creative Arts | 3 |
| American History | 6 |
| Government-Political Science | 6 |
| Social and Behavioral Sciences | 3 |
| Component Area Option | 3 |
| Total Credit Hours | 42 |

Degree Requirements

A. Major courses

| | | |
|-----------------------------------------------------------------------|---------------------------------|---|
| 1. Required courses | | |
| WGSS 2013 | Introduction to Women's Studies | 3 |
| WGSS 3613 | Feminist Research Methodologies | 3 |
| WGSS 4623 | Feminist Theories | 3 |
| WGSS 4933 | Internship in Women's Studies | 3 |
| WGSS 4973 | Seminar in Women's Studies | 3 |
| 2. Select 1 course from the Globalization and Borderlands group below | | |
| | | 3 |
| 3. Select 1 course from the Culture and Society group below | | |
| | | 3 |

B. Groups

Select eight courses from at least two of the following groups: 24

Theory and Methods

| | |
|-----------|-------------------------------------------------------|
| ENG 4393 | Feminist Theory of Literature |
| REGS 2003 | Teaching to Power: Critical and Liberating Pedagogies |
| WGSS 3953 | Special Topics |
| WGSS 4953 | Special Topics in Women's Studies |

Globalization and Borderlands

| | |
|-----------|----------------------------------------------------------|
| BBL 2023 | Latino Cultural Expressions |
| GES 3653 | Gender and Cities: An Introduction to Feminist Geography |
| WGSS 4863 | Feminism and Globalization |

Culture and Society

| | |
|-----------|---------------------------------------------------------------------|
| AMS 3443 | Studies in Gender and Sexuality |
| ANT 3603 | Sex, Gender, and Culture |
| BBL 3043 | Social Psychological Considerations in Mexican American Communities |
| BBL 3123 | Mexican American Culture |
| BIO 2003 | Biology of Human Reproduction |
| CRJ 4463 | Gender and Crime |
| ENG 3133 | Women and Literature |
| HIS 3043 | History of Women in the United States: Pre-Columbus to 1890 |
| HIS 3053 | History of Women in the United States: Since 1890 |
| HIS 3963 | Women and Gender in India |
| HTH 3023 | Survey of Human Sexuality |
| IDS 2113 | Society and Social Issues |
| MAS 2013 | Introduction to Chicano(a) Studies |
| POL 3183 | Women in Politics |
| PSY 3303 | Psychological Perspectives on Gender |
| PSY 4193 | Relationships |
| SOC 3163 | Families in Society |
| SOC 3263 | Latinas in U.S. Society |
| SOC 3283 | Poverty |
| SOC 3293 | Sociology of Gender |
| SOC 3413 | Sociology of the Mexican American Community |
| WGSS 2023 | Introduction to LGBTQ Studies |
| WGSS 4913 | Independent Study |
| WGSS 4993 | Honors Thesis |

C. Electives

Select 33 semester credit hours of free electives, some of which may need be upper-division, depending on the student's course selections in Section B. Students are advised to consult with their Major Advisor to verify that they will meet the 39 upper-division hours required for the B.A. degree in Women's Studies.

Total Credit Hours 78

B.A. in Women's Studies – Recommended Four-Year Academic Plan**First Year**

| Fall | Credit Hours |
|----------|-------------------------------------------|
| AIS 1203 | Academic Inquiry and Scholarship (core) 3 |

| | | |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|----|
| HIS 1043 or HIS 1053 or HIS 2053 | United States History: Pre-Columbus to Civil War Era (core) or United States History: Civil War Era to Present or Texas History | 3 |
| POL 1013 | Introduction to American Politics (core) | 3 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| Mathematics core | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|----|
| HIS 1043 or HIS 1053 or HIS 2053 | United States History: Pre-Columbus to Civil War Era (core) or United States History: Civil War Era to Present or Texas History | 3 |
| POL 1133 or POL 1213 | Texas Politics and Society (core) or Civil Rights in Texas and America | 3 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| Free elective | | 3 |
| Life & Physical Sciences core | | 3 |
| Credit Hours | | 15 |

Second Year**Fall**

| | | |
|-------------------------------------|---------------------------------|----|
| WGSS 2013 | Introduction to Women's Studies | 3 |
| Free elective | | 3 |
| Free elective | | 3 |
| Language, Philosophy & Culture core | | 3 |
| Life & Physical Sciences core | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|-------------------------------------|--|----|
| Culture and Society group | | 3 |
| Free elective | | 3 |
| Globalization and Borderlands group | | 3 |
| Social & Behavioral Sciences core | | 3 |
| Component Area Option core | | 3 |
| Credit Hours | | 15 |

Third Year**Fall**

| | | |
|------------------------|---------------------------------|----|
| WGSS 3613 | Feminist Research Methodologies | 3 |
| Free elective | | 3 |
| Subject Group elective | | 3 |
| Subject Group elective | | 3 |
| Creative Arts core | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|------------------------------|-------------------|----|
| WGSS 4623 | Feminist Theories | 3 |
| Free elective | | 3 |
| Subject Group elective | | 3 |
| Subject Group elective | | 3 |
| Upper-division free elective | | 3 |
| Credit Hours | | 15 |

Fourth Year

Fall

| | | |
|------------------------|----------------------------|----|
| WGSS 4973 | Seminar in Women's Studies | 3 |
| Free elective | | 3 |
| Free elective | | 3 |
| Subject Group elective | | 3 |
| Subject Group elective | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|------------------------------|-------------------------------|----|
| WGSS 4933 | Internship in Women's Studies | 3 |
| Free elective | | 3 |
| Subject Group elective | | 3 |
| Subject Group elective | | 3 |
| Upper-division free elective | | 3 |
| Credit Hours | | 15 |

Total Credit Hours 120

- Minor in African American Studies (p. 104)
- Minor in Women's Studies (p. 104)

Minor in African American Studies

The Minor in African American Studies provides an interdisciplinary approach to the political, cultural, historical, and social experiences of African Americans in the United States, and people of African descent globally. Literature and research methods drawn from several disciplines enable students to enhance their understanding of African Americans' unique social circumstances, contributions, and heritage. The mission of the African American Studies program at UTSA is to promote academic and professional excellence. We achieve this goal by enhancing cultural competency skills, enriching the theoretical knowledge base and practical skills set of students related to working with diverse populations, and advancing critical thinking skills related to multiple facets of the African American experience and the African Diaspora.

All students pursuing a Minor in African American Studies must complete 18 semester credit hours, at least 12 hours of which must be at the upper-division level.

A. Required courses:

| | | |
|-----------|--------------------------------------------------------|---|
| AAS 2013 | Introduction to African American Studies | 3 |
| AAS 2113 | African American Culture, Leadership and Social Issues | 3 |
| REGS 2003 | Teaching to Power: Critical and Liberating Pedagogies | 3 |

B. Two African American Studies courses selected from the following: 6

| | | |
|----------|------------------------------------------------------|--|
| AAS 3013 | African American Cultural Experiences | |
| AAS 3113 | African American Studies Research Seminar | |
| AAS 3123 | Civil Rights Movement and African American Education | |
| AAS 3133 | African Americans in Higher Education | |
| AAS 4013 | Topics in African American Studies | |

C. One course selected from the following: 3

| | | |
|----------|----------------------------------------------|--|
| AMS 3343 | Studies in Race and Ethnicity | |
| BBL 2033 | Multiculturalism in the Southwest | |
| BBL 3403 | Cultural and Linguistic Equity for Schooling | |

| | | |
|--------------------------------------------------------------------------------------------|--------------------------------------------------------------------|----|
| EDU 2103 | Social Foundations for Education in a Diverse U.S. Society | |
| ENG 2383 | Multiethnic Literatures of the United States | |
| ENG 3613 | African American Literature | |
| HIS 3113 | North American Indian Histories | |
| HIS 3563 | African American History to the Civil War | |
| HIS 3573 | African American History since the Civil War | |
| HIS 3623 | History of the Civil Rights Movement | |
| MUS 2663 | History and Styles of Jazz | |
| PAL 3113 | Minorities and the Law | |
| POL 1213 | Civil Rights in Texas and America (when the topic is Civil Rights) | |
| POL 3203 | African American Political Thought | |
| POL 3303 | Race and American Politics | |
| Other course substitutions require pre-approval of the advisor and program director. | | |
| Students may take the following courses under section C with approval of program director: | | |
| AAS 4913 | Independent Study | |
| AAS 4933 | Internship in African American Studies | |
| Total Credit Hours | | 18 |

To declare a Minor in African American Studies, obtain advice, or seek approval of substitutions for course requirements, students should consult their academic advisor.

Minor in Women's Studies

All students pursuing a Minor in Women's Studies (WS) are required to complete 18 semester credit hours (6 of which must be upper division, 3000-4000 level).

A. Required Courses

| | | |
|-----------|---------------------------------|---|
| WGSS 2013 | Introduction to Women's Studies | 3 |
| WGSS 4623 | Feminist Theories | 3 |

B. Additional coursework

Select four of the following, in at least two disciplines other than the student's major. 12

| | | |
|----------|---------------------------------------------------------------------|--|
| AMS 3443 | Studies in Gender and Sexuality | |
| ANT 3603 | Sex, Gender, and Culture | |
| BBL 2023 | Latino Cultural Expressions | |
| BBL 3043 | Social Psychological Considerations in Mexican American Communities | |
| BBL 3123 | Mexican American Culture | |
| BIO 2003 | Biology of Human Reproduction | |
| CLA 3123 | Cultural Issues in Mediterranean Antiquity | |
| CRJ 4403 | Race, Ethnicity, and Criminal Justice | |
| CRJ 4463 | Gender and Crime | |
| ENG 3133 | Women and Literature | |
| ENG 4393 | Feminist Theory of Literature | |
| HIS 3043 | History of Women in the United States: Pre-Columbus to 1890 | |
| HIS 3053 | History of Women in the United States: Since 1890 | |
| HIS 3963 | Women and Gender in India | |
| HTH 4523 | Understanding Human Sexuality | |
| IDS 2113 | Society and Social Issues | |

| | |
|--------------------|---------------------------------------------|
| MAS 2013 | Introduction to Chicano(a) Studies |
| POL 3183 | Women in Politics |
| PSY 3303 | Psychological Perspectives on Gender |
| PSY 4193 | Relationships |
| SOC 3163 | Families in Society |
| SOC 3283 | Poverty |
| SOC 3293 | Sociology of Gender |
| SOC 3413 | Sociology of the Mexican American Community |
| WGSS 2023 | Introduction to LGBTQ Studies |
| WGSS 3613 | Feminist Research Methodologies |
| WGSS 3953 | Special Topics |
| WGSS 4863 | Feminism and Globalization |
| WGSS 4913 | Independent Study |
| WGSS 4933 | Internship in Women's Studies |
| WGSS 4953 | Special Topics in Women's Studies |
| Total Credit Hours | 18 |

Note: Please consult the Department of Race, Ethnicity, Gender, and Sexuality Studies for a complete list of courses that fulfill the Women's Studies minor.

To declare a Minor in Women's Studies, obtain advice, obtain lists of relevant courses, or seek approval of substitutions for course requirements, students should consult their academic advisor.

Teacher Certification Programs

Teacher Certification Programs for Undergraduate Students

The following describes undergraduate programs for students who are pursuing a bachelor's degree concurrently with teacher certification:

- Undergraduate students interested in teaching **pre-kindergarten through sixth grades** will declare a major in Interdisciplinary Studies (IDS) with teacher certification in EC–6 Core Subjects. These students should refer to the section of this catalog for the Bachelor of Arts in Interdisciplinary Studies (Early Childhood–Grade 6 Core Subjects concentration). Degree and certification advising for this program is conducted by Interdisciplinary Education Advising and Certification Center advisors.
- Undergraduate students interested in teaching in **fourth through eighth grades** will declare a major in Interdisciplinary Studies (IDS) with teacher certification in Language Arts/Reading/Social Studies or Mathematics/Science. These students should refer to the section of this catalog for the Bachelor of Arts in Interdisciplinary Studies (grades 4–8 concentrations). Degree and certification advising for this program is conducted by Interdisciplinary Education Advising and Certification Center advisors.
- Undergraduate students interested in teaching **bilingual pre-kindergarten through sixth grades** will declare a major in Interdisciplinary Studies (IDS) with teacher certification in EC–6 Bilingual Core Subjects. These students should refer to the section of this catalog for the Bachelor of Arts in Interdisciplinary Studies (Early Childhood–Grade 6 Bilingual Core Subjects concentration). Degree and certification advising for this program is conducted by Interdisciplinary Education Advising and Certification Center advisors.
- Undergraduate students interested in teaching **bilingual fourth through eighth grades** will declare a major in Interdisciplinary Studies (IDS) with teacher certification in Bilingual 4–8 Core Subjects. These students should refer to the section of this catalog for the Bachelor of Arts in Interdisciplinary Studies (Grades 4–8 Bilingual Core Subjects concentration). Degree and certification advising for this program is conducted by Interdisciplinary Education Advising and Certification Center advisors.
- Undergraduate students interested in teaching **English as a Second Language in pre-kindergarten through sixth grades** will declare a major in Interdisciplinary Studies (IDS) with teacher certification in English as a Second Language Core Subjects EC–6. These students should refer to the section of this catalog for the Bachelor of Arts in Interdisciplinary Studies (Early Childhood–Grade 6 ESL Core Subjects concentration). Degree and certification advising for this program is conducted by Interdisciplinary Education Advising and Certification Center advisors.
- Undergraduate students interested in teaching **English as a Second Language in fourth through eighth grades** will declare a major in Interdisciplinary Studies (IDS) with teacher certification in English as a Second Language Core Subjects 4–8. These students should refer to the section of this catalog for the Bachelor of Arts in Interdisciplinary Studies (Grades 4–8 ESL concentration). Degree and certification advising for this program is conducted by Interdisciplinary Education Advising and Certification Center advisors.
- Undergraduate students interested in teaching **Special Education** will declare a major in Interdisciplinary Studies (IDS) with certification in

EC–12 Special Education. These students should refer to the section of this catalog for the Bachelor of Arts in Interdisciplinary Studies (EC–12 Special Education concentration). Degree and certification advising for this program is conducted by Interdisciplinary Education Advising and Certification Center advisors.

- Undergraduate students interested in teaching **seventh through twelfth grades** will declare a major in the academic area in which they plan to teach. These students will refer to the “Secondary Certification Programs” section of this catalog for information about specialized core curriculum and professional education coursework for which they will enroll concurrently with degree requirements. Students seeking secondary certification are advised to stay in close contact with Interdisciplinary Education Advising and Certification Center advisors.
- Students interested in teaching **physical education in pre-kindergarten through twelfth grades** will declare a major in Kinesiology with a concentration in Physical Education. These students should refer to the “Bachelor of Science Degree in Kinesiology” section of this catalog for degree and certification requirements. Degree and certification advising for this program is conducted by Interdisciplinary Education Advising and Certification Center advisors.
- Students interested in **teaching music in pre-kindergarten through twelfth grades** will declare a major in Music with a concentration in Music Studies and will choose either the Instrumental or Choral Music tracks. These students will refer to the “Bachelor of Music with a Music Studies Concentration” section in this catalog for information about degree and certification requirements. Degree advising for this program is conducted by faculty and academic advisors in the Department of Music, while certification advising is conducted by Interdisciplinary Education Advising and Certification Center advisors.
- Students interested in teaching **art in pre-kindergarten through twelfth grades** will declare a major in Art. These students will refer to the “Bachelor of Arts Degree in Art” section of this catalog for information about degree and certification requirements. Degree advising for this program is conducted by faculty and academic advisors in the Department of Art and Art History, while certification advising is conducted by Interdisciplinary Education Advising and Certification Center advisors.

Standards

Certificate programs have been designed to meet the standards for teacher certification set by the State Board for Educator Certification (SBEC). UTSA is approved to recommend individuals for these certificates if the individual has met all of the COEHD Fitness to Teach Policy standards, and has successfully completed all academic requirements for the certificate sought.

The State of Texas utilizes the “approved program” concept in its system of teacher certification. The State:

- establishes the regulations and standards by which teachers are certified (the requirements are independent of college or university degree requirements);
- approves colleges and universities to recommend students for teacher certificates in areas where programs have been found to be in conformity with State standards and are on file with the State; and
- issues the teacher certificate directly to the student, upon recommendation by an approved college or university.

Applying to the Teacher Certification Program

Students who are pursuing an undergraduate degree together with certification and who meet the requirements for admission to the Teacher Certification Program can apply online for admission to the Teacher Certification Program. Requirements and application materials are located on the COEHD website (<http://education.utsa.edu/>). Students must be accepted into the Teacher Certification Program in order to register for courses restricted to teacher certification students.

Applying for the Teacher Certificate

Upon successful completion of the bachelor's degree, the certification program, required examinations, and student teaching (or an approved substitution for student teaching), students must apply for their certificate online at the SBEC website (<http://www.tea.state.tx.us>).

Additional eligibility requirements for recommendation for the teacher certificate include a 2.75 cumulative grade point average on a 4.00 scale, good standing status at UTSA (not on academic probation), and the recommendation of the College of Education and Human Development (COEHD).

Upon completion of processing by the Interdisciplinary Education Advising and Certification Center and by SBEC, the teacher certificate will be sent directly to the student.

Student Fitness to Teach Policy

The College of Education and Human Development has a responsibility to the educational community to ensure that individuals whom UTSA recommends to the State of Texas for teaching certification are fit to join the teaching profession. All teacher candidates in the UTSA Teacher Certification Program (TCP) are expected to demonstrate that they are prepared to teach children and youth. This preparation results from the combination of successful completion of University coursework and the demonstration of important human characteristics and dispositions that all teachers should possess. Consult the COEHD website (<http://education.utsa.edu/>) for a copy of the Fitness to Teach Policy. UTSA and the COEHD reserve the right to recommend or not recommend teacher candidates for certification. If, for whatever reason, it is determined that a student does not qualify to be recommended for a teaching certificate, the student may graduate with an IDS only degree upon completion of their degree only requirements.

Criminal Record Check

A criminal background check is a requirement for admission to the Teacher Certification Program. In addition, during each semester in which field-based courses are taken, students will be required to submit to a Criminal Record Check. For further information about criminal record check procedures, consult the COEHD Web page. Criminal record checks are conducted by the individual school districts when field work in schools is a course requirement.

Criminal History Policy and Acknowledgement

The College of Education and Human Development (COEHD) prepares educators and professionals for fields which require fieldwork, internship, practicum, service-learning and/or clinical teaching. Placements occur in educational, clinical, health care facilities, hospital, and/or medical settings which require a criminal background check. The University of Texas at San Antonio is required to inform students of the requirements set forth by the Texas Occupation Code, Chapter 53, Sections 53.001 through 53.105 (<http://www.texas-statutes.com/occupations-code/chapter-53-consequences-of-criminal-conviction/>).

All COEHD prospective students in a licensure or certification program are required to acknowledge that they have been made aware of these requirements and that they have read the COEHD Criminal History Policy (http://education.utsa.edu/certification_program/criminal_history_policy/). For more information and for completing the acknowledgement form, please visit the Office of Professional Preparation, Assessment, and Accreditation in the College of Education and Human Development.

Teaching Certificates for Persons with Criminal Background

In accordance with state law, the State Board for Educator Certification (SBEC) may suspend or revoke a teacher certificate or refuse to issue a teacher certificate for a person who has been convicted of a felony or misdemeanor for a crime that is directly related to the duties and responsibilities of the teaching profession (Texas Occupation Code, Section 53.021).

Certification in States Other than Texas

Once certified in Texas, teachers who move out of state may consult the NASDTEC Interstate Contract website at www.nasdtc.net (<http://www.nasdtc.net/>) to determine if Texas has reciprocity with the state of relocation. If the state in question requires an out-of-state document to be completed, it should be forwarded to the UTSA Certification Officer in the Interdisciplinary Education Advising and Certification Center.

Students moving out of state before having completed all requirements for teacher certification in Texas will be required to complete a state-approved teacher preparation program once relocated.

Policies

Course Substitutions

UTSA certification programs have been carefully designed to meet State Board for Educator Certification (SBEC) standards and to prepare UTSA students to pass the Texas Examinations of Educator Standards (TEXES). It is, therefore, in the student's best interest to follow the approved certification program. **Course substitutions in the teacher education program are granted only in extenuating circumstances and only if appropriate substitutions are available. All requests for substitutions must be filed in writing with the Interdisciplinary Education Advising and Certification Center before the individual registers for the course.** Requested course submissions must match the required course in content, level, and grade requirements. Course substitution approvals rest within each department. Department decisions are final.

Restricted Education Courses

Restricted Education courses have strict prerequisites as specified by COEHD faculty. In order to register for a restricted course, a student must apply for advisor authorization. The Interdisciplinary Education Advising and Certification Center accepts applications for advisor authorization from approximately three weeks before registration begins until the registration process is complete. Restricted Professional Development courses are subject to change depending on state-mandated requirements. Students should consult an academic advisor about restricted courses in their program.

Waivers

Individuals who wish to request a waiver of course requirements should first contact the Interdisciplinary Education Advising and Certification Center to determine if the requirement is a UTSA or a State Board for Educator Certification requirement. Individuals who wish to request a waiver of a UTSA requirement must file a written request with the

Interdisciplinary Education Advising and Certification Center. Waivers cannot be granted for the requirements mandated by the State Board for Educator Certification.

Requirements for Admission to the Teacher Certification Program

Consult *UTSA Student Policies* and the COEHD website (<http://education.utsa.edu/>) for additional admission requirements to the UTSA Teacher Certification Program.

Clinical Teaching (formerly Student Teaching)

The Clinical Teaching experience is an extremely important component of the certification program. The primary purpose of clinical teaching is to apply what has been learned in university courses to the professional setting (i.e., an actual classroom). It is expected that the clinical teaching component of the certification program will be completed through UTSA.

Admission to Clinical Teaching

Admission to the professional semester of clinical teaching must be requested by formal application during the semester before the student plans to clinical teach. A meeting will be held early in the semester to disseminate application information. The deadline for the application for students who plan to do clinical teaching in the Fall Semester is February 15. For students planning to do clinical teaching in the Spring Semester, the deadline for the application is October 1. Acceptance into the clinical teaching program is contingent upon completion of the following requirements:

1. Admission to the UTSA Teacher Certification Program; consult the current *UTSA Student Policies* for admission requirements.
2. A 2.75 cumulative grade point average on all college work attempted.
3. Completion of the Professional Education coursework (please refer to course descriptions for specific grade requirements for your program's student clinical course).
4. Students seeking supplementary certification in English as a Second Language should consult an advisor regarding additional course requirements.
5. Presentation of a negative tuberculosis report, as specified by the school district, from a licensed physician, valid at the time of registration for clinical teaching.
6. Approval of the Director of Clinical Teaching.
7. Students seeking admission to Clinical Teaching must have completed one attempt on the Content TExES exam for their certification area.

NOTE: The Professional Semester is a full-time commitment. The clinical teaching semester is 15 weeks with time divided between school campuses and UTSA. A clinical teacher must follow the same schedule as his or her cooperating teacher in the public schools for a full semester of consecutive, full-day, full-time clinical teaching; therefore, it is not possible to register for other courses that meet in the daytime hours. Since performance in the clinical teaching semester is a key factor used by school districts in evaluating an applicant's potential as a teacher, it is recommended that the individual not attempt to work during the clinical teaching semester. There is no special provision for financial support of clinical teachers.

Texas Examinations of Educator Standards (TExES)

The Texas Examinations of Educator Standards are state-mandated examinations whose purpose is to ensure that educators possess the necessary content and professional knowledge to teach in Texas public

schools. Individuals seeking certification in the State of Texas must pass the required tests before they can be recommended for a teacher certificate and/or endorsement. Teacher certification candidates may only take the same state exam for a total of five times. The five attempts include the first attempt to pass the exam and four retakes. All attempts to pass the exam taken before September 1, 2015, will count as one attempt regardless of how many times the exam was taken prior to this date.

TExES tests are criterion-referenced. This means that they are designed to measure an individual's knowledge in relation to an established standard of competence rather than in relation to the performance of other individuals.

Further information on required TExES tests can be obtained in the Interdisciplinary Education Advising and Certification Center, the Office of the TExES Coordinator, or from the UTSA COEHD website (<http://education.utsa.edu/>).

7. COLLEGE OF ENGINEERING

The College of Engineering offers six Bachelor of Science (B.S.) degree programs in: Biomedical Engineering (BME); Chemical Engineering (CME), Civil Engineering (CE); Computer Engineering (CPE); Electrical Engineering (EE); and Mechanical Engineering (ME). The College of Engineering programs in Biomedical Engineering, Civil Engineering, Computer Engineering, Electrical Engineering, and Mechanical Engineering are accredited by the Engineering Accreditation Commission of ABET (<http://www.abet.org>). Chemical Engineering is a newly established program and will seek accreditation following graduation of their first class per ABET policy.

The College has excellent laboratory facilities where students receive hands-on instruction by faculty. Computer-aided design (CAD) facilities, including state-of-the-art workstations, are routinely used in all programs. Some classes are taught by adjunct faculty from local industries, giving students the opportunity to interact with engineering professionals engaged in relevant engineering practice.

Admission to the College of Engineering Direct Admission Criteria

Applicants entering UTSA as Freshmen or Freshmen Transfers (fewer than 12 transferable semester credit hours) will be directly admitted to the College of Engineering if they:

- meet all UTSA undergraduate admission requirements,
- qualify for enrollment in MAT 1214 Calculus I, or a higher level mathematics course, and
- are ranked in the top 10 percent of their high school class (no minimum SAT or ACT scores required), *or*
- are ranked below the top 10 percent of their high school class and have a minimum 1200 SAT* or 25 ACT score.

Applicants with SAT scores below 1200 or ACT scores below 25 may undergo admission by committee review.

Transfer requirements for direct admission to the College of Engineering for students who have earned 12 or more transferable semester credit hours:

- meet all UTSA undergraduate transfer admission requirements, and
- have completed MAT 1214 Calculus I and WRC 1013 Freshman Composition I, or the equivalents, with grades of "C-" or better, and
- meet grade point average requirements:
 1. applicants with a transfer grade point average of 3.00 or higher may be granted direct admission to the College, or
 2. applicants with a transfer grade point average below 3.00 may be granted admission to the College by committee review.

Applicants who do not meet College of Engineering admission requirements will be admitted to the Engineering, Math, and Sciences Studies in the University College. Students have three semesters to complete Calculus I with a grade of "C-" or better and meet the COE Transfer Requirements.

"C-" Grade Rule

A grade of "C-" or better in any science, engineering, or mathematics course required for an engineering degree or any other course that is

a prerequisite to a required Biomedical Engineering (BME), Chemical Engineering (CME), Civil Engineering (CE), Computer Engineering (CPE), Electrical Engineering (EE), Mechanical Engineering (ME), or Engineering (EGR) course indicates satisfactory preparation for further engineering education. Any course assigned a grade below a "C-" must be repeated before enrolling in any course for which it is a prerequisite. This requirement is subject to both the Gateway Course and Three-Attempt Limit rules.

Gateway Courses

Students pursuing a degree in the College of Engineering must successfully complete Gateway Courses with a grade of "C-" or better in no more than two attempts. If the student does not successfully complete a Gateway Course in two attempts, then the student is required to change their major.

For the purpose of this policy, dropping a course with a grade of "W" or taking an equivalent course at another institution of higher education counts as an attempt at taking the course.

Three-Attempt Limit for the College of Engineering

Students pursuing a degree in the College of Engineering must successfully complete all science, engineering, and math courses for their program with a grade of "C-" or better in no more than three attempts. A student unable to achieve the "C-" Grade Rule within three enrollments (attempts) shall be required to change their major.

For the purpose of this policy, dropping a course with a grade of "W" or taking an equivalent course at another institution of higher education counts as an attempt at taking the course.

Engineering Honors

The College of Engineering (COE) Honors distinction provides the opportunity for experiential and advanced study under close faculty supervision to those admitted into the Engineering Honors Program (EHP). Selection for the honors designation is based on the student's academic performance and recommendation by a faculty member in the student's major discipline.

Program Admission

To be eligible for the program, students must have a minimum UTSA grade point average of 3.25 and a minimum grade point average of 3.25 in their major at UTSA. These minimum averages must be maintained by the student to receive approval of the College Honors Committee. Admission to the Engineering Honors Program is competitive.

Engineering Honors Program Admission Criteria for Freshman

Applicants entering UTSA from high school may be directly admitted to the Engineering Honors Program if they meet the following requirements:

- meet all UTSA and COE admission requirements,
- rank in the top 25 percent of their high school class, and
- earn an SAT score of 1280 or higher or an ACT composite score of 27 or higher.

Engineering Honors Program Admission Criteria for Transfer and Current UTSA Engineering Students

Transfer applicants and applicants who are current UTSA engineering students may be admitted to the Engineering Honors Program if they meet the following requirements:

- have completed 12 UTSA semester credit hours,
- have a cumulative UTSA GPA of 3.0, and
- have documented involvement in extracurricular activities and student societies.

Students who are admitted to the Honors College Program have direct admission to the Engineering Honors Program but must complete the Engineering Honors Program acknowledgement form in order to participate in the program. The application forms and deadlines will be available on the College of Engineering website.

Program Requirements

The Engineering Honors Program requires its member to meet academic and experiential learning requirements in order to graduate with the Engineering Honors designation. Students must meet a minimum of 15 hours through any combination of:

- Any Engineering Practice in Community Service (EPICS) courses
- Honors designated engineering courses which will be listed on the engineering website and typically offered once per semester

and must complete:

- EGR 4993 Honors Research for 3 semester credit hours in their last year of study which may be repeated once for credit and may be approved as a technical elective with department agreement.

Cooperative Education in Engineering Program

The Cooperative Education in Engineering Program formally integrates University studies with institutionally supervised work experiences at cooperating organizations. Students participating in this program alternate periods of study at the University with periods of employment in industry. This combination of experiences enhances the student's knowledge, personal development, and preparation for a professional career. Participants register at the University each semester. During the work periods, students register for the 3-semester-credit-hour EGR 3303 Engineering Co-op course. At the end of each work period, students submit reports covering the period. These reports are the basis of the student's grades in the course. The cooperative education work periods also provide students with a source of income to help pay for their college expenses.

To qualify for the Cooperative Education in Engineering Program, a student must have declared a major in the College of Engineering and have a minimum cumulative grade point average of 2.50 and a minimum grade point average of 2.50 in their College of Engineering courses. Students are advised that many co-op employers require cumulative grade point averages higher than 2.50, and some require a minimum cumulative grade point average of 3.0. Transfer students may participate in the program after completing at least one semester at UTSA.

For more information and to apply to the Cooperative Education in Engineering Program, students should contact their Undergraduate Advisor of Record (UGAR).

Degree Requirements Common to All Engineering Programs

During their first semester, students should specify their interest in a specific engineering program by selecting biomedical, chemical, civil, computer, electrical, or mechanical engineering as a major. Undecided engineering students should select a major closest to their area of interest (refer to the following program descriptions). Students may obtain additional information about each program from their academic advisor or a faculty advisor in the appropriate department.

Students must satisfy the University's Core Curriculum and ABET accreditation requirements. Recommended degree plans and current ABET requirements may be obtained from the College of Engineering. All students admitted to the College of Engineering must complete at least 42 semester credit hours from their required major courses at UTSA before graduation.

Course requirements common to all engineering degree programs follow.

I. Core Curriculum requirements

Students seeking the Bachelor of Science degree in any engineering field must fulfill University Core Curriculum requirements in the same manner as other students at UTSA.

MAT 1214 Calculus I, PHY 1943 Physics for Scientists and Engineers I, and PHY 1963 Physics for Scientists and Engineers II (also listed under section II, General Engineering requirements) may be used to satisfy the Core Curriculum requirements for Mathematics and Life and Physical Sciences.

II. General Engineering requirements

All degree-seeking candidates in engineering must complete the following:

| | | |
|-------------------------|------------------------------------------------------------------------------------------------------|----|
| CHE 1103 | General Chemistry I | 3 |
| EGR 2323 | Applied Engineering Analysis I | 3 |
| MAT 1214 | Calculus I | 4 |
| MAT 1224 or EGR 1324 | Calculus II Calculus II for Engineers | 4 |
| PHY 1943 & PHY 1951 | Physics for Scientists and Engineers I and Physics for Scientists and Engineers I Laboratory | 4 |
| PHY 1963 & PHY 1971 | Physics for Scientists and Engineers II and Physics for Scientists and Engineers II Laboratory | 4 |
| Total Credit Hours | | 22 |

- Certificate in Engineering Projects in Community Service (EPICS) (p. 110)
- Certificate in Data Center Design (p. 111)

Certificate in Engineering Projects in Community Service (EPICS)

The Certificate in Engineering Projects in Community Service (EPICS) will prepare degree seeking students at UTSA with a national award winning social, civic, entrepreneurship program. In the 15 hour certificate, teams design, build, and maintain systems to solve engineering-based problems for the community, non-profits, schools, and other service organizations. This program certifies to employers that participants aren't waiting to

graduate to solve social problems; they have already engaged them while in college. The EPICS program at UTSA will be housed in the College of Engineering but EPICS and honors section courses will be open to all undergraduates.

Students will engage in the design process from start to finish with an emphasis on sustainability as they deliver products to clients. EPICS are multi-year, and often decade long ventures, with students encouraged to work on a project for at least one year. The course structure proposed has a 1 credit hour introduction and a 2 credit continuation each year tied to the service based project and offered at freshman, sophomore, junior and senior levels.

Certificate Requirements

Students will be required to complete a minimum of 15 semester credit hours for the certificate, credits may be repeated if engaged in different course sections tied to each project. Students may register for either 1 or 2 hours of credit but will be required to take on a higher-level role if registering for 2 hours of credit in a semester. The EPICS program will also encourage the use of a co-op internship at the host partner business if available. The EPICS co-op may be substituted for technical elective credit with permission of the department. Courses must be taken at their level of current status; freshman may take EPICS courses if between 0-29 hours, sophomores at 30-59, juniors at 60-89, and seniors at or above 90 hours. Certificates will be awarded upon completion of the 15 approved hours, and with a GPA of 2.0 or above.

Freshman Students

| | | |
|----------|-------------------------------------------------------------------------------|---|
| EGR 1351 | First Year Participation in Engineering Projects in Community Service (EPICS) | 1 |
| EGR 1352 | First Year Participation in Engineering Projects in Community Service (EPICS) | 2 |

Sophomore Students

| | | |
|----------|------------------------------------------------------------------------------|---|
| EGR 2351 | Sophomore Participation in Engineering Projects in Community Service (EPICS) | 1 |
| EGR 2352 | Sophomore Participation in Engineering Projects in Community Service (EPICS) | 2 |

Junior Students

| | | |
|----------|---------------------------------------------------------------------------|---|
| EGR 3351 | Junior Participation in Engineering Projects in Community Service (EPICS) | 1 |
| EGR 3352 | Junior Participation in Engineering Projects in Community Service (EPICS) | 2 |
| EGR 3353 | EPICS Engineering Co-op | 3 |

Senior Students

| | | |
|----------|---------------------------------------------------------------------------|---|
| EGR 4351 | Senior Participation in Engineering Projects in Community Service (EPICS) | 1 |
| EGR 4352 | Senior Participation in Engineering Projects in Community Service (EPICS) | 2 |

Senior engineering students may be allowed to register for interdisciplinary senior design proportional to the hours in their home program of: Biomedical, Chemical, Civil, Computer, Electrical or Mechanical Engineering provided they meet the prerequisites of their respective senior design class, with permission of the department and with prior engagement with EPICS projects. Students enrolled in EPICS senior design will be tasked with a significant leadership role of juniors, sophomores and freshmen.

| | | |
|----------|-----------------------|---|
| EGR 4362 | Senior EPICS Design I | 2 |
|----------|-----------------------|---|

| | | |
|----------|------------------------|---|
| EGR 4363 | Senior EPICS Design I | 3 |
| EGR 4373 | Senior EPICS Design II | 3 |

Certificate in Data Center Design

The certificate program in Data Center Design is designed so that students in mechanical, civil, and electrical engineering disciplines will take all the required courses in their disciplines, then, take additional courses from other majors (options A, B and C shown below). For instance, in order to be certified, a mechanical engineering student not only has to satisfy the mechanical engineering degree requirements, but also needs to complete courses in option A, shown below. All students must satisfy the prerequisites for courses in the option before registering for courses. Regardless of the option, all participating students must complete a 3 semester credit hour data center design project. The following exhibits the description of the project:

EGR 4953 Special Studies in Engineering: Overview of Data Center Design and Operation

The goal of this course is to provide the student with a broad overview of the application of technical course material and to utilize that knowledge in completion of an approved data center project. The scope of the project encompasses all of the requisite phases in planning for a system deployment into a data center. The phases are: planning, requirement analysis, facility design and installation, system deployment, check out and transitioning to operations. Students should propose the projects, an advisor will be assigned (either from UTSA or industry), and the project will be evaluated as the principal element of the student's grade. Additionally, the course will include field trips to data centers, and guest lecturers to be provided. Some examples of the lecture topics include: Information Technology set up considerations, PSC management and systems monitoring, fire protection/detection at room and cabinet level, future power projections for servers and high performance computers, future cooling applications, physical security measures, etc. Successful course completion includes completing a class project and project presentation.

Option A. Mechanical Engineering Students

Requires 15 semester credit hours in addition to the B.S. in Mechanical Engineering degree requirements. Mechanical Engineering students pursuing a certificate in Data Center Design must complete the following courses:

| | | |
|----------|-------------------------------------------------------------------------------|---|
| CE 3113 | Structural Analysis | 3 |
| CE 3213 | Reinforced Concrete Design | 3 |
| EE 3413 | Analysis and Design of Control Systems | 3 |
| EE 4953 | Special Studies in Electrical and Computer Engineering (Power Electronics) | 3 |
| EGR 4953 | Special Studies in Engineering (Overview of Data Center Design and Operation) | 3 |

Total Credit Hours 15

Option B. Civil Engineering Students

Requires 21 semester credit hours in addition to the B.S. in Civil Engineering degree requirements. Civil Engineering students pursuing a certificate in Data Center Design must complete the following courses:

| | | |
|---------|----------------------------------------|---|
| EE 2213 | Electric Circuits and Electronics | 3 |
| EE 3413 | Analysis and Design of Control Systems | 3 |

| | | |
|--------------------|-------------------------------------------------------------------------------|----|
| EE 4953 | Special Studies in Electrical and Computer Engineering (Power Electronics) | 3 |
| EGR 4953 | Special Studies in Engineering (Overview of Data Center Design and Operation) | 3 |
| ME 3293 | Thermodynamics I | 3 |
| ME 4293 | Thermodynamics II | 3 |
| ME 4313 | Heat Transfer | 3 |
| Total Credit Hours | | 21 |

Option C. Electrical Engineering Students

Requires 18 semester credit hours in addition to the B.S. in Electrical Engineering degree requirements. Electrical Engineering students pursuing a certificate in Data Center Design must complete the following courses:

| | | |
|--------------------|-------------------------------------------------------------------------------|----|
| EE 4953 | Special Studies in Electrical and Computer Engineering (Power Electronics) | 3 |
| EGR 4953 | Special Studies in Engineering (Overview of Data Center Design and Operation) | 3 |
| ME 3293 | Thermodynamics I | 3 |
| ME 3663 | Fluid Mechanics | 3 |
| ME 4293 | Thermodynamics II | 3 |
| ME 4313 | Heat Transfer | 3 |
| Total Credit Hours | | 18 |

Department of Biomedical Engineering and Chemical Engineering

The Department of Biomedical Engineering and Chemical Engineering offers a Bachelor of Science degree in Biomedical Engineering (BME) and a Bachelor of Science degree in Chemical Engineering (CME). The BME degree is currently accredited by the Accreditation Board for Engineering and Technology (ABET, <http://www.abet.org>).

Individuals enrolled in the BME degree program are given opportunities to develop a strong background in the engineering, technology and physical and biological sciences to learn the analysis, design, and synthesis tools necessary to function successfully as active participants in new and emerging areas of biosciences, medical devices and healthcare technologies. The Biomedical Engineering and Chemical Engineering department continues to be recognized locally and nationally for the quality of its undergraduate program. BME graduates continue to find positions in industry and are accepted into graduate schools and professional training programs (medicine and dentistry) nationwide.

The BME degree is an interdisciplinary program that combines engineering principles, approaches, and methodologies with biological, chemical and physical sciences in order to define and solve problems in medicine. Students are trained in the fundamentals of science and engineering and expected to apply this knowledge to investigate fundamental biomedical engineering questions associated with complex living systems as well as with the diagnosis and treatment of human diseases. A broad understanding of sciences and engineering principles is provided in the first two years of the program. Students develop a degree of depth by selecting courses in three areas of concentration: 1) Biomechanics; 2) Biomaterials and Tissue Engineering; and 3) Biomedical Imaging and Nanotechnology. Critical thinking and innovative design skills are integrated throughout the program to aid students in developing solutions and in solving biomedical engineering-related problems. Design projects throughout the program and Senior BME Design courses provide students the opportunity to integrate their design, critical thinking and communication skills with the scientific and engineering knowledge they acquired throughout the Biomedical Engineering program.

The Chemical Engineering (CME) program provides high-quality education and training in chemical engineering through rigorous coursework and hands on experience in state-of-the-art laboratories. By selecting technical elective courses, students can also develop a degree of depth in one of the four specialized areas of study: 1) Petroleum and Energy Systems, the sector with burgeoning industry demand for well-trained individuals; 2) Materials Engineering, the enabling technical field for microelectronics, energy conversion, and process control; 3) Bioengineering, the emerging area that biology and chemistry interface with bio-systems and healthcare; and 4) Environmental Engineering, the strategic growth area finding resources and environmental solutions for manufacturers and consumers.

- B.S. degree in Biomedical Engineering (p. 113)
- B.S. degree in Chemical Engineering (p. 115)

Bachelor of Science Degree in Biomedical Engineering

A Bachelor of Science (B.S.) degree in Biomedical Engineering (BME) at UTSA is an interdisciplinary program that combines engineering principles, approaches, and methodologies with biological, chemical and physical sciences in order to define and solve problems in medicine. Students will be trained in the fundamentals of science and engineering and are expected to be able to apply this knowledge to investigate fundamental biomedical engineering questions associated with complex living systems as well as with the diagnosis and treatment of human diseases. A broad understanding of sciences and engineering principles is provided in the first two years of the program, with students having the option to choose one concentration as an in-depth focus area of study in the last two years of the program. Critical thinking and innovative design skills are integrated throughout the program to aid students in developing solutions and in solving biomedical engineering-related problems. Design projects throughout the program and Senior BME Design courses provide students the opportunity to integrate their design, critical thinking and communication skills with the scientific and engineering knowledge they acquired throughout the Biomedical Engineering program. The regulations for this degree comply with the general University regulations (refer to Bachelor's Degree Regulations (p. 6)).

Good Academic Standing Requirements for a Biomedical Engineering Major

All students must be in good academic standing in order to remain in the Biomedical Engineering program. The minimum requirements that a student must satisfy in order to remain in good standing as a biomedical engineering major are stated below:

- A cumulative grade point average (GPA) of at least 3.0 for all coursework (cumulative GPA will be calculated on all courses, including previously attempted or repeated courses).
- An average GPA of at least 3.0 for all science, mathematics and engineering coursework (GPA will be calculated on all courses, including previously attempted or repeated courses).

Students who fail to meet the above requirements but have a minimum cumulative GPA of 2.5 or above will be placed on programmatic probation in the following semester. Students who fail to maintain good academic standing after a semester of programmatic probation or who have a cumulative GPA below 2.5 will be deemed to be not in good academic standing as a biomedical engineering major and will be removed from the program.

Education Objectives

The objectives of this program are founded on the belief that engineering principles and understanding of biological and physical sciences are critical to the investigation of fundamental bioengineering questions associated with complex living systems as well as with the diagnosis and treatment of human diseases. As such, the program educational objectives of the UTSA Biomedical Engineering program are to prepare graduates who will be able to:

- contribute positively to the biomedical industries and/or other sectors such as hospitals, government agencies, and academia;
- enhance competence in biomedical engineering by pursuing an advanced or a professional degree; and
- work successfully as a member in a team environment to facilitate biomedical engineering practice.

The minimum number of semester credit hours required for this degree is 125, at least 39 of which must be at the upper-division level. All candidates for this degree must fulfill the Core Curriculum requirements, the General Engineering requirements, and the degree requirements, listed below.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the B.S. degree in Biomedical Engineering must fulfill the University Core Curriculum requirements in the same manner as other students. The courses listed below satisfy both major requirements and Core Curriculum requirements; however, if these courses are taken to satisfy both requirements, then students may need to take additional courses in order to meet the minimum number of semester credit hours required for the degree.

MAT 1214 may be used to satisfy the core requirement in Mathematics, as well as one of the General Engineering Requirements. BIO 1404 and PHY 1943 may be used to satisfy the core requirement in Life and Physical Sciences, as well as one of the General Engineering Requirements.

Core Curriculum Component Area Requirements (p. 7)

| | |
|-----------------------------------|-----------|
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |
| Life and Physical Sciences | 6 |
| Language, Philosophy and Culture | 3 |
| Creative Arts | 3 |
| American History | 6 |
| Government-Political Science | 6 |
| Social and Behavioral Sciences | 3 |
| Component Area Option | 3 |
| Total Credit Hours | 42 |

General Engineering Requirements

All degree-seeking candidates in engineering must complete the following 22 semester credit hours, as well as the Core Curriculum requirements and major requirements:

| | | |
|---------------------------|------------------------------------------------------------------------------------------------------|-----------|
| CHE 1103 | General Chemistry I | 3 |
| EGR 2323 | Applied Engineering Analysis I | 3 |
| MAT 1214 | Calculus I | 4 |
| MAT 1224 or EGR 1324 | Calculus II Calculus II for Engineers | 4 |
| PHY 1943 & PHY 1951 | Physics for Scientists and Engineers I and Physics for Scientists and Engineers I Laboratory | 4 |
| PHY 1963 & PHY 1971 | Physics for Scientists and Engineers II and Physics for Scientists and Engineers II Laboratory | 4 |
| Total Credit Hours | | 22 |

Gateway Courses

Students pursuing the B.S. degree in Biomedical Engineering must successfully complete the following Gateway Courses with a grade of "C-" or better in no more than two attempts. A student who is unable to successfully complete these courses within two attempts, including

dropping a course with a grade of “W” or taking an equivalent course at another institution, will be required to change his or her major.

| | |
|----------|--------------------------------|
| EGR 2323 | Applied Engineering Analysis I |
| MAT 1214 | Calculus I |

Biomedical Engineering Requirements

A. Core Biomedical Engineering Requirements

All students majoring in Biomedical Engineering are required to complete 36 semester credit hours in the following Core Biomedical Engineering courses.

| | | |
|----------|-----------------------------------------------------------|---|
| BME 1002 | Introduction to Biomedical Engineering | 2 |
| BME 2103 | Physiology for Biomedical Engineering | 3 |
| BME 2203 | Biomechanics I | 3 |
| BME 3003 | Biomaterials I | 3 |
| BME 3013 | Clinical Internship in Biomedical Engineering | 3 |
| BME 3023 | Biomedical Engineering Technology and Product Development | 3 |
| BME 3114 | Cellular Biology for Biomedical Engineering | 4 |
| BME 3211 | Biomedical Engineering Laboratory I | 1 |
| BME 3303 | Bioinstrumentation | 3 |
| BME 3311 | Biomedical Engineering Laboratory II | 1 |
| BME 3703 | Biotransport Phenomena | 3 |
| BME 3711 | Biomedical Engineering Laboratory III | 1 |
| BME 4903 | Senior BME Design I | 3 |
| BME 4913 | Senior BME Design II | 3 |

B. Other Required Courses

All students majoring in Biomedical Engineering are required to complete 6 semester credit hours in the following:

| | | |
|----------|--------------------------------------------------------------|---|
| CHE 1113 | General Chemistry II | 3 |
| STA 1403 | Probability and Statistics for the Biosciences | 3 |
| | or STA 2303 Applied Probability and Statistics for Engineers | |

C. Biomedical Engineering Electives

A minimum of 15 semester credit hours is required to fulfill this requirement. 9 semester credit hours of Biomedical Engineering elective courses must be selected from one of the following three concentrations. The remaining semester credit hours must be selected from other biomedical engineering concentrations to satisfy the Biomedical Engineering electives. Up to 6 semester credit hours of graduate-level biomedical engineering courses may be used to satisfy the Biomedical Engineering electives, with the approval of the advisor, instructor, Graduate Program Director, and Department Chair.

Biomechanics Concentration

| | | |
|----------|------------------------------------------|--|
| BME 3033 | Biomedical Engineering Internship | |
| BME 3043 | Biomedical Engineering Research | |
| BME 3203 | Biomechanics II: Cardiovascular | |
| BME 4203 | Biomechanics III | |
| BME 4213 | Tissue Mechanics | |
| BME 4293 | Topics in Biomechanics | |
| BME 4703 | Biomedical Engineering Thermodynamics | |
| BME 4803 | Fundamental Computational Bioengineering | |

Biomaterials, Cellular, and Tissue Engineering Concentration

| | | |
|----------|-----------------------------------|--|
| BME 3033 | Biomedical Engineering Internship | |
| BME 3043 | Biomedical Engineering Research | |
| BME 3403 | Biomaterials II | |

| | | |
|----------|---------------------------------------------------------------|--|
| BME 3413 | Biocompatibility of Materials: Tissue-Biomaterial Interaction | |
| BME 3503 | Nanomaterials and Nanobiotechnology | |
| BME 4213 | Tissue Mechanics | |
| BME 4403 | Molecular Techniques for Cell-Biomaterials Interactions | |
| BME 4423 | Tissue Engineering | |
| BME 4483 | Topics in Biomaterials | |
| BME 4493 | Topics in Tissue Engineering | |
| BME 4713 | Cellular Engineering | |
| BME 4793 | Topics in Cellular Engineering | |

Biomedical Imaging and Nanobiotechnology Concentration

| | | |
|----------|-------------------------------------|--|
| BME 3033 | Biomedical Engineering Internship | |
| BME 3043 | Biomedical Engineering Research | |
| BME 3503 | Nanomaterials and Nanobiotechnology | |
| BME 4503 | Biosensors | |
| BME 4603 | Biophotonics | |
| BME 4613 | Biomedical Imaging | |
| BME 4623 | Biomedical Optics | |

D. Technical Electives

A minimum of 9 semester credit hours of Technical Electives must be completed by all students, with at least 6 semester credit hours chosen from one of the three engineering tracks and the remaining 3 semester credit hours chosen from any of the engineering tracks or from the list of science courses below.

Engineering Track 1

| | | |
|----------|-----------------------------------|--|
| EE 2213 | Electric Circuits and Electronics | |
| EGR 3323 | Applied Engineering Analysis II | |
| EGR 4993 | Honors Research | |

Engineering Track 2

| | | |
|----------|---------------------|--|
| EGR 2103 | Statics | |
| EGR 4993 | Honors Research | |
| ME 3293 | Thermodynamics I | |
| ME 3813 | Mechanics of Solids | |

Engineering Track 3

| | | |
|----------|---------------------------------|--|
| EGR 2213 | Statics and Dynamics | |
| EGR 3323 | Applied Engineering Analysis II | |
| EGR 3713 | Engineering Economic Analysis | |
| EGR 4993 | Honors Research | |

Science Courses

| | | |
|----------|--------------------------------|--|
| BIO 1414 | Biosciences II | |
| BIO 2313 | Genetics | |
| BIO 3913 | Molecular Biology | |
| CHE 2603 | Organic Chemistry I | |
| CHE 2612 | Organic Chemistry I Laboratory | |
| CHE 3643 | Organic Chemistry II | |
| CHE 4303 | Biochemistry I | |
| MAT 2214 | Calculus III | |

Total Credit Hours 66

B.S. in Biomedical Engineering – Recommended Four-Year Academic Plan**First Year**

| | | Credit Hours |
|--------------|-----------------------------------------|---------------------|
| Fall | | |
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| BIO 1404 | Biosciences I (core) | 4 |
| CHE 1103 | General Chemistry I | 3 |
| MAT 1214 | Calculus I (core and major) | 4 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| Credit Hours | | 17 |

Spring

| | | |
|--------------|---------------------------------------------------------|----|
| BME 1002 | Introduction to Biomedical Engineering | 2 |
| CHE 1113 | General Chemistry II | 3 |
| MAT 1224 | Calculus II | 4 |
| PHY 1943 | Physics for Scientists and Engineers I (core and major) | 3 |
| PHY 1951 | Physics for Scientists and Engineers I Laboratory | 1 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| Credit Hours | | 16 |

Second Year

| | | Credit Hours |
|-------------------------|-------------------------------------------------------------------------------------------------------|---------------------|
| Fall | | |
| BME 2103 | Physiology for Biomedical Engineering | 3 |
| EGR 2323 | Applied Engineering Analysis I | 3 |
| STA 1403 or STA 2303 | Probability and Statistics for the Biosciences or Applied Probability and Statistics for Engineers | 3 |
| PHY 1963 | Physics for Scientists and Engineers II | 3 |
| PHY 1971 | Physics for Scientists and Engineers II Laboratory | 1 |
| Technical elective | | 3 |
| Credit Hours | | 16 |

Spring

| | | |
|--------------------|---------------------------------------------|----|
| BME 2203 | Biomechanics I | 3 |
| BME 3003 | Biomaterials I | 3 |
| BME 3114 | Cellular Biology for Biomedical Engineering | 4 |
| BME 3211 | Biomedical Engineering Laboratory I | 1 |
| Technical elective | | 3 |
| Credit Hours | | 14 |

Summer

| | | |
|--------------|-----------------------------------------------|---|
| BME 3013 | Clinical Internship in Biomedical Engineering | 3 |
| Credit Hours | | 3 |

Third Year

| | | Credit Hours |
|-------------|--------------------------------------|---------------------|
| Fall | | |
| BME 3303 | Bioinstrumentation | 3 |
| BME 3311 | Biomedical Engineering Laboratory II | 1 |

| | | |
|-----------------------------------|---|----|
| Government-Political Science core | 3 | |
| Technical elective | 3 | |
| Upper-division BME elective | 3 | |
| Credit Hours | | 13 |

Spring

| | | |
|-----------------------------------|-----------------------------------------------------------|----|
| BME 3023 | Biomedical Engineering Technology and Product Development | 3 |
| BME 3703 | Biotransport Phenomena | 3 |
| BME 3711 | Biomedical Engineering Laboratory III | 1 |
| Credit Hours | | 7 |
| Government-Political Science core | 3 | |
| Upper-division BME elective | 3 | |
| Credit Hours | | 13 |

Summer

| | | |
|--------------|--------------------------------------------------|---|
| BME 3033 | Biomedical Engineering Internship (BME Elective) | 3 |
| Credit Hours | | 3 |

Fourth Year

| | | Credit Hours |
|-----------------------------|---------------------|---------------------|
| Fall | | |
| BME 4903 | Senior BME Design I | 3 |
| Upper-division BME elective | 3 | |
| Upper-division BME elective | 3 | |
| American History core | 3 | |
| Creative Arts core | 3 | |
| Credit Hours | | 15 |

Spring

| | | |
|---------------------------------------|----------------------|-----|
| BME 4913 | Senior BME Design II | 3 |
| American History core | 3 | |
| Component Area Option core | 3 | |
| Language, Philosophy and Culture core | 3 | |
| Social and Behavioral Sciences core | 3 | |
| Credit Hours | | 15 |
| Total Credit Hours | | 125 |

Bachelor of Science Degree in Chemical Engineering

A Bachelor of Science (B.S.) degree in Chemical Engineering (CME) is the newest addition to the College of Engineering at The University of Texas at San Antonio. The program began welcoming incoming freshman students in the fall of 2017, and provides an exceptional learning environment and opportunities for discovery at UTSA.

Chemical engineering is unique, as it educates students to use chemistry, physics, biology and mathematics to solve engineering problems related to production, transformation, and utilization of chemicals, materials and energy.

The Chemical Engineering program provides high-quality education and training in chemical engineering through structured coursework and hands-on experience in state-of-the-art laboratory facilities. By selecting technical elective courses, students can also develop a degree of depth in one of the four specialized areas of study: 1) Petroleum/ Energy Engineering, the sector with burgeoning industry demand for well-trained individuals; 2) Materials Engineering, the enabling technical field for microelectronics, energy conversion, and process control; 3)

Bioengineering, the emerging area where biology and chemistry interface with bio-systems and healthcare; and 4) Environmental Engineering, the strategic growth area finding resources and environmental solutions for manufacturers and consumers.

The chemical engineering program prepares graduates with the knowledge and skill sets to capture career opportunities – together, our goal is to make the industry more efficient and our world cleaner and healthier.

Specialization Areas

- Petroleum/Energy Engineering
- Materials Engineering
- Bioengineering
- Environmental Engineering

The regulations for this degree comply with the general regulations of the University (refer to Bachelor's Degree Regulations (p. 6)).

Good Academic Standing Requirements for a Chemical Engineering Major

All students must be in good academic standing in order to remain in the Chemical Engineering program. The minimum requirements that a student must satisfy in order to remain in good standing as a chemical engineering major are stated below:

- A cumulative grade point average (GPA) of at least 3.0 for all coursework (cumulative GPA will be calculated for all courses, including previously attempted or repeated courses).
- An average GPA of at least 3.0 for all science, mathematics and engineering coursework (GPA will be calculated for all courses, including previously attempted or repeated courses).

Students who fail to meet the above requirements but have a minimum cumulative GPA of 2.5 or above will be placed on programmatic probation at the beginning of the following semester. Students who fail to maintain good academic standing after a semester of programmatic probation or who have a cumulative GPA below 2.5 will be deemed to not be in good academic standing as a chemical engineering major and will be removed from the program.

Education Objectives

The Chemical Engineering program is preparing graduates to achieve the following Educational Objectives:

- To have the depth that is necessary to apply chemical engineering principles to practice;
- To have the breadth to pursue a productive career in diverse fields of chemical engineering in a globally competitive economy; and
- To instill professional values such that students will become successful leaders in their profession of choice.

The minimum number of semester credit hours required for this degree is 128, at least 39 of which must be at the upper-division level. All candidates for this degree must fulfill the Core Curriculum requirements, the General Engineering requirements, and the Chemical Engineering requirements, which are listed below.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the B.S. degree in Chemical Engineering must fulfill the University Core Curriculum requirements in the same manner as other

students. The courses listed below satisfy both major requirements and Core Curriculum requirements; however, if these courses are taken to satisfy both requirements, then students may need to take additional courses in order to meet the minimum number of semester credit hours required for the degree.

MAT 1214 may be used to satisfy the core requirement in Mathematics, as well as one of the General Engineering Requirements. PHY 1943 and PHY 1963 may be used to satisfy the core requirement in Life and Physical Sciences, as well as one of the General Engineering Requirements. ECO 2023 may be used to satisfy the core requirement in Social and Behavioral Sciences. EGR 1343 may be used to satisfy the Component Area Option requirement.

Core Curriculum Component Area Requirements (p. 7)

| | |
|-----------------------------------|-----------|
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |
| Life and Physical Sciences | 6 |
| Language, Philosophy and Culture | 3 |
| Creative Arts | 3 |
| American History | 6 |
| Government-Political Science | 6 |
| Social and Behavioral Sciences | 3 |
| Component Area Option | 3 |
| Total Credit Hours | 42 |

General Engineering Requirements

All degree-seeking candidates in engineering must complete the following 22 semester credit hours, as well as the Core Curriculum requirements and major requirements:

| | | |
|---------------------------|------------------------------------------------------------------------------------------------------|-----------|
| CHE 1103 | General Chemistry I | 3 |
| EGR 2323 | Applied Engineering Analysis I | 3 |
| MAT 1214 | Calculus I | 4 |
| MAT 1224 or EGR 1324 | Calculus II Calculus II for Engineers | 4 |
| PHY 1943 & PHY 1951 | Physics for Scientists and Engineers I and Physics for Scientists and Engineers I Laboratory | 4 |
| PHY 1963 & PHY 1971 | Physics for Scientists and Engineers II and Physics for Scientists and Engineers II Laboratory | 4 |
| Total Credit Hours | | 22 |

Gateway Courses

Students pursuing the B.S. degree in Chemical Engineering must successfully complete the following Gateway Courses with a grade of "C-" or better in no more than two attempts per course. A student who is unable to successfully complete these courses within two attempts, including dropping a course with a grade of "W" or taking an equivalent course at another institution, will be required to change his or her major.

| | |
|----------|--------------------------------|
| EGR 2323 | Applied Engineering Analysis I |
| MAT 1214 | Calculus I |

Degree Requirements

Students seeking the B.S. degree in Chemical Engineering must complete the following semester credit hours, as well as the Core Curriculum requirements and General Engineering requirements:

A. Required Chemical Engineering courses (38 semester credit hours)

| | | |
|----------|---------------------------------------------------|---|
| CME 1201 | Introduction to Chemical Engineering | 1 |
| CME 2103 | Chemical Process Principles | 3 |
| CME 2203 | Computational Methods in Chemical Engineering | 3 |
| CME 2301 | Chemical Process Safety and Risk Management | 1 |
| CME 3003 | Introduction to Materials Science and Engineering | 3 |
| CME 3103 | Thermodynamics | 3 |
| CME 3303 | Transport Phenomena I | 3 |
| CME 3403 | Separation Processes | 3 |
| CME 3503 | Kinetics and Reactor Design | 3 |
| CME 3601 | Chemical Engineering Laboratory I | 1 |
| CME 3703 | Transport Phenomena II | 3 |
| CME 4103 | Process Dynamics and Control | 3 |
| CME 4163 | Chemical Engineering Design Fundamentals | 3 |
| CME 4201 | Chemical Engineering Laboratory II | 1 |
| CME 4264 | Plant Design | 4 |

B. Other required courses (29 semester credit hours)

| | | |
|---------------------|--------------------------------------------------------------------------------------------------------------------|---|
| CHE 1103 & CHE 1121 | General Chemistry I and General Chemistry I Laboratory (CHE 1103 also satisfies a General Engineering Requirement) | 4 |
| CHE 1113 & CHE 1131 | General Chemistry II and General Chemistry II Laboratory | 4 |
| CHE 2603 & CHE 2612 | Organic Chemistry I and Organic Chemistry I Laboratory | 5 |
| CHE 3643 | Organic Chemistry II | 3 |
| CHE 3804 | Physical Chemistry I and Laboratory | 4 |
| EGR 3323 | Applied Engineering Analysis II | 3 |
| EGR 3713 | Engineering Economic Analysis | 3 |
| STA 2303 | Applied Probability and Statistics for Engineers | 3 |

C. Prescribed electives (9 semester credit hours)

A minimum of 9 semester credit hours must be selected from one of the following specializations (based on availability):

Bioengineering

Select three courses from the following:

| | | |
|----------|---------------------------------------------------------------|--|
| CME 2113 | Physiology for Chemical Engineering | |
| BIO 3513 | Biochemistry | |
| CME 2803 | Biomechanics I | |
| CME 3113 | Cellular Biology for Chemical Engineering | |
| CME 3413 | Biocompatibility of Materials: Tissue-Biomaterial Interaction | |
| CME 3503 | Kinetics and Reactor Design | |
| CME 3803 | Biomechanics II | |
| CME 3903 | Bioinstrumentation | |
| CME 4513 | Selected Topics in Bioengineering | |

Environmental Engineering

Select three courses from the following:

| | | |
|---------|--------------------------------|--|
| CE 2633 | Environmental Engineering | |
| CE 4633 | Water and Wastewater Treatment | |

| | | |
|----------|----------------------------------------------|--|
| CE 4603 | Water Resources Engineering | |
| CHE 3464 | Descriptive Inorganic Chemistry | |
| CME 4543 | Selected Topics in Environmental Engineering | |
| ES 6103 | Environmental Assessment | |

Materials Engineering

Select three courses from the following:

| | | |
|-------------|------------------------------------------------------|--|
| CME 2803 | Biomechanics I | |
| CME 3433 | Crystal Chemistry of Structure and Properties | |
| CME 3903 | Bioinstrumentation | |
| CME 4533 | Selected Topics in Materials Science and Engineering | |
| EE 2423 | Network Theory | |
| EE 3213 | Electromagnetic Engineering | |
| EE 3323 | Electronic Devices | |
| or PHY 3313 | Materials Physics | |
| EE 4323 | Dielectric and Optoelectronic Engineering Laboratory | |
| EE 4523 | Introduction to Nanoelectronics | |
| EGR 2103 | Statics | |
| ME 3243 | Materials Engineering | |
| ME 3813 | Mechanics of Solids | |
| PHY 2103 | Modern Physics | |

Petroleum/Energy Engineering

Select three courses from the following:

| | | |
|----------|-------------------------------------------------|--|
| CME 4423 | Rheology | |
| CME 4433 | Process Optimization | |
| CME 4523 | Selected Topics in Petroleum/Energy Engineering | |
| CME 4433 | Process Optimization | |
| EGR 2213 | Statics and Dynamics | |
| PHY 2103 | Modern Physics | |

Common Electives

No more than 6 semester credit hours may be applied to any of the above specializations. No more than 3 semester credit hours of Independent Study courses or Research courses may count toward a specialization.

| | | |
|----------|---------------------------------|--|
| CME 4601 | Independent Study | |
| CME 4602 | Independent Study | |
| CME 4603 | Independent Study | |
| CME 4701 | Chemical Engineering Research | |
| CME 4702 | Chemical Engineering Research | |
| CME 4703 | Chemical Engineering Research | |
| CME 4803 | Chemical Engineering Internship | |

Total Credit Hours 76

B.S. in Chemical Engineering – Recommended Four-Year Academic Plan

First Year

| Fall | | Credit Hours |
|----------|-----------------------------------------------------|--------------|
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| CHE 1103 | General Chemistry I | 3 |
| CHE 1121 | General Chemistry I Laboratory | 1 |
| EGR 1343 | The Impact of Modern Technologies on Society (core) | 3 |

| | | | | |
|-----------------------|----------------------------------------------------------|----|---------------------------------------|------------------------------------------|
| MAT 1214 | Calculus I (core and major) | 4 | Specialization Elective I | 3 |
| WRC 1013 | Freshman Composition I (core) | 3 | | |
| | Credit Hours | 17 | Credit Hours | 16 |
| Spring | | | Fourth Year | |
| CHE 1113 | General Chemistry II | 3 | Fall | |
| CHE 1131 | General Chemistry II Laboratory | 1 | CME 4103 | Process Dynamics and Control |
| CME 1201 | Introduction to Chemical Engineering | 1 | CME 4163 | Chemical Engineering Design Fundamentals |
| MAT 1224 | Calculus II | 4 | CME 4201 | Chemical Engineering Laboratory II |
| PHY 1943 | Physics for Scientists and Engineers I (core and major) | 3 | Specialization Elective II | 3 |
| PHY 1951 | Physics for Scientists and Engineers I Laboratory | 1 | American History core | 3 |
| WRC 1023 | Freshman Composition II (core) | 3 | Government-Political Science core | 3 |
| | Credit Hours | 16 | Credit Hours | 16 |
| Second Year | | | Spring | |
| Fall | | | CME 4264 | Plant Design |
| CHE 2603 | Organic Chemistry I | 3 | EGR 3713 | Engineering Economic Analysis |
| CHE 2612 | Organic Chemistry I Laboratory | 2 | Specialization Elective III | 3 |
| CME 2103 | Chemical Process Principles | 3 | Government-Political Science core | 3 |
| EGR 2323 | Applied Engineering Analysis I | 3 | Language, Philosophy and Culture core | 3 |
| PHY 1963 | Physics for Scientists and Engineers II (core and major) | 3 | Credit Hours | 16 |
| PHY 1971 | Physics for Scientists and Engineers II Laboratory | 1 | Total Credit Hours | 128 |
| | Credit Hours | 15 | | |
| Spring | | | | |
| CHE 3643 | Organic Chemistry II | 3 | | |
| CME 2301 | Chemical Process Safety and Risk Management | 1 | | |
| CME 2203 | Computational Methods in Chemical Engineering | 3 | | |
| ECO 2023 | Introductory Microeconomics (core) | 3 | | |
| EGR 3323 | Applied Engineering Analysis II | 3 | | |
| STA 2303 | Applied Probability and Statistics for Engineers | 3 | | |
| | Credit Hours | 16 | | |
| Third Year | | | | |
| Fall | | | | |
| CHE 3804 | Physical Chemistry I and Laboratory | 4 | | |
| CME 3003 | Introduction to Materials Science and Engineering | 3 | | |
| CME 3103 | Thermodynamics | 3 | | |
| CME 3303 | Transport Phenomena I | 3 | | |
| Creative Arts core | | 3 | | |
| | Credit Hours | 16 | | |
| Spring | | | | |
| CME 3403 | Separation Processes | 3 | | |
| CME 3503 | Kinetics and Reactor Design | 3 | | |
| CME 3601 | Chemical Engineering Laboratory I | 1 | | |
| CME 3703 | Transport Phenomena II | 3 | | |
| American History core | | 3 | | |

Department of Civil and Environmental Engineering

The Department of Civil Engineering offers a Bachelor of Science degree in Civil Engineering.

Description of Program

The Civil and Environmental Engineering (CEE) Department is one of the four College of Engineering departments. It is housed in the Biosciences and Engineering Building (BSE). The (B.S.) degree in Civil Engineering (CE) was first offered in 1982. The Civil Engineering B.S. program is currently accredited by the Engineering Accreditation Commission of ABET, www.abet.org (<http://www.abet.org/>).

Mission Statement

The faculty of the Department of Civil and Environmental Engineering are committed to excellence in teaching, research, and service to the community and the engineering profession. The Civil and Environmental Engineering Department's mission is to provide our students an education that integrates fundamental science and engineering skills with design principles to solve engineering problems. Our programs provide students opportunities for graduate education, to acquire life-long learning skills, and to participate in research that advances the discipline and benefits society. Students will be prepared to become professional engineers and leaders in the Civil and Environmental Engineering profession.

Bachelor of Science Degree in Civil Engineering

The Department of Civil and Environmental Engineering offers an ABET-accredited bachelor's degree that, in terms of graduating class size, ranks in the 80th percentile nation-wide. The Department is committed to excellence in teaching, research, and service to the community and the engineering profession. The Civil and Environmental Engineering department's mission is to provide our students an education that integrates fundamental science and engineering skills with design principles to solve engineering problems. Our programs provide students opportunities for graduate education, to acquire life-long learning skills, and to participate in research that advances the discipline and benefits society. Students will be prepared to become professional engineers and leaders in the Civil and Environmental Engineering profession.

Civil Engineering Educational Objectives

The American Society of Civil Engineers (ASCE) defines Civil Engineering as "The profession in which a knowledge of the mathematical and physical sciences gained by study, experience, and practice is applied with judgment to develop ways to utilize, economically, the materials and forces of nature for the progressive well-being of humanity in creating, improving, and protecting the environment; in providing facilities for community living, industry, and transportation; and in providing structures for the use of humanity."

The faculty of the Department of Civil and Environmental Engineering has established a specific set of program objectives to support the mission and the goals of the Department and to meet the requirements of ABET accreditation under the Criteria for Accrediting Engineering Programs.

Civil Engineering Bachelor of Science graduates are expected to attain the following program educational objectives (PEOs):

- meet the expectations of their employers,
- will endeavor to become licensed professional engineers, and
- are able to pursue graduate studies, if so desired.

The minimum number of semester credit hours required for the Bachelor of Science (B.S.) in Civil Engineering is 128, including at least 39 at the upper-division level. All candidates for this degree must fulfill the Core Curriculum requirements, the General Engineering requirements, and the Civil Engineering degree requirements prior to graduation. Each is explained in detail.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the B.S. degree in Civil Engineering must fulfill the University Core Curriculum requirements in the same manner as other students. If courses are taken to satisfy both degree requirements and Core Curriculum requirements, then students may need to take additional courses in order to meet the minimum number of semester credit hours required for this degree.

MAT 1214 may be used to satisfy the core requirement in Mathematics, as well as one of the General Engineering requirements. PHY 1943 and PHY 1963 may be used to satisfy the core requirement in Life and Physical Sciences, as well as two of the General Engineering requirements. ECO 2023 may be used to satisfy the core requirement in Social and Behavioral Sciences. CS 1173 may be used to satisfy the core requirement in the Component Area Option.

Core Curriculum Component Area Requirements (p. 7)

| | |
|-----------------------------------|-----------|
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |
| Life and Physical Sciences | 6 |
| Language, Philosophy and Culture | 3 |
| Creative Arts | 3 |
| American History | 6 |
| Government-Political Science | 6 |
| Social and Behavioral Sciences | 3 |
| Component Area Option | 3 |
| Total Credit Hours | 42 |

General Engineering Requirements

In addition to the Core Curriculum requirements, all degree-seeking Civil Engineering students must complete the following 25 semester credit hours:

| | | |
|-------------------------|----------------------------------------------------------------------------------------------------|---|
| CHE 1103 | General Chemistry I | 3 |
| EGR 2323 | Applied Engineering Analysis I | 3 |
| EGR 3713 | Engineering Economic Analysis | 3 |
| MAT 1214 | Calculus I | 4 |
| MAT 1224 or EGR 1324 | Calculus II Calculus II for Engineers | 4 |
| PHY 1943 & PHY 1951 | Physics for Scientists and Engineers I and Physics for Scientists and Engineers I Laboratory | 4 |

| | | |
|------------------------|------------------------------------------------------------------------------------------------------|----|
| PHY 1963 & PHY 1971 | Physics for Scientists and Engineers II and Physics for Scientists and Engineers II Laboratory | 4 |
| Total Credit Hours | | 25 |

Gateway Courses

Students pursuing the B.S. degree in Civil Engineering must successfully complete each of the following Gateway Courses with a grade of "C-" or better in no more than two attempts. A student who is unable to successfully complete these courses within two attempts, including dropping a course with a grade of "W" or taking an equivalent course at another institution, will be required to change his or her major.

| | |
|----------|--------------------------------|
| EGR 2323 | Applied Engineering Analysis I |
| MAT 1214 | Calculus I |

Civil Engineering Degree Requirements

In addition to Core Curriculum and General Engineering requirements, students seeking a B.S. degree in Civil Engineering are required to take 70 semester credit hours of Civil Engineering courses. Of these 70 credit hours, 64 are from required courses, while 3 can be satisfied from CE elective courses and while the remaining 3 can be satisfied with Life and Physical Science courses.

A. Required courses

| | | |
|----------|--------------------------------------------------|---|
| CE 1301 | Introduction to Civil Engineering | 1 |
| CE 2103 | Civil Engineering Measurements | 3 |
| CE 2313 | Computer-Aided Design in Civil Engineering | 3 |
| CE 2633 | Environmental Engineering | 3 |
| CE 3103 | Mechanics of Solids | 3 |
| CE 3113 | Structural Analysis | 3 |
| CE 3173 | Numerical Methods | 3 |
| CE 3213 | Reinforced Concrete Design | 3 |
| CE 3223 | Highway Engineering | 3 |
| CE 3233 | Steel Design | 3 |
| CE 3243 | Properties and Behavior of Engineering Materials | 3 |
| CE 3413 | Geotechnical Engineering and Applications | 3 |
| CE 3603 | Fluid Mechanics | 3 |
| CE 4463 | Foundation Engineering | 3 |
| CE 4543 | Project Design and Construction Management | 3 |
| CE 4603 | Water Resources Engineering | 3 |
| CE 4633 | Water and Wastewater Treatment | 3 |
| CE 4813 | Civil Engineering Design | 3 |
| EGR 1403 | Technical Communication | 3 |
| EGR 2103 | Statics | 3 |
| EGR 2513 | Dynamics | 3 |
| STA 2303 | Applied Probability and Statistics for Engineers | 3 |

B. Civil Engineering technical electives

Select one of the following courses. Alternatively, students with a grade point average of 3.0 or higher may choose to satisfy this requirement by taking graduate courses offered by the Department of Civil and Environmental Engineering (Department Chair approval required).

| | |
|---------|-------------------------------|
| CE 4103 | Advanced Steel Design |
| CE 4133 | Advanced Reinforced Concrete |
| CE 4143 | Introduction to Timber Design |

| | |
|----------|------------------------------------------------|
| CE 4153 | Prestressed Concrete |
| CE 4163 | Advanced Structural Analysis |
| CE 4173 | Dynamics and Vibrations |
| CE 4183 | Experimental Stress Analysis |
| CE 4223 | Introduction to Masonry Design |
| CE 4283 | Design of Buildings for Lateral Loads |
| CE 4293 | Geographic Information Systems (GIS) |
| CE 4303 | Hydrometeorology |
| CE 4403 | Advanced Characterization of Highway Materials |
| CE 4453 | Transportation Engineering |
| CE 4613 | Environmental Chemistry |
| CE 4723 | Hydraulic Systems Design |
| CE 4733 | Applied Hydrology |
| GEO 4023 | Engineering Geology |

C. Life and Physical Sciences

| | |
|--------------------------------------|------------------------------------------|
| Select one of the following courses: | 3 |
| AST 1013 | Introduction to Astronomy |
| AST 1033 | Exploration of the Solar System |
| BIO 1233 | Contemporary Biology I |
| BIO 1243 | Contemporary Biology II |
| BIO 1404 | Biosciences I |
| BIO 1414 | Biosciences II |
| ES 1213 | Environmental Geology |
| ES 2013 | Introduction to Environmental Science I |
| ES 2023 | Introduction to Environmental Science II |
| ES 3103 | Environmental Microbiology |
| GEO 1013 | The Third Planet |
| GEO 1103 | Physical Geology |
| GEO 4023 | Engineering Geology |

| | |
|--------------------|----|
| Total Credit Hours | 70 |
|--------------------|----|

The elective courses allow some specialization in one of the traditional Civil Engineering areas, namely, Environmental, Geotechnical, Hydraulics, Structures and Transportation. Senior Civil Engineering students, in their last semester of study, are strongly encouraged to take the Fundamentals of Engineering (FE) Examination as administered by the National Council of Examiners for Engineering and Surveying (<http://ncees.org/>). Graduates are expected to pursue life-long learning and obtain their Professional Engineering license.

This curriculum is designed to meet the student learning outcomes defined by the Accreditation Board of Engineering and Technology and the American Society of Civil Engineers. More specifically, it integrates design throughout the curriculum starting with the freshman introductory course, CE 1301 Introduction to Civil Engineering, and ending with the senior capstone Civil Engineering Design course CE 4813. Design components are contained in most required Civil Engineering courses, such as CE 3213 Reinforced Concrete Design, CE 3233 Steel Design, CE 3413 Geotechnical Engineering and Applications, CE 4633 Water and Wastewater Treatment, CE 3223 Highway Engineering, and CE 4603 Water Resources Engineering. Design elements are also included in many technical elective courses. The design experience culminates in the senior capstone design course, CE 4813 Civil Engineering Design. In this course, students work in multidisciplinary teams involving three or more civil engineering areas and solve practical civil engineering problems

drawing upon most of their prior coursework experience. These projects culminate in formal presentations evaluated by professional engineers.

The following provides a summary table of the recommended courses by semester for the B.S. degree in Civil Engineering.

B.S. in Civil Engineering – Recommended Four-Year Academic Plan

First Year

| | | Credit Hours |
|--------------|-----------------------------------------|--------------|
| Fall | | |
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| CE 1301 | Introduction to Civil Engineering | 1 |
| CHE 1103 | General Chemistry I | 3 |
| CS 1173 | Data Analysis and Visualization (core) | 3 |
| MAT 1214 | Calculus I (core and major) | 4 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| Credit Hours | | 17 |

Spring

| | | |
|--------------|---------------------------------------------------------|----|
| CE 2103 | Civil Engineering Measurements | 3 |
| EGR 1403 | Technical Communication | 3 |
| MAT 1224 | Calculus II | 4 |
| PHY 1943 | Physics for Scientists and Engineers I (core and major) | 3 |
| PHY 1951 | Physics for Scientists and Engineers I Laboratory | 1 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| Credit Hours | | 17 |

Second Year

| | | |
|-----------------------|----------------------------------------------------------|----|
| Fall | | |
| CE 2633 | Environmental Engineering | 3 |
| EGR 2103 | Statics | 3 |
| EGR 2323 | Applied Engineering Analysis I | 3 |
| PHY 1963 | Physics for Scientists and Engineers II (core and major) | 3 |
| PHY 1971 | Physics for Scientists and Engineers II Laboratory | 1 |
| American History core | | 3 |
| Credit Hours | | 16 |

Spring

| | | |
|-----------------------------------|--------------------------------------------------|----|
| CE 2313 | Computer-Aided Design in Civil Engineering | 3 |
| CE 3103 | Mechanics of Solids | 3 |
| ECO 2023 | Introductory Microeconomics (core) | 3 |
| EGR 2513 | Dynamics | 3 |
| STA 2303 | Applied Probability and Statistics for Engineers | 3 |
| Life & Physical Sciences elective | | 3 |
| Credit Hours | | 18 |

Third Year

| | | |
|-------------|---------------------|---|
| Fall | | |
| CE 3113 | Structural Analysis | 3 |
| CE 3173 | Numerical Methods | 3 |
| CE 3233 | Steel Design | 3 |

| | | |
|--------------|--------------------------------------------------|----|
| CE 3243 | Properties and Behavior of Engineering Materials | 3 |
| CE 3603 | Fluid Mechanics | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|--------------|-------------------------------------------|----|
| CE 3213 | Reinforced Concrete Design | 3 |
| CE 3223 | Highway Engineering | 3 |
| CE 3413 | Geotechnical Engineering and Applications | 3 |
| EGR 3713 | Engineering Economic Analysis | 3 |
| POL 1013 | Introduction to American Politics (core) | 3 |
| Credit Hours | | 15 |

Fourth Year

| | | |
|-------------------------|---------------------------------------------------------------------------|----|
| Fall | | |
| CE 4463 | Foundation Engineering | 3 |
| CE 4543 | Project Design and Construction Management | 3 |
| CE 4603 | Water Resources Engineering | 3 |
| POL 1133 or POL 1213 | Texas Politics and Society (core) or Civil Rights in Texas and America | 3 |
| American History core | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|-------------------------------------|--------------------------------|-----|
| CE 4633 | Water and Wastewater Treatment | 3 |
| CE 4813 | Civil Engineering Design | 3 |
| CE Technical elective | | 3 |
| Creative Arts core | | 3 |
| Language, Philosophy & Culture core | | 3 |
| Credit Hours | | 15 |
| Total Credit Hours | | 128 |

Department of Electrical and Computer Engineering

The Department of Electrical and Computer Engineering (ECE) offers two ABET-accredited bachelors degrees: a Bachelor of Science degree in Electrical Engineering (B.S. EE) and a Bachelor of Science degree in Computer Engineering (B.S. CpE). Individuals enrolled in these degree programs are given opportunities to develop a strong background in the engineering sciences and to learn the analysis, design, and synthesis tools necessary to function successfully as active participants in traditional, new, and emerging areas of electrical and computer engineering related technologies. The ECE department continues to be recognized locally and nationally for the quality of its undergraduate programs. As a result, ECE graduates continue to find high-paying jobs or are accepted into graduate schools nationwide.

Program Educational Objectives

The educational objectives of the Electrical Engineering program are that our graduates will:

1. Contribute their technical knowledge to better their lives and society
2. Assume positions of leadership and responsibility in their electrical engineering related careers
3. Pursue graduate and professional studies
4. Conduct themselves in a professional manner that meets or exceeds the expectations of their employers

The educational objectives of the Computer Engineering program are that our graduates will:

1. Engage in life-long learning, remaining current and becoming leaders in their profession
2. Advance and expand in their computer engineering related careers by applying their engineering knowledge and skills
3. Contribute productively to the workforce in state, regional, national and international industries and government organizations
4. Communicate effectively, provide enabling solutions to societal challenges, and respond to technical, business, social, ethical, and human needs of the society through their professional endeavors

Meeting Program Objectives

To meet the program objectives, the curriculum for the Bachelor of Science (B.S.) degree in Electrical Engineering and the curriculum for the Bachelor of Science degree in Computer Engineering are organized into a flexible 126-semester-credit-hour structure that provides high-quality education in the fundamentals of engineering, in addition to a thorough coverage of the major specialties within electrical engineering and computer engineering. For electrical engineering students, a selection of technical electives is provided to allow in-depth concentration in selected areas such as: communication; computer; digital signal processing (DSP); electronic materials and devices; systems and control; and electric power engineering. For students seeking the B.S. degree in Computer Engineering, the selection of technical electives are from areas of digital system design, computer architecture, VLSI design, engineering programming languages and embedded systems.

Department faculty of outstanding quality work in concert to provide the two degree programs that are challenging to students, with depth in engineering sciences, design orientation, and modern laboratory

experience. The program objectives are accomplished via a three-tiered curriculum structure comprised of the lower-division core (the first two years), the upper-division core (concentrated primarily in the third year), and the senior-level electives, each of which are briefly described below.

Lower-Division Core

The lower-division core provides students with a diverse range of courses over a broad base of basic technical and specialized courses in mathematics, physics, and chemistry; computer hardware and software fundamentals; electric circuit fundamentals and electrical engineering laboratory experience; statics and dynamics; and communication skills, humanities, and social sciences.

Upper-Division Core

The upper-division core for electrical engineering and computer engineering provides students with a basic education in the fundamentals of electrical and computer engineering.

The upper-division core in electrical engineering includes: fundamentals of circuits (3 semester credit hours), controls (3 semester credit hours), electromagnetics (3 semester credit hours), electronics (6 semester credit hours), electronic devices (3 semester credit hours), and probability and random processes (3 semester credit hours). Many of these fundamental courses include the use of modern software tools for design and analysis. These fundamentals are supplemented with one hands-on laboratory course (3 semester credit hours). Written and technical communication is further emphasized in the laboratory course.

The upper-division core in computer engineering includes: fundamentals of circuits (3 semester credit hours), C++ and data structures (3 semester credit hours), microcomputer systems (3 semester credit hours), electronics (6 semester credit hours), electronic devices (3 semester credit hours), and probability and random processes (3 semester credit hours). Many of these fundamental courses include the use of modern software tools for design and analysis. These fundamental courses are supplemented with one hands-on laboratory course (3 semester credit hours). Written and technical communication is further emphasized in the laboratory course.

Senior-Level Electives

In the senior year, electrical engineering students enroll in five technical electives (15 semester credit hours), a senior laboratory course (3 semester credit hours), and the capstone design sequence (5 semester credit hours). Students in the technical elective courses have ample opportunities to learn and use modern software tools. The capstone sequence not only provides a major design experience but also emphasizes teamwork, proposal development, communication skills, and professional and ethical responsibility. Electrical engineering students are required to choose one of the six technical areas and to select a minimum of two technical electives (6 semester credit hours) from the chosen area. The remaining three technical electives (9 semester credit hours) may be selected either from the same area or from the other five areas, including one course at the graduate level and/or 3 semester credit hours from an engineering cooperative program. Computer engineering students are required to choose five technical electives from a list of approved technical electives for Bachelor of Science in Computer Engineering. The engineering cooperative program provides an opportunity for students to obtain practical experience by enrolling in the co-op course for 3 credit hours and working in an approved industry. Students who want to pursue graduate studies are encouraged to enroll

in a graduate class during their last year, which will be counted as one of the remaining technical electives.

Engineering Design Experience

Design process in electrical engineering and in computer engineering is emphasized throughout all four years. Engineering design is distributed throughout the programs starting from the second semester in EE 2513 Logic Design. During their junior and senior years, students take five technical elective courses which all have design components. During the seventh semester, students also take EE 4113 Electrical and Computer Engineering Laboratory II, where they must design complex circuits. Modern software tools usage, design and analysis, and formal written report writing are integrated components of several of the electrical and computer engineering courses. EE 3113 Electrical and Computer Engineering Laboratory I and EE 4113 Electrical and Computer Engineering Laboratory II emphasize hands-on experiments using basic to advanced capability instruments and formal written, as well as oral, reports. In EE 4812 Electrical Engineering Design I, CPE 4812 Computer Engineering Design I, EE 4813 Electrical Engineering Design II, and CPE 4813 Computer Engineering Design II, students are required to design, implement, test, demonstrate and make an oral presentation on an electronic or computer system.

Other courses with design emphasis that electrical engineering students take include: EE 3213 Electromagnetic Engineering, EE 3323 Electronic Devices, EE 3413 Analysis and Design of Control Systems, EE 3463 Microcomputer Systems I, EE 4313 Electronic Circuits II, and EE 4323 Dielectric and Optoelectronic Engineering Laboratory.

Other courses with design emphasis that computer engineering students take include: EE 3313 Electronic Circuits I, EE 3323 Electronic Devices, EE 3463 Microcomputer Systems I, EE 3563 Digital Systems Design and EE 4513 Introduction to VLSI Design.

- B.S. degree in Electrical Engineering (p. 123)
- B.S. degree in Computer Engineering (p. 125)
- Integrated B.S./M.S. Program (p. 127)

Bachelor of Science Degree in Electrical Engineering

The Bachelor of Science (B.S.) degree in Electrical Engineering has concentrations in Communications; Computer Engineering; Digital Signal Processing (DSP); Electronic Materials and Devices; Systems and Control; and Electric Power Engineering. The program is currently accredited by the Engineering Accreditation Commission of ABET, <http://www.abet.org> (<http://www.abet.org/>). The B.S. degree in Electrical Engineering offers students the opportunity to prepare for careers in areas associated with electronics and microelectronics, digital systems, communications, digital signal and image processing, controls and robotics, computer-aided design (CAD), instrumentation, bioengineering, electric power engineering, and other traditional and emerging technology areas. Through the proper selection of elective courses (at least three technical elective courses must be selected from a single technical area) to augment required courses, successful students will develop a specialization pertinent to many of these areas that may lead to productive employment in the public or private sector with electronics companies, high-technology industries, and government agencies. The program will also provide the opportunity for students to develop an understanding of fundamentals and current issues important for future years of learning through such activities as graduate school, distance

education, professional training, and membership in professional societies.

The minimum number of semester credit hours required for this degree is 126, at least 39 of which must be at the upper-division level. At least 42 of the required electrical engineering credits must be taken at UTSA. All candidates for this degree must fulfill the Core Curriculum requirements, the General Engineering requirements, and the Electrical Engineering requirements, which are listed below.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the B.S. degree in Electrical Engineering must fulfill University Core Curriculum requirements in the same manner as other students. The courses listed below satisfy both major requirements and Core Curriculum requirements; however, if these courses are taken to satisfy both requirements, then students may need to take additional courses in order to meet the minimum number of semester credit hours required for this degree.

MAT 1214 may be used to satisfy the core requirement in Mathematics, as well as one of the General Engineering requirements. PHY 1943 and PHY 1963 may be used to satisfy the core requirement in Life and Physical Sciences, as well as two of the General Engineering requirements.

Core Curriculum Component Area Requirements (p. 7)

| | |
|-----------------------------------|-----------|
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |
| Life and Physical Sciences | 6 |
| Language, Philosophy and Culture | 3 |
| Creative Arts | 3 |
| American History | 6 |
| Government-Political Science | 6 |
| Social and Behavioral Sciences | 3 |
| Component Area Option | 3 |
| Total Credit Hours | 42 |

General Engineering Requirements

All degree-seeking candidates in engineering must complete the following 22 semester credit hours, as well as the Core Curriculum requirements and major requirements:

| | | |
|---------------------------|------------------------------------------------------------------------------------------------------|-----------|
| CHE 1103 | General Chemistry I | 3 |
| EGR 2323 | Applied Engineering Analysis I | 3 |
| MAT 1214 | Calculus I | 4 |
| MAT 1224 or EGR 1324 | Calculus II Calculus II for Engineers | 4 |
| PHY 1943 & PHY 1951 | Physics for Scientists and Engineers I and Physics for Scientists and Engineers I Laboratory | 4 |
| PHY 1963 & PHY 1971 | Physics for Scientists and Engineers II and Physics for Scientists and Engineers II Laboratory | 4 |
| Total Credit Hours | | 22 |

Gateway Courses

Students pursuing the B.S. degree in Electrical Engineering must successfully complete each of the following Gateway Courses with a grade of “C-” or better in no more than two attempts. A student who is unable to successfully complete these courses within two attempts, including dropping a course with a grade of “W” or taking an equivalent course at another institution, will be required to change his or her major.

| | |
|----------|-----------------------------------------------------|
| EE 1322 | Introduction to Electrical and Computer Engineering |
| EGR 2323 | Applied Engineering Analysis I |
| MAT 1214 | Calculus I |

Electrical Engineering Degree Requirements

All degree-seeking candidates in Electrical Engineering must complete the following semester credit hours, as well as the Core Curriculum requirements and General Engineering requirements:

A. Required Courses

| | | |
|-----------------------------------------------------------------------------------|-----------------------------------------------------|---|
| 1. Electrical Engineering courses | | |
| EE 1322 | Introduction to Electrical and Computer Engineering | 2 |
| EE 2423 | Network Theory | 3 |
| EE 2511 | Logic Design Laboratory | 1 |
| EE 2513 | Logic Design | 3 |
| EE 3113 | Electrical and Computer Engineering Laboratory I | 3 |
| EE 3213 | Electromagnetic Engineering | 3 |
| EE 3313 | Electronic Circuits I | 3 |
| EE 3323 | Electronic Devices | 3 |
| EE 3413 | Analysis and Design of Control Systems | 3 |
| EE 3423 | Mathematics in Signals and Systems | 3 |
| EE 3463 | Microcomputer Systems I | 3 |
| EE 4113 | Electrical and Computer Engineering Laboratory II | 3 |
| EE 4313 | Electronic Circuits II | 3 |
| EE 4812 | Electrical Engineering Design I | 2 |
| EE 4813 | Electrical Engineering Design II | 3 |
| EGR 2213 | Statics and Dynamics | 3 |
| EGR 3323 | Applied Engineering Analysis II | 3 |
| 2. Supporting courses | | |
| CPE 2073 | Introduction to Computer Programming for Engineers | 3 |
| EE 3533 | Probability and Stochastic Processes | 3 |
| Mathematics and Science Supporting Course: Select one from the following courses: | | |
| BIO 1233 | Contemporary Biology I | |
| CHE 1113 | General Chemistry II | |
| MAT 2233 | Linear Algebra | |
| MAT 3013 | Foundations of Mathematics | |
| STA 3523 | Mathematical Statistics | |

B. Electrical engineering elective courses

Select at least two courses from a single one of the following concentrations. The other three courses may be selected from any of the concentration areas. Topics offered under EE 4953 Special Studies in Electrical Engineering may be approved as technical electives in the relevant concentration.

Communication Concentration

| | | |
|------------------------------------------------|------------------------------------------------------|----|
| EE 3523 | Discrete Signals and Systems | |
| EE 4613 | Communication Systems | |
| EE 4653 | Digital Communications | |
| EE 4673 | Data Communication and Networks | |
| EE 4683 | Wireless Communications | |
| EE 4693 | Fiber Optic Communications | |
| Computer Engineering Concentration | | |
| EE 3223 | C++ and Data Structures | |
| EE 3233 | Systems Programming for Engineers | |
| EE 3563 | Digital Systems Design | |
| EE 4243 | Computer Organization and Architecture | |
| EE 4513 | Introduction to VLSI Design | |
| EE 4553 | VLSI Testing | |
| EE 4583 | Microcomputer Systems II | |
| DSP Concentration | | |
| EE 3523 | Discrete Signals and Systems | |
| EE 4623 | Digital Filtering | |
| EE 4643 | Digital Signal Processing | |
| EE 4663 | Digital Image Processing | |
| Electronic Materials and Devices Concentration | | |
| EE 3513 | Electromechanical Systems | |
| EE 4323 | Dielectric and Optoelectronic Engineering Laboratory | |
| EE 4513 | Introduction to VLSI Design | |
| EE 4523 | Introduction to Nanoelectronics | |
| EE 4543 | Advanced Topics in Micro and Nanotechnology | |
| Systems and Control Concentration | | |
| EE 3523 | Discrete Signals and Systems | |
| EE 3513 | Electromechanical Systems | |
| EE 4443 | Discrete-Time and Computer-Controlled Systems | |
| EE 4723 | Intelligent Robotics | |
| EE 4733 | Intelligent Control | |
| EE 4743 | Embedded Control Systems | |
| Electric Power Engineering Concentration | | |
| EE 3513 | Electromechanical Systems | |
| EE 4123 | Power Engineering Laboratory | |
| EE 4753 | Analysis of Power Systems | |
| EE 4763 | Power Electronics | |
| EE 4773 | Electric Drives | |
| Total Credit Hours | | 71 |

B.S. in Electrical Engineering – Recommended Four-Year Academic Plan

First Year

| Fall | | Credit Hours |
|--------------|-----------------------------------------------------|--------------|
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| CHE 1103 | General Chemistry I | 3 |
| EE 1322 | Introduction to Electrical and Computer Engineering | 2 |
| MAT 1214 | Calculus I (core and major) | 4 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| Credit Hours | | 15 |

| | | |
|---------------|---------------------------------------------------------|----|
| Spring | | |
| EE 2511 | Logic Design Laboratory | 1 |
| EE 2513 | Logic Design | 3 |
| MAT 1224 | Calculus II | 4 |
| PHY 1943 | Physics for Scientists and Engineers I (core and major) | 3 |
| PHY 1951 | Physics for Scientists and Engineers I Laboratory | 1 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| CPE 2073 | Introduction to Computer Programming for Engineers | 3 |
| Credit Hours | | 18 |

Second Year

| | | |
|-----------------------|----------------------------------------------------------|----|
| Fall | | |
| EE 2423 | Network Theory | 3 |
| EGR 2213 | Statics and Dynamics | 3 |
| EGR 2323 | Applied Engineering Analysis I | 3 |
| PHY 1963 | Physics for Scientists and Engineers II (core and major) | 3 |
| PHY 1971 | Physics for Scientists and Engineers II Laboratory | 1 |
| American History core | | 3 |
| Credit Hours | | 16 |

| | | |
|-----------------------|------------------------------------|----|
| Spring | | |
| EE 3313 | Electronic Circuits I | 3 |
| EE 3423 | Mathematics in Signals and Systems | 3 |
| EE 3463 | Microcomputer Systems I | 3 |
| EGR 3323 | Applied Engineering Analysis II | 3 |
| American History core | | 3 |
| Credit Hours | | 15 |

Third Year

| | | |
|-------------------------------------------|--------------------------------------------------|----|
| Fall | | |
| EE 3113 | Electrical and Computer Engineering Laboratory I | 3 |
| EE 3323 | Electronic Devices | 3 |
| EE 4313 | Electronic Circuits II | 3 |
| Mathematics and Science Supporting Course | | 3 |
| Language, Philosophy & Culture core | | 3 |
| Credit Hours | | 15 |

| | | |
|-----------------------|------------------------------------------|----|
| Spring | | |
| EE 3213 | Electromagnetic Engineering | 3 |
| EE 3413 | Analysis and Design of Control Systems | 3 |
| EE 3533 | Probability and Stochastic Processes | 3 |
| EE Technical elective | | 3 |
| POL 1013 | Introduction to American Politics (core) | 3 |
| Credit Hours | | 15 |

Fourth Year

| | | |
|-------------|---------------------------------------------------|---|
| Fall | | |
| EE 4113 | Electrical and Computer Engineering Laboratory II | 3 |

| | | |
|-------------------------|---------------------------------------------------------------------------|----|
| EE 4812 | Electrical Engineering Design I | 2 |
| EE Technical elective | | 3 |
| EE Technical elective | | 3 |
| POL 1133 or POL 1213 | Texas Politics and Society (core) or Civil Rights in Texas and America | 3 |
| Creative Arts core | | 3 |
| Credit Hours | | 17 |

| | | |
|----------------------------|------------------------------------|-----|
| Spring | | |
| ECO 2023 | Introductory Microeconomics (core) | 3 |
| EE 4813 | Electrical Engineering Design II | 3 |
| EE Technical elective | | 3 |
| EE Technical elective | | 3 |
| Component Area Option core | | 3 |
| Credit Hours | | 15 |
| Total Credit Hours | | 126 |

Bachelor of Science Degree in Computer Engineering

The Bachelor of Science (B.S.) degree in Computer Engineering gives the students the opportunity to acquire broad engineering skills and knowledge to enable them to design and implement computer and digital systems. The discipline of computer engineering includes topics such as logic design; digital systems design; discrete mathematics; computer organization; embedded systems design requiring assembly programming of microprocessors, high-level programming and interfacing of processors to other circuits; high-level digital design languages (HDL) and Field Programmable Gate Arrays (FPGA's); Very Large Scale Integrated (VLSI) circuit design; and fundamental electrical engineering, mathematics, and science. The program is currently accredited by the Engineering Accreditation Commission of ABET, <http://www.abet.org> (<http://www.abet.org/>).

The minimum number of semester credit hours required for this degree is 126, at least 39 of which must be at the upper-division level. At least 42 of the required computer engineering credits must be taken at UTSA. All candidates for this degree must fulfill the Core Curriculum requirements, the General Engineering requirements, and the Computer Engineering requirements, which are listed below.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the B.S. degree in Computer Engineering must fulfill University Core Curriculum requirements in the same manner as other students. The courses listed below satisfy both major requirements and Core Curriculum requirements; however, if these courses are taken to satisfy both requirements, then students may need to take additional courses in order to meet the minimum number of semester credit hours required for this degree.

MAT 1214 may be used to satisfy the core requirement in Mathematics, as well as one of the General Engineering requirements. PHY 1943 and PHY 1963 may be used to satisfy the core requirement in Life and Physical Sciences, as well as two of the General Engineering requirements.

Core Curriculum Component Area Requirements (p. 7)

| | |
|-----------------------------------|-----------|
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |
| Life and Physical Sciences | 6 |
| Language, Philosophy and Culture | 3 |
| Creative Arts | 3 |
| American History | 6 |
| Government-Political Science | 6 |
| Social and Behavioral Sciences | 3 |
| Component Area Option | 3 |
| Total Credit Hours | 42 |

General Engineering Requirements

All degree-seeking candidates in engineering must complete the following 22 semester credit hours, as well as the Core Curriculum requirements and major requirements:

| | | |
|---------------------------|------------------------------------------------------------------------------------------------------|-----------|
| CHE 1103 | General Chemistry I | 3 |
| EGR 2323 | Applied Engineering Analysis I | 3 |
| MAT 1214 | Calculus I | 4 |
| MAT 1224 or EGR 1324 | Calculus II Calculus II for Engineers | 4 |
| PHY 1943 & PHY 1951 | Physics for Scientists and Engineers I and Physics for Scientists and Engineers I Laboratory | 4 |
| PHY 1963 & PHY 1971 | Physics for Scientists and Engineers II and Physics for Scientists and Engineers II Laboratory | 4 |
| Total Credit Hours | | 22 |

Gateway Courses

Students pursuing the B.S. degree in Computer Engineering must successfully complete each of the following Gateway Courses with a grade of "C-" or better in no more than two attempts. A student who is unable to successfully complete these courses within two attempts, including dropping a course with a grade of "W" or taking an equivalent course at another institution, will be required to change his or her major.

| | |
|----------|-----------------------------------------------------|
| EE 1322 | Introduction to Electrical and Computer Engineering |
| EE 2513 | Logic Design |
| MAT 1214 | Calculus I |

Computer Engineering Degree Requirements

All degree-seeking candidates in Computer Engineering must complete the following semester credit hours, as well as the Core Curriculum requirements and General Engineering requirements:

A. Required courses

| | | |
|-------------------------------------------------|-----------------------------------------------------|---|
| 1. Electrical and Computer engineering courses: | | |
| EE 1322 | Introduction to Electrical and Computer Engineering | 2 |
| EE 2423 | Network Theory | 3 |
| EE 2511 | Logic Design Laboratory | 1 |
| EE 2513 | Logic Design | 3 |
| EE 3113 | Electrical and Computer Engineering Laboratory I | 3 |

| | | |
|----------|---------------------------------------------------|---|
| EE 3223 | C++ and Data Structures | 3 |
| EE 3233 | Systems Programming for Engineers | 3 |
| EE 3313 | Electronic Circuits I | 3 |
| EE 3323 | Electronic Devices | 3 |
| EE 3423 | Mathematics in Signals and Systems | 3 |
| EE 3463 | Microcomputer Systems I | 3 |
| EE 3563 | Digital Systems Design | 3 |
| EE 4113 | Electrical and Computer Engineering Laboratory II | 3 |
| EE 4243 | Computer Organization and Architecture | 3 |
| CPE 4812 | Computer Engineering Design I | 2 |
| CPE 4813 | Computer Engineering Design II | 3 |
| EGR 3323 | Applied Engineering Analysis II | 3 |

2. Supporting courses

| | | |
|------------|----------------------------------------------------|---|
| CPE 2073 | Introduction to Computer Programming for Engineers | 3 |
| or CS 2073 | Computer Programming with Engineering Applications | |
| CS 2233 | Discrete Mathematical Structures | 3 |
| EE 3533 | Probability and Stochastic Processes | 3 |

B. Computer engineering electives

Select five courses including one Mathematics from the following: 15

| | | |
|----------|---------------------------------------------------------------------------------------------------|--|
| EE 4513 | Introduction to VLSI Design | |
| EE 4553 | VLSI Testing | |
| EE 4563 | FPGA-Based System Design | |
| EE 4583 | Microcomputer Systems II | |
| EE 4593 | Embedded System Design | |
| EE 4643 | Digital Signal Processing | |
| EE 4663 | Digital Image Processing | |
| EE 4953 | Special Studies in Electrical and Computer Engineering (Computer Engineering related topics only) | |
| MAT 2233 | Linear Algebra | |
| MAT 3013 | Foundations of Mathematics | |
| MAT 3123 | Fundamentals of Geometry | |

Total Credit Hours 71

B.S. in Computer Engineering – Recommended Four-Year Academic Plan

First Year

| Fall | | Credit Hours |
|---------------------|-----------------------------------------------------|--------------|
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| EE 1322 | Introduction to Electrical and Computer Engineering | 2 |
| CHE 1103 | General Chemistry I | 3 |
| MAT 1214 | Calculus I (core and major) | 4 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|----------|---------------------------------------------------------|---|
| EE 2511 | Logic Design Laboratory | 1 |
| EE 2513 | Logic Design | 3 |
| MAT 1224 | Calculus II | 4 |
| PHY 1943 | Physics for Scientists and Engineers I (core and major) | 3 |

| | | |
|-------------------------------------|-------------------------------------------------------------------------------------------------------------|----|
| PHY 1951 | Physics for Scientists and Engineers I Laboratory | 1 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| CPE 2073 or CS 2073 | Introduction to Computer Programming for Engineers or Computer Programming with Engineering Applications | 3 |
| Credit Hours | | 18 |
| Second Year | | |
| Fall | | |
| CS 2233 | Discrete Mathematical Structures | 3 |
| EE 2423 | Network Theory | 3 |
| EGR 2323 | Applied Engineering Analysis I | 3 |
| PHY 1963 | Physics for Scientists and Engineers II (core and major) | 3 |
| PHY 1971 | Physics for Scientists and Engineers II Laboratory | 1 |
| American History core | | 3 |
| Credit Hours | | 16 |
| Spring | | |
| EE 3313 | Electronic Circuits I | 3 |
| EE 3423 | Mathematics in Signals and Systems | 3 |
| EE 3463 | Microcomputer Systems I | 3 |
| EGR 3323 | Applied Engineering Analysis II | 3 |
| American History core | | 3 |
| Credit Hours | | 15 |
| Third Year | | |
| Fall | | |
| EE 3113 | Electrical and Computer Engineering Laboratory I | 3 |
| EE 3223 | C++ and Data Structures | 3 |
| EE 3323 | Electronic Devices | 3 |
| EE 3563 | Digital Systems Design | 3 |
| Language, Philosophy & Culture core | | 3 |
| Credit Hours | | 15 |
| Spring | | |
| EE 3233 | Systems Programming for Engineers | 3 |
| EE 3533 | Probability and Stochastic Processes | 3 |
| EE 4243 | Computer Organization and Architecture | 3 |
| POL 1013 | Introduction to American Politics (core) | 3 |
| Technical elective | | 3 |
| Credit Hours | | 15 |
| Fourth Year | | |
| Fall | | |
| CPE 4812 | Computer Engineering Design I | 2 |
| EE 4113 | Electrical and Computer Engineering Laboratory II | 3 |

| | | |
|----------------------------|---------------------------------------------------------------------------|-----|
| POL 1133 or POL 1213 | Texas Politics and Society (core) or Civil Rights in Texas and America | 3 |
| Technical elective | | 3 |
| Technical elective | | 3 |
| Creative Arts core | | 3 |
| Credit Hours | | 17 |
| Spring | | |
| CPE 4813 | Computer Engineering Design II | 3 |
| ECO 2023 | Introductory Microeconomics (core) | 3 |
| Technical elective | | 3 |
| Technical elective | | 3 |
| Component Area Option core | | 3 |
| Credit Hours | | 15 |
| Total Credit Hours | | 126 |

Integrated Bachelor of Science/Master of Science Program

The integrated B.S./M.S. (Bachelor of Science and Master of Science) program administered by the Department of Electrical and Computer Engineering is designed to make possible for highly motivated and qualified B.S. students to obtain both an undergraduate degree and an advanced degree within an accelerated timeline. Through this program, motivated B.S. students can start working with the faculty advisors on research projects as early as in their senior year.

Program Admission Requirements

Applications to the B.S./M.S. program must be submitted after the completion of 75 but before 90 semester credit hours of coursework, usually when a student is enrolled in his or her junior year or in the sixth semester of the B.S. program.

The B.S./M.S. program applicants must have a minimum of 3.3 for both cumulative and major grade point averages. For qualified applicants, the department will waive the GRE examination requirement. To apply for the program, students need to:

- Apply online under the category of Integrated B.S./M.S. (B.S. in Electrical Engineering, or Computer Engineering, and M.S. in Electrical Engineering, Computer Engineering, or Advanced Materials Engineering); and
- Submit an official UTSA transcript and a Proposed Program of Study with an approval from B.S./M.S. advisors.

Submission of both recommendation letters and a personal statement is optional but highly recommended for consideration of scholarships.

Degree Requirements

B.S. Degree requirement: The current undergraduate degree programs in Electrical Engineering and Computer Engineering require 126 semester credit hours for completion with fifteen of these hours (five, 3-hour courses) as technical electives. Students accepted into the Integrated B.S./M.S. program will be required to complete 117 undergraduate credit hours and 9 graduate credit hours to replace three of the five undergraduate technical elective courses toward the B.S. degree, provided that students pass the corresponding challenge exams for the three undergraduate elective courses. The graduate courses include one of the required core graduate courses and two technical electives from the same concentration area. Students may enroll in a cross-listed

course and take a challenge examination following UTSA's challenge examination procedure (see Footnote 1) to earn undergraduate credits for the graduate course taken. Credits earned by challenging UTSA undergraduate courses by examination apply to Bachelor's degree requirements as though the courses had been completed in the normal manner. Since a grade of "CR" is awarded, such courses are not included in the UTSA grade point average calculation.

A graduate core course taken as an undergraduate must be completed with a grade of "B" or better. If a grade lower than "B" is received, it can be counted as an undergraduate technical elective, but in order to stay in the Integrated B.S./M.S. program, a student must pass one of the graduate core courses with a grade of "B" or better. Undergraduate students not able to satisfy this requirement, or simply wishing to voluntarily withdraw from the Integrated B.S./M.S. program, must use a combination of five undergraduate technical electives and graduate courses to satisfy the original 126-hour regular degree program requirement in order to receive their B.S. degree. Students continuing on in the Integrated B.S./M.S. program will receive their B.S. degrees once they have earned 117 undergraduate credit hours and 9 credit hours of technical elective courses by passing the challenge examinations. The 9 graduate credit hours taken as an undergraduate will be counted toward the M.S. degree requirement.

M.S. Degree requirement: A student enrolled in the Integrated B.S./M.S. program can graduate by completing requirements for a thesis or nonthesis (project) option.

(i) Thesis Option: Students must complete 30 credit hours including 6 hours of thesis work.

(ii) Nonthesis Option: Students must complete 33 credit hours including 3 hours of project work.

B.S./M.S. Classification

Once admitted to the Integrated B.S./M.S. program, students are allowed to take graduate courses as undergraduate students. Students admitted to the Integrated B.S./M.S. program will be reclassified from undergraduate to graduate student status when they have completed 126 semester credit hours of coursework (of any combination of graduate and undergraduate hours) toward their degrees. B.S./M.S. students can receive their B.S. degree upon completion of 126 semester credit hours, including those credited by passing the challenge examinations, at which point the program will certify the student's eligibility to receive the B.S. degree and request the Graduate School to change the student status in the Student Information System.

1

Currently the **Challenging a UTSA Course policy** at UTSA applies only to undergraduate courses; thus, this mechanism is valid only if the same graduate course is cross-listed with an undergraduate course or until the procedure is extended to graduate courses.

Certificate in Artificial Intelligence

Non-UTSA students who want to pursue the certificate in Artificial Intelligence but do not wish to also be admitted into the regular Electrical and Computer Engineering programs must apply via the University's special undergraduate admission process.

A. Required course: 3

| | |
|---------|--------------------------------------|
| EE 3533 | Probability and Stochastic Processes |
|---------|--------------------------------------|

B. EE electives. Four courses (12 semester credit hours) selected from the following list: 12

| | |
|------------|--------------------------------------------------------------------------------------------|
| EE 3223 | C++ and Data Structures (Only one of these courses can be counted towards the certificate) |
| or EE 3233 | |
| EE 4463 | Introduction to Machine Learning |
| EE 4723 | Intelligent Robotics |
| EE 4733 | Intelligent Control |
| EE 4953 | Special Studies in Electrical and Computer Engineering (Internet of Things (IOT)) |
| EE 4953 | Special Studies in Electrical and Computer Engineering (Robotics) |
| EE 4953 | Special Studies in Electrical and Computer Engineering (Cyber-Security) |

Total Credit Hours 15

Department of Mechanical Engineering

The Department of Mechanical Engineering offers a Bachelor of Science degree in Mechanical Engineering (ME). The program is currently accredited by the Engineering Accreditation Commission of ABET, <http://www.abet.org> (<http://www.abet.org/>). Individuals enrolling in this degree program are given the opportunity to develop a strong background in Engineering Science and to learn the analysis, design, and synthesis tools necessary to contribute in traditional and emerging areas of technology.

The department has excellent laboratory facilities where students receive hands-on instruction from faculty members. Computer-aided design (CAD) facilities, including state-of-the-art workstations, are routinely used. Some classes are taught by adjunct faculty from local industries, giving students the opportunity to interact with engineering professionals engaged in relevant engineering practice.

Because of the broad engineering training in this program, graduates may find employment in many industries, including companies or government agencies associated with aerospace, automotive, energy, petroleum, manufacturing, biomedical engineering, and research.

Bachelor of Science Degree in Mechanical Engineering

The Bachelor of Science degree in Mechanical Engineering offers students the opportunity to prepare for careers in traditional, new, and emerging technologies related to the practice of Mechanical Engineering, which is a versatile and broadly-based engineering discipline. Mathematics and basic sciences, such as physics and chemistry, form the foundation of mechanical engineering, which requires an understanding of diverse subject areas, such as solid and fluid mechanics, thermal sciences, mechanical design, structures, material selection, manufacturing processes and systems, mechanical systems and control, and instrumentation.

The Mechanical Engineering curriculum provides education and basic engineering training through the required coursework. Students may develop increased specialization and depth through the selection of technical elective courses. Development of open-ended, problem-solving skills is a part of many mechanical engineering courses. Design projects with formal report writing are included in many courses. In addition, a substantial portion of technical elective courses is devoted to the design of systems and components. A capstone design sequence at the senior level provides an opportunity to apply and integrate the knowledge gained throughout the curriculum to the development of an instructor-approved project.

The laboratory requirements are designed to provide hands-on experience in basic measurement and instrumentation equipment and the application of classroom theory. Students may receive additional hands-on experiences by selecting technical elective courses with laboratory components.

Opportunities exist for students to participate in research and design projects. All students are eligible to participate in undergraduate research, through the independent study courses. Students also have an opportunity to participate in an approved co-op program and may receive up to 3 semester credit hours for their experience.

Program Educational Objectives

The Mechanical Engineering Program prepares students to attain the following program educational objectives a few years after graduation:

1. Have engineering or other careers in industry, government, and/or will pursue advanced graduate or professional degrees
2. Apply their engineering knowledge, critical thinking, creativity, and problem solving skills in professional engineering practice or in non-engineering fields
3. Continue to advance their knowledge, communication, and leadership skills through graduate education, professional development courses, self-directed study, and/or on-the-job training, and experience
4. Apply their understanding of societal, environmental, and ethical issues to their professional activities

Student Outcomes

Graduates of the UTSA Mechanical Engineering Program will demonstrate the following student outcomes. Attainment of these outcomes prepares graduates to enter the professional practice of engineering.

1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
2. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
3. An ability to communicate effectively with a range of audiences
4. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
5. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
6. An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies

The minimum number of semester credit hours required for this degree is 128, at least 39 of which must be at the upper-division level. All candidates for this degree must fulfill the Core Curriculum requirements, the General Engineering requirements, and the degree requirements, listed below. A minimum grade of "C-" or better is required for all mathematics, science, Engineering (EGR), and Mechanical Engineering (ME) courses in the curriculum.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the Bachelor of Science degree in Mechanical Engineering must fulfill the University Core Curriculum requirements in the same manner as other students. The courses listed below satisfy both major requirements and Core Curriculum requirements; however, if these courses are taken to satisfy both requirements, then students may need to take additional courses in order to meet the minimum number of semester credit hours required for the degree.

MAT 1214 may be used to satisfy the core requirement in Mathematics, as well as one of the General Engineering requirements. PHY 1943 and PHY 1963 may be used to satisfy the core requirement in Life and Physical Sciences, as well as two of the General Engineering requirements. EGR 1403 may be used to satisfy the core requirement in the Component Area Option.

Core Curriculum Component Area Requirements (p. 7)

| | |
|-----------------------------------|-----------|
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |
| Life and Physical Sciences | 6 |
| Language, Philosophy and Culture | 3 |
| Creative Arts | 3 |
| American History | 6 |
| Government-Political Science | 6 |
| Social and Behavioral Sciences | 3 |
| Component Area Option | 3 |
| Total Credit Hours | 42 |

General Engineering Requirements

Students seeking the Bachelor of Science degree in Mechanical Engineering must complete the following 22 semester credit hours:

| | | |
|---------------------------|--------------------------------------------------------|---------------------------|
| CHE 1103 | General Chemistry I | 3 |
| EGR 2323 | Applied Engineering Analysis I | 3 |
| MAT 1214 | Calculus I | 4 |
| MAT 1224 | Calculus II | 4 |
| | or EGR 1324 | Calculus II for Engineers |
| PHY 1943 | Physics for Scientists and Engineers I | 4 |
| & PHY 1951 | and Physics for Scientists and Engineers I Laboratory | |
| PHY 1963 | Physics for Scientists and Engineers II | 4 |
| & PHY 1971 | and Physics for Scientists and Engineers II Laboratory | |
| Total Credit Hours | | 22 |

Gateway Courses

Students pursuing the Bachelor of Science degree in Mechanical Engineering must successfully complete each of the following Gateway Courses with a grade of "C-" or better in no more than two attempts. A student who is unable to successfully complete these courses within two attempts, including dropping a course with a grade of "W" or taking an equivalent course at another institution, will be required to change his or her major.

| | |
|----------|--------------------------------|
| EGR 2103 | Statics |
| EGR 2323 | Applied Engineering Analysis I |
| EGR 2513 | Dynamics |
| MAT 1214 | Calculus I |

Degree Requirements

Students seeking the Bachelor of Science degree in Mechanical Engineering must complete the following semester credit hours, as well as the Core Curriculum requirements and General Engineering requirements:

A. Required foundation and general mechanical engineering courses:

| | | |
|----------|------------------------------------|---|
| EE 2213 | Electric Circuits and Electronics | 3 |
| EGR 2103 | Statics | 3 |
| EGR 2513 | Dynamics | 3 |
| EGR 3323 | Applied Engineering Analysis II | 3 |
| ME 1403 | Engineering Practice and Graphics | 3 |
| ME 2173 | Numerical Methods | 3 |
| ME 3113 | Measurements and Instrumentation | 3 |
| ME 3241 | Materials Engineering Laboratory | 1 |
| ME 3243 | Materials Engineering | 3 |
| ME 3263 | Manufacturing Engineering | 3 |
| ME 3293 | Thermodynamics I | 3 |
| ME 3541 | Dynamics and Controls Laboratory | 1 |
| ME 3543 | Dynamic Systems and Control | 3 |
| ME 3663 | Fluid Mechanics | 3 |
| ME 3813 | Mechanics of Solids | 3 |
| ME 3823 | Machine Element Design I | 3 |
| ME 4293 | Thermodynamics II | 3 |
| ME 4312 | Thermal and Fluids Laboratory | 2 |
| ME 4313 | Heat Transfer | 3 |
| ME 4543 | Mechatronics | 3 |
| ME 4801 | Manufacturing Practices Laboratory | 1 |
| ME 4812 | Senior Design I | 2 |
| ME 4813 | Senior Design II | 3 |

B. Mechanical Engineering elective courses

Select 9 semester credit hours of Mechanical Engineering elective courses. Students are encouraged to choose courses from a specific group listed below. Students may also select courses to partially satisfy the requirements of a certificate in one of the following areas: 1) Aerospace Engineering; 2) Industrial and Manufacturing Engineering; or 3) Oil/Gas. For detailed requirements, see the Certificates section of the Mechanical Engineering program.

Aerospace Engineering

| | | |
|---------|------------------------------------------------------------------------|--|
| ME 3323 | Mechanical Vibration | |
| ME 4183 | Compressible Flow and Propulsion Systems | |
| ME 4603 | Finite Element Analysis | |
| ME 4723 | Reliability and Quality Control in Engineering Design | |
| ME 4953 | Special Studies in Mechanical Engineering (when topic is Aerodynamics) | |
| ME 4953 | Special Studies in Mechanical Engineering (when topic is Propulsion) | |
| ME 4953 | Special Studies in Mechanical Engineering (when topic is Astroynamics) | |

Design and Control of Mechanical Systems

| | | |
|---------|-------------------------------------------------------|--|
| ME 3323 | Mechanical Vibration | |
| ME 3513 | Mechanism Design | |
| ME 4553 | Automotive Vehicle Dynamics | |
| ME 4723 | Reliability and Quality Control in Engineering Design | |
| ME 4773 | Robotics | |

Energy, Thermal and Fluid Systems

| | | |
|---------|------------------------------------------|--|
| ME 4183 | Compressible Flow and Propulsion Systems | |
| ME 4323 | Thermal Systems Design | |

| | |
|---------|-----------------------------------------------------|
| ME 4343 | Heating, Air Conditioning, and Refrigeration Design |
| ME 4593 | Alternative Energy Sources |
| ME 4613 | Power Plant System Design |
| ME 4623 | Internal Combustion Engines |

Industrial and Manufacturing Engineering

| | |
|----------|-----------------------------------------------------------------------------------------|
| EGR 3713 | Engineering Economic Analysis |
| ME 4503 | Lean Manufacturing and Enterprise Engineering |
| ME 4563 | Computer Integrated Manufacturing |
| ME 4573 | Facilities Planning and Design |
| ME 4583 | Enterprise Process Engineering |
| ME 4723 | Reliability and Quality Control in Engineering Design |
| ME 4773 | Robotics |
| ME 4953 | Special Studies in Mechanical Engineering (when topic is Operations Research Quality) |
| ME 4953 | Special Studies in Mechanical Engineering (when topic is Systems Modeling and Analysis) |

Mechanics and Materials

| | |
|---------|-----------------------------------------------------------|
| ME 4243 | Intermediate Materials Engineering |
| ME 4603 | Finite Element Analysis |
| ME 4963 | Mechanical Engineering Applications to Biomedical Systems |

Oil and Gas

| | |
|----------|----------------------------------------------------|
| EGR 3713 | Engineering Economic Analysis |
| ME 3323 | Mechanical Vibration |
| ME 4323 | Thermal Systems Design |
| ME 4373 | Separation Processes |
| ME 4593 | Alternative Energy Sources |
| ME 4603 | Finite Element Analysis |
| ME 4643 | Pressure Vessel and Piping Design |
| ME 4653 | Oil and Gas Engineering and Reservoir Geomechanics |
| ME 4683 | Corrosion Engineering |

Additional engineering elective courses

| | |
|---------------------------------------------------------|--------------------------------------------------------|
| EGR 3303 | Engineering Co-op ¹ |
| EGR 4993 | Honors Research ¹ |
| ME 4173 | High Performance Computing |
| ME 4913 | Independent Study ¹ |
| ME 4953 | Special Studies in Mechanical Engineering ¹ |
| Graduate Courses in Mechanical Engineering ² | |

C. 3 semester credit hours of approved mathematics or basic science elective courses, selected from the following list:

| | |
|----------|-----------------------------------------|
| BIO 1233 | Contemporary Biology I |
| BIO 1243 | Contemporary Biology II |
| BIO 1404 | Biosciences I |
| BIO 2003 | Biology of Human Reproduction |
| CHE 1113 | General Chemistry II |
| CHE 2603 | Organic Chemistry I |
| ES 2013 | Introduction to Environmental Science I |
| GEO 1123 | Life Through Time |
| MAT 3013 | Foundations of Mathematics |
| MAT 3103 | Data Analysis and Interpretation |
| PHY 2103 | Modern Physics |

| | |
|----------|--------------------------------------------------|
| PHY 3203 | Classical Mechanics I |
| STA 2303 | Applied Probability and Statistics for Engineers |
| STA 3003 | Applied Statistics |

Total Credit Hours 73

1

With prior approval, these courses may be used as a technical elective.

2

Graduate courses require approval. Forms are available from your academic advisor.

B.S. in Mechanical Engineering – Recommended Four-Year Academic Plan**First Year**

| Fall | | Credit Hours |
|--------------|-----------------------------------------|--------------|
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| CHE 1103 | General Chemistry I | 3 |
| MAT 1214 | Calculus I (core and major) | 4 |
| ME 1403 | Engineering Practice and Graphics | 3 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| Credit Hours | | 16 |

Spring

| | | |
|-----------------------|---------------------------------------------------------|----|
| MAT 1224 | Calculus II | 4 |
| PHY 1943 | Physics for Scientists and Engineers I (core and major) | 3 |
| PHY 1951 | Physics for Scientists and Engineers I Laboratory | 1 |
| POL 1013 | Introduction to American Politics (core) | 3 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| American History core | | 3 |
| Credit Hours | | 17 |

Second Year**Fall**

| | | |
|-----------------------|----------------------------------------------------------|----|
| EGR 2103 | Statics | 3 |
| EGR 2323 | Applied Engineering Analysis I | 3 |
| PHY 1963 | Physics for Scientists and Engineers II (core and major) | 3 |
| PHY 1971 | Physics for Scientists and Engineers II Laboratory | 1 |
| EGR 1403 | Technical Communication (or other core option) | 3 |
| Math/Science Elective | | 3 |
| Credit Hours | | 16 |

Spring

| | | |
|--------------|-----------------------------------|----|
| EE 2213 | Electric Circuits and Electronics | 3 |
| EGR 2513 | Dynamics | 3 |
| EGR 3323 | Applied Engineering Analysis II | 3 |
| ME 3241 | Materials Engineering Laboratory | 1 |
| ME 3243 | Materials Engineering | 3 |
| ME 3293 | Thermodynamics I | 3 |
| Credit Hours | | 16 |

Third Year

Fall

| | | |
|-------------------------------------|----------------------------------|----|
| ME 2173 | Numerical Methods | 3 |
| ME 3113 | Measurements and Instrumentation | 3 |
| ME 3663 | Fluid Mechanics | 3 |
| ME 3813 | Mechanics of Solids | 3 |
| ME 4293 | Thermodynamics II | 3 |
| Language, Philosophy & Culture core | | 3 |
| Credit Hours | | 18 |

Spring

| | | |
|--------------------|----------------------------------|----|
| ME 3263 | Manufacturing Engineering | 3 |
| ME 3541 | Dynamics and Controls Laboratory | 1 |
| ME 3543 | Dynamic Systems and Control | 3 |
| ME 3823 | Machine Element Design I | 3 |
| ME 4313 | Heat Transfer | 3 |
| Creative Arts core | | 3 |
| Credit Hours | | 16 |

Fourth Year

Fall

| | | |
|-------------------------|------------------------------------------------------------------------------|----|
| ME 4312 | Thermal and Fluids Laboratory | 2 |
| ME 4543 | Mechatronics | 3 |
| ME 4801 | Manufacturing Practices Laboratory | 1 |
| ME 4812 | Senior Design I | 2 |
| POL 1133 or POL 1213 | Texas Politics and Society (core) or Civil Rights in Texas and America | 3 |
| ME Technical elective | | 3 |
| Credit Hours | | 14 |

Spring

| | | |
|-------------------------------------|------------------|-----|
| ME 4813 | Senior Design II | 3 |
| ME Technical elective | | 3 |
| ME Technical elective | | 3 |
| American History core | | 3 |
| Social and Behavioral Sciences core | | 3 |
| Credit Hours | | 15 |
| Total Credit Hours | | 128 |

- Certificate in Aerospace Engineering (p. 132)
- Certificate in Heating, Ventilation and Air-Conditioning (p. 132)
- Certificate in Industrial and Manufacturing Engineering (p. 133)
- Certificate in Oil/Gas (p. 133)

Certificate in Aerospace Engineering

The Certificate in Aerospace Engineering is designed to prepare degree-seeking students or degree holders in mechanical engineering or related fields with the fundamental engineering knowledge necessary for successful careers in the aerospace industry. It certifies to employers that students awarded the certificate have completed coursework essential to successful in entry-level positions in aerospace.

Eligibility requirements:

- Meet the prerequisite courses for the certificate program (refer to course descriptions in the *UTSA Undergraduate Catalog*)

Students pursuing an Aerospace Engineering certificate must complete 15 semester credit hours as follows:

| | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|-----------|
| A. Required courses: | | 3 |
| ME 3663 | Fluid Mechanics | |
| B. ME electives. A minimum of three courses (9 semester credit hours) selected from the following list: | | 9-12 |
| ME 4183 | Compressible Flow and Propulsion Systems | |
| ME 4953 | Special Studies in Mechanical Engineering (SS in Aerodynamics) | |
| ME 4953 | Special Studies in Mechanical Engineering (SS in Propulsion) | |
| ME 4953 | Special Studies in Mechanical Engineering (SS in Astrodynamics) | |
| C. Additional electives. If only three courses are selected from list B, then an additional 3 semester credit hours must be completed from the following list: | | 0-3 |
| ME 3323 | Mechanical Vibration | |
| ME 4603 | Finite Element Analysis | |
| ME 4723 | Reliability and Quality Control in Engineering Design | |
| Total Credit Hours | | 15 |

Certificate in Heating, Ventilation and Air-Conditioning

The Certificate in Heating, Ventilation and Air-Conditioning (HVAC) is designed to prepare degree-seeking students or degree holders in mechanical engineering or related fields with the fundamental engineering knowledge necessary for successful careers in the design, manufacture, selection, and/or installation of mechanical equipment which controls the built environment. It certifies to employers that students awarded the certificate have completed coursework essential to success in entry-level positions in HVAC related fields.

Eligibility requirements:

- Meet the prerequisite courses for the certificate program (refer to course descriptions in the *UTSA Undergraduate Catalog*)

Students pursuing a HVAC certificate must complete 15 semester credit hours as follows:

| | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|------|
| A. Required courses: | | 3 |
| ME 4313 | Heat Transfer | |
| B. ME electives. A minimum of three courses (9 semester credit hours) selected from the following list: | | 9-12 |
| ME 4323 | Thermal Systems Design | |
| ME 4343 | Heating, Air Conditioning, and Refrigeration Design | |
| ME 4613 | Power Plant System Design | |
| ME 4953 | Special Studies in Mechanical Engineering (SS in HVAC Controls) | |
| ME 4953 | Special Studies in Mechanical Engineering (SS in Refrigeration) | |
| ME 4953 | Special Studies in Mechanical Engineering (SS in Indoor Air Quality) | |
| C. Additional electives. If only three courses are selected from list B, then an additional 3 semester credit hours must be completed from the following list: | | 0-3 |

| | | |
|---------------------------|-------------------------------|-----------|
| EGR 3713 | Engineering Economic Analysis | |
| ME 4593 | Alternative Energy Sources | |
| Total Credit Hours | | 15 |

Certificate in Industrial and Manufacturing Engineering

The Certificate in Industrial and Manufacturing Engineering is designed to prepare degree-seeking students or degree holders in mechanical engineering or related fields with the fundamental engineering knowledge necessary for successful careers in the manufacturing industry. It certifies to employers that students awarded the certificate have completed coursework essential to success in entry-level engineering positions in manufacturing.

Eligibility requirements:

- Meet the prerequisite courses for the certificate program (refer to course descriptions in the *UTSA Undergraduate Catalog*)

Students pursuing an Industrial and Manufacturing Engineering certificate must complete 15 semester credit hours as follows:

| | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|-----------|
| A. Required courses: | | 3 |
| ME 3263 | Manufacturing Engineering | |
| B. ME electives. A minimum of three courses (9 semester credit hours) selected from the following list: | | 9-12 |
| ME 4503 | Lean Manufacturing and Enterprise Engineering | |
| ME 4563 | Computer Integrated Manufacturing | |
| ME 4573 | Facilities Planning and Design | |
| ME 4583 | Enterprise Process Engineering | |
| ME 4723 | Reliability and Quality Control in Engineering Design | |
| ME 4953 | Special Studies in Mechanical Engineering (SS in Operations Research Quality) | |
| C. Additional electives. If only three courses are selected from list B, then an additional 3 semester credit hours must be completed from the following list: | | 0-3 |
| EGR 3713 | Engineering Economic Analysis | |
| ME 4773 | Robotics | |
| ME 4953 | Special Studies in Mechanical Engineering (SS in Systems Modeling and Analysis) | |
| Total Credit Hours | | 15 |

Certificate in Oil/Gas

The Certificate in Oil/Gas is designed to prepare mechanical engineering degree-seeking students and non-degree-seeking students with mechanical engineering background with the fundamental engineering knowledge necessary for successful careers in Oil/Gas Industry. It certifies to employers that students awarded the certificate have completed coursework essential to Oil/Gas industry.

Eligibility requirements:

- Meet the prerequisite courses for the certificate program (refer to course descriptions in the *UTSA Undergraduate Catalog*)

Students pursuing an Oil/Gas certificate must complete 15 semester credit hours as follows:

| | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|-----------|
| A. Required courses: | | 3 |
| ME 3823 | Machine Element Design I ¹ | |
| B. ME electives. A minimum of three courses (9 semester credit hours) selected from the following list: | | 9-12 |
| ME 3323 | Mechanical Vibration | |
| ME 4323 | Thermal Systems Design | |
| ME 4373 | Separation Processes | |
| ME 4593 | Alternative Energy Sources | |
| ME 4603 | Finite Element Analysis | |
| ME 4643 | Pressure Vessel and Piping Design | |
| ME 4653 | Oil and Gas Engineering and Reservoir Geomechanics | |
| ME 4683 | Corrosion Engineering | |
| C. Additional electives. If only three courses are selected from list B, then an additional 3 semester credit hours must be completed from the following list: | | 0-3 |
| EGR 3713 | Engineering Economic Analysis | |
| ME 4603 | Finite Element Analysis | |
| Total Credit Hours | | 15 |

¹

Those students who have transferred equivalent required and elective courses, as listed above, from other institutions may complete the certificate program by taking 15 semester credit hours of ME courses listed above.

To earn any certificate in the mechanical engineering program, students must satisfy the following requirements:

1. Complete all the requirements of the certificate program.
2. Receive a grade of "C-" or better in each course used to satisfy the requirements of the certificate program.
3. Achieve at least a 2.5 grade point average (on a 4.0 scale) in all courses used to satisfy the requirements of the certificate program.

Undergraduates who are currently enrolled in the baccalaureate degree program in mechanical engineering or enrolled as non-degree-seeking students and who wish to earn an undergraduate certificate offered by the mechanical engineering program are eligible to enroll in the certificate program, provided they satisfy the course prerequisite requirements.

Students not currently admitted to UTSA who wish to earn an undergraduate certificate offered by the mechanical engineering program will be required to apply for admission to UTSA as special (non-degree-seeking) students at the undergraduate level, and indicate in the application process their desire to pursue the requirements for specific undergraduate certificate program. Applicants will be required to meet University admission requirements for special students at the undergraduate level.

Students who are pursuing a certificate as non-degree-seeking students will not be eligible for financial aid or Veterans Administration educational benefits.

Graduate students may enroll in the undergraduate certificate programs, provided they meet the requirements for enrollment in the certificate program.

During the last semester in the certificate program, students must submit an application for the Undergraduate Certificate to the Office of the Registrar.

8. COLLEGE FOR HEALTH, COMMUNITY AND POLICY

Mission Statement

The College for Health, Community and Policy is a new innovative college dedicated to advancing human health. The College will transform the way UTSA prepares students for the modern setting of human health related careers, in which physician scientists, nurses, therapists, technicians, social workers, social service and public service workers, and policymakers work together to deliver comprehensive solutions that advance local Texas communities.

General Information

The College for Health, Community and Policy offers eight undergraduate degrees, eight minors, and two certificates. The Bachelor of Science degree in Nutrition and Dietetics is housed under the College for Health, Community and Policy. The Department of Criminology and Criminal Justice offers the Bachelor of Arts degree in Criminology and Criminal Justice and a Minor in Criminology and Criminal Justice. The Department of Kinesiology houses the Bachelor of Science (B.S.) degree in Kinesiology, with concentrations in athletic training, exercise physiology, kinesiology and health science, and physical education, and a certificate in Athletic Coaching. The Department of Psychology offers a Bachelor of Arts degree in Psychology and a Minor in Psychology. The Department of Public Administration offers a Bachelor of Arts degree in Public Administration and Policy, a Minor in Civic Engagement, a Minor in Public Administration and Policy, a Minor in Nonprofit Management, and a Certificate in Public Policy and Data Analysis. The Department of Public Health houses the Bachelor of Science degree in Health and the Bachelor of Science degree in Public Health, with concentrations in Health Promotion and Behavioral Science and Epidemiology and Disease Control, a Minor in Community Health, and a Minor in Wellness. The Department of Sociology offers a Bachelor of Arts degree in Sociology and a Minor in Sociology.

Coordinated Program in Dietetics Bachelor of Science Degree in Nutrition and Dietetics

The Bachelor of Science (B.S.) in Nutrition and Dietetics is part of the Coordinated Program in Dietetics (CPD), which is a three-year integrated degree that includes the Master of Dietetic Studies (MDS) with 1200 hours of supervised practice. The B.S. in Nutrition and Dietetics requires two years of junior and senior level coursework, while the third year offers masters level courses. Students admitted into the undergraduate program are not guaranteed placement into the MDS unless they maintain a 3.0 grade point average, have completed all support courses, degree core, and Texas core with a grade of "C-" or better, and met all program requirements. Upon successful completion of the three-year professional program, students will receive a verification statement that certifies their eligibility to take the Commission on Dietetics Registration national examination to become a Registered Dietitian Nutritionist (RDN/RD).

Students enrolled in the Nutrition and Dietetics Program who are not eligible to transition to the Master of Dietetics Studies, may earn the Bachelor of Science degree in Nutrition and Dietetics if they meet the

program and University graduation requirements, but are not eligible for the verification statement to take the national RDN/RD exam.

Academic advising for students seeking the degree is available in the Life and Health Sciences Advising Center.

The minimum number of semester credit hours for this degree, including the Core Curriculum requirements, is 120, at least 39 of which must be at the upper-division level. All candidates seeking this degree must fulfill the Core Curriculum requirements and the degree requirements, which are listed below.

Admission Policy

Admission to the Coordinated Program in Dietetics is competitive. The program has been approved for a limited number of students by the accrediting organization. Admission into the major as part of a cohort group occurs in the Fall Semester.

The admission requirements into the Nutrition and Dietetics degree are intended to offer a program with high standards for success. Some of the requirements are known to be a good predictor of achievement in the graduate professional phase of the Coordinated Program in Dietetics. Students interested in Nutrition and Dietetics will not be able to be admitted directly into the major because this major cannot be declared as a freshman. Students interested in Nutrition and Dietetics must meet UTSA's general admission requirements and will be admitted into the "Life and Health Science Studies" until all requirements can be met at UTSA.

To declare a major in Nutrition and Dietetics, the following minimum criteria must be met:

- Must complete all support courses and most of the Texas Core requirements with a minimum cumulative grade point average (GPA) of 3.0 (on a 4.0 scale) and be in good standing with the University.
- Must complete all prerequisite courses with a grade of "C-" or better. Detailed information about the courses, including the Texas common course numbers may be obtained from the Undergraduate Catalog.
- Must complete NDT 2043 Introduction to Nutritional Sciences or BIO 2043 Nutrition or equivalent course with a grade of "B-" or better.
- May not repeat a prerequisite course more than twice to meet the grade criteria.
- Must complete all support courses (prerequisite courses) by the end of the summer semester prior to entering the program in the Fall Semester.
- Must submit a program application, transcripts (unofficial), two completed reference forms (program specific) preferably by faculty members, a resume, volunteer summary, and a statement indicating personal career goals, knowledge of the profession, commitment, interests, and motivation.
- Must have a personal interview with the program review committee members (by invitation) and receive a decision letter indicating acceptance.
- Must obtain a criminal background check.

Transfer students must meet all the above criteria and meet all the UTSA undergraduate admission requirements. Students that hold a Bachelor in Dietetics or Nutrition related field must have a verification statement (or an equivalent baccalaureate degree in nutrition and dietetics from a regionally accredited college or university in the United States or have proof of equivalent training at a foreign institution) and will be

expected to complete select undergraduate courses/practicums to meet the program's requirements. Admission is contingent on accreditation requirements and the number of placements available for the advanced practicums. Students that hold a bachelor's degree in an unrelated field would be required to complete all prerequisite courses and all equivalent undergraduate courses/practicums in dietetics and nutrition. Official transcripts from all institutions attended must be submitted.

Criminal Record Check

A criminal background check is required for admission and during the semesters in which a student enrolls in field-based practicums. Students will be required to complete a Criminal Record Check for practicums associated with schools, healthcare facilities, community organizations, hospitals and clinics. It is the responsibility of the student to determine if his or her criminal history background will present a problem before applying for admission to the program. Students with problematic criminal history will not be able to complete most of the field experiences that are required by the program.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the B.S. degree in Nutrition and Dietetics must fulfill University Core Curriculum requirements in the same manner as other students. The courses listed below satisfy both degree requirements and Core Curriculum requirements. If courses are taken to satisfy both degree requirements and Core Curriculum requirements, then students may need to take additional courses in order to meet the minimum number of semester credit hours required for this degree.

MAT 1073 should be used to satisfy the core requirement in Mathematics. BIO 1233 or BIO 1404 and BIO 1243 or BIO 1414 should be used to satisfy the Life and Physical Sciences requirements. ANT 1013 or SOC 1013 or PSY 1013 should be used to satisfy the Social and Behavioral Sciences requirement. STA 1053 may be used to satisfy the Component Area Option.

Core Curriculum Component Area Requirements (p. 7)

| | |
|-----------------------------------|-----------|
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |
| Life and Physical Sciences | 6 |
| Language, Philosophy and Culture | 3 |
| Creative Arts | 3 |
| American History | 6 |
| Government-Political Science | 6 |
| Social and Behavioral Sciences | 3 |
| Component Area Option | 3 |
| Total Credit Hours | 42 |

Gateway Course

Students pursuing the Bachelor of Science degree in Nutrition and Dietetics must successfully complete the following Gateway Course with a grade of "C-" or better in no more than two attempts. A student who is unable to successfully complete this course within two attempts, including dropping the course with a grade of "W" or taking an equivalent course at another institution, will be required to change his or her major.

NDT 3413 Advanced Human Nutrition

Degree Requirements

A. Degree core requirements

| | | |
|----------|------------------------------------------------------|---|
| NDT 3191 | Applied Food Science Practicum ¹ | 1 |
| NDT 3203 | Introduction to Nutrition and Dietetics Careers | 3 |
| NDT 3292 | Food Production Practicum ¹ | 2 |
| NDT 3313 | Applied Food Science | 3 |
| NDT 3323 | Nutrition and Health Assessment | 3 |
| NDT 3333 | Nutrition Counseling and Education | 3 |
| NDT 3343 | Nutrition in the Life Span | 3 |
| NDT 3353 | Production and Foodservice System Management I | 3 |
| NDT 3413 | Advanced Human Nutrition | 3 |
| NDT 4091 | Community Service Practicum ¹ | 1 |
| NDT 4191 | Nutrition Care Process Practicum ¹ | 1 |
| NDT 4313 | Production and Food Service System Management II | 3 |
| NDT 4323 | Medical Nutrition Therapy I | 3 |
| NDT 4333 | Community Nutrition | 3 |
| NDT 4343 | Nutrition in Disease Prevention and Health Promotion | 3 |
| NDT 4353 | Medical Nutrition Therapy II | 3 |
| NDT 4363 | Current Issues in Nutrition | 3 |

B. Support courses

| | | |
|---------------------------|--------------------------------------------------------------------------------|-----------|
| BIO 1053 & BIO 1061 | Introductory Microbiology and Introductory Microbiology Laboratory | 4 |
| BIO 2053 & BIO 2051 | Human Anatomy and Physiology I and Human Anatomy and Physiology Laboratory I | 4 |
| BIO 2063 & BIO 2061 | Human Anatomy and Physiology II and Human Anatomy and Physiology Laboratory II | 4 |
| BIO 3513 | Biochemistry | 3 |
| CHE 1103 & CHE 1121 | General Chemistry I and General Chemistry I Laboratory | 4 |
| CHE 1113 & CHE 1131 | General Chemistry II and General Chemistry II Laboratory | 4 |
| CHE 2603 & CHE 2612 | Organic Chemistry I and Organic Chemistry I Laboratory | 5 |
| MGT 3013 | Introduction to Organization Theory, Behavior, and Management | 3 |
| NDT 2043 | Introduction to Nutritional Sciences | 3 |
| PSY 1013 | Introduction to Psychology | 3 |
| or SOC 1013 | Introduction to Sociology | |
| or ANT 1013 | Introduction to Anthropology | |
| STA 1053 | Basic Statistics | 3 |
| Total Credit Hours | | 84 |

¹

The practicum courses involve traveling off campus to affiliation sites. Check the University Schedule of Classes or with the instructor to plan the rest of the course schedule accordingly.

Course Sequence Guide for B.S. Degree in Nutrition and Dietetics

This course sequence guide is designed to assist students in completing their UTSA undergraduate degree requirements that are part of the Coordinated Program in Dietetics. *This is merely a guide and*

students must satisfy other admission requirements for the Coordinated Program in Dietetics; and meet with their advisor for individualized degree plans. Progress within this guide depends upon such factors as course availability, individual student academic preparation, student time management, work obligations, and individual financial considerations. Students may choose to take core and support courses during Summer terms to reduce course loads during long semesters. Courses in the Nutrition and Dietetics Program are only offered once a year, according to the guide below.

B.S. in Nutrition and Dietetics – Recommended Four-Year Academic Plan

First Year

| Fall | | Credit Hours |
|-------------------------|---------------------------------------------------|--------------|
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| BIO 1233 or BIO 1404 | Contemporary Biology I (core) or Biosciences I | 3 |
| CHE 1103 | General Chemistry I | 3 |
| CHE 1121 | General Chemistry I Laboratory | 1 |
| MAT 1073 | Algebra for Scientists and Engineers (core) | 3 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| Credit Hours | | 16 |

Spring

| | | |
|-----------------------------------|-----------------------------------------------------|----|
| BIO 1243 or BIO 1414 | Contemporary Biology II (core) or Biosciences II | 3 |
| CHE 1113 | General Chemistry II | 3 |
| CHE 1131 | General Chemistry II Laboratory | 1 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| American History core | | 3 |
| Government-Political Science core | | 3 |
| Credit Hours | | 16 |

Second Year

| Fall | | Credit Hours |
|-----------------------|-------------------------------------------|--------------|
| BIO 1053 | Introductory Microbiology | 3 |
| BIO 1061 | Introductory Microbiology Laboratory | 1 |
| BIO 2053 | Human Anatomy and Physiology I | 3 |
| BIO 2051 | Human Anatomy and Physiology Laboratory I | 1 |
| CHE 2603 | Organic Chemistry I | 3 |
| CHE 2612 | Organic Chemistry I Laboratory | 2 |
| American History core | | 3 |
| Credit Hours | | 16 |

Spring

| | | |
|-------------------------|---------------------------------------------------------------|---|
| BIO 2063 | Human Anatomy and Physiology II | 3 |
| BIO 2061 | Human Anatomy and Physiology Laboratory II | 1 |
| BIO 3513 | Biochemistry | 3 |
| MGT 3013 | Introduction to Organization Theory, Behavior, and Management | 3 |
| NDT 2043 or BIO 2043 | Introduction to Nutritional Sciences or Nutrition | 3 |

| | | |
|----------------------------------------|----------------------------------------------------------------------------------------------------------------|----|
| PSY 1013 or SOC 1013 or ANT 1013 | Introduction to Psychology (core and major) or Introduction to Sociology or Introduction to Anthropology | 3 |
| Credit Hours | | 16 |

Third Year

Fall

| | | |
|--------------|-------------------------------------------------|----|
| NDT 3191 | Applied Food Science Practicum | 1 |
| NDT 3203 | Introduction to Nutrition and Dietetics Careers | 3 |
| NDT 3313 | Applied Food Science | 3 |
| NDT 3413 | Advanced Human Nutrition | 3 |
| STA 1053 | Basic Statistics (core and major) | 3 |
| Credit Hours | | 13 |

Spring

| | | |
|--------------|------------------------------------------------|----|
| NDT 3292 | Food Production Practicum ¹ | 2 |
| NDT 3323 | Nutrition and Health Assessment | 3 |
| NDT 3333 | Nutrition Counseling and Education | 3 |
| NDT 3343 | Nutrition in the Life Span | 3 |
| NDT 3353 | Production and Foodservice System Management I | 3 |
| Credit Hours | | 14 |

Fourth Year

Fall

| | | |
|-------------------------------------|--------------------------------------------------|----|
| NDT 4091 | Community Service Practicum ¹ | 1 |
| NDT 4313 | Production and Food Service System Management II | 3 |
| NDT 4323 | Medical Nutrition Therapy I | 3 |
| NDT 4333 | Community Nutrition | 3 |
| Government-Political Science core | | 3 |
| Language, Philosophy & Culture core | | 3 |
| Credit Hours | | 16 |

Spring

| | | |
|--------------------|------------------------------------------------------|-----|
| NDT 4191 | Nutrition Care Process Practicum ¹ | 1 |
| NDT 4343 | Nutrition in Disease Prevention and Health Promotion | 3 |
| NDT 4353 | Medical Nutrition Therapy II | 3 |
| NDT 4363 | Current Issues in Nutrition | 3 |
| Creative Arts core | | 3 |
| Credit Hours | | 13 |
| Total Credit Hours | | 120 |

¹

The practicum courses involve traveling off campus to affiliation sites. Check the University Schedule of Classes or with the instructor to plan the rest of the course schedule accordingly.

Note: NDT courses are only offered once a year; Fall or Spring semester based on the plan above.

Department of Criminology and Criminal Justice

The Department of Criminology and Criminal Justice offers a Bachelor of Arts (B.A.) degree which provides the opportunity for comprehensive study of criminal justice, and a Minor in Criminology and Criminal Justice. Students completing the Bachelor of Arts degree may pursue professional careers in government or the private sector as well as apply for admission to law or graduate schools.

Bachelor of Arts Degree in Criminology and Criminal Justice

The minimum number of semester credit hours required for this degree, including the Core Curriculum requirements, is 120. Thirty-nine of the total semester credit hours required for the degree must be at the upper-division level. Criminology and Criminal Justice majors, through consultation with faculty advisors, should choose elective courses from Core Curriculum requirements that will enhance their awareness of the complex social and cultural issues confronting contemporary American society.

All candidates for this degree must fulfill the Core Curriculum requirements and the degree requirements, which are listed below.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the B.A. degree in Criminology and Criminal Justice must fulfill University Core Curriculum requirements. The courses listed below satisfy both degree requirements and Core Curriculum requirements; however, if these courses are taken to satisfy both requirements, then students may need to take additional courses in order to meet the minimum number of semester credit hours required for this degree.

CRJ 1113 The American Criminal Justice System The American Criminal Justice System may be used to satisfy the core requirement in Social and Behavioral Sciences as well as a major requirement.

Core Curriculum Component Area Requirements (p. 7)

| | |
|-----------------------------------|-----------|
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |
| Life and Physical Sciences | 6 |
| Language, Philosophy and Culture | 3 |
| Creative Arts | 3 |
| American History | 6 |
| Government-Political Science | 6 |
| Social and Behavioral Sciences | 3 |
| Component Area Option | 3 |
| Total Credit Hours | 42 |

Gateway Course

Students pursuing the B.A. degree in Criminology and Criminal Justice must successfully complete the following Gateway Course with a grade of "C-" or better in no more than two attempts. A student who is unable to successfully complete this course within two attempts, including

dropping the course with a grade of "W" or taking an equivalent course at another institution, will be required to change his or her major.

CRJ 1113 The American Criminal Justice System

Major Degree Requirements (78 semester credit hours)

All required and elective CRJ courses must be completed with a grade of "C-" or better to count towards a major in Criminology and Criminal Justice.

A. Criminology and Criminal Justice Core (18 semester credit hours)

1. 9 semester credit hours of required courses:

| | | |
|----------|--------------------------------------------------|---|
| CRJ 1113 | The American Criminal Justice System | 3 |
| CRJ 2153 | Criminological Theory | 3 |
| CRJ 3013 | Research Design and Analysis in Criminal Justice | 3 |

2. 9 semester credit hours of CRJ upper-division electives, with at least 3 credits chosen from each of the sub-areas:

| | | |
|------------------------------------------------------|-----------------------------------------------|---|
| Sub-Area 1: Policing (3 semester credit hours) | | |
| CRJ 3123 | Investigations | 3 |
| CRJ 4413 | Contemporary Police Practices | 3 |
| CRJ 4443 | Special Topics in Policing | 3 |
| Sub-Area 2: Courts and Law (3 semester credit hours) | | |
| CRJ 3643 | Pretrial Diversion and Problem-Solving Courts | 3 |
| CRJ 4633 | Constitutional Criminal Procedure | 3 |
| CRJ 4863 | Special Topics in Courts | 3 |
| Sub-Area 3: Corrections (3 semester credit hours) | | |
| CRJ 3533 | Community Corrections | 3 |
| CRJ 4603 | Institutional Corrections | 3 |
| CRJ 4663 | Special Topics in Corrections | 3 |

B. Non-Core Criminology and Criminal Justice Coursework

18 credit hours semester credit hours of non-core criminology and criminal justice courses chosen from the following courses:

| | | |
|----------|---------------------------------------------|---|
| CRJ 2213 | Introduction to Policing | 3 |
| CRJ 2513 | Introduction to Corrections | 3 |
| CRJ 2623 | Substantive Criminal Law | 3 |
| CRJ 2813 | Introduction to Courts and the Legal System | 3 |
| CRJ 3123 | Investigations | 3 |
| CRJ 3213 | Managing Criminal Justice Organizations | 3 |
| CRJ 3233 | Introduction to Forensic Science | 3 |
| CRJ 3533 | Community Corrections | 3 |
| CRJ 3563 | Juvenile Justice | 3 |
| CRJ 3573 | Restorative Justice | 3 |
| CRJ 3713 | Ethics in Criminal Justice Practice | 3 |
| CRJ 4303 | Victimology | 3 |
| CRJ 4403 | Race, Ethnicity, and Criminal Justice | 3 |
| CRJ 4413 | Contemporary Police Practices | 3 |
| CRJ 4443 | Special Topics in Policing | 3 |
| CRJ 4453 | Drugs and Crime | 3 |
| CRJ 4463 | Gender and Crime | 3 |
| CRJ 4603 | Institutional Corrections | 3 |
| CRJ 4633 | Constitutional Criminal Procedure | 3 |
| CRJ 4653 | White Collar Crime | 3 |
| CRJ 4663 | Special Topics in Corrections | 3 |

| | | |
|----------|------------------------------------------------|---|
| CRJ 4703 | Life Course Criminology | 3 |
| CRJ 4833 | Violent Crime | 3 |
| CRJ 4843 | Study Abroad: International Criminal Justice | 3 |
| CRJ 4863 | Special Topics in Courts | 3 |
| CRJ 4913 | Independent Study | 3 |
| CRJ 4953 | Special Topics in Criminal Justice/Criminology | 3 |
| CRJ 4993 | Honors Thesis | 3 |

C. Criminology and Criminal Justice Internship (3 semester credit hours)

| | | |
|----------|--------------------------------|---|
| CRJ 4933 | Internship in Criminal Justice | 3 |
|----------|--------------------------------|---|

3 semester credit hours of CRJ 4933 Internship in Criminal Justice taken in consultation with the Department's internship coordinator once the prerequisites are satisfied (students are encouraged to complete at least 90 credit hours prior to enrolling). 3 semester credit hours of appropriate upper-division coursework may be taken in lieu of the internship if a student has relevant and documented full-time employment of at least one year in duration in a justice-related agency or is unable to obtain a placement in an agency due to verifiable personal circumstances or background issues. May be repeated for an additional 3 credit hours with a different internship work site in a subsequent semester. Prerequisites to CRJ 4933 are CRJ 1113 The American Criminal Justice System, CRJ 2153 Criminological Theory, and CRJ 3013 Research Design and Analysis in Criminal Justice.

D. Electives (39 semester credit hours)

39 semester credit hours of electives.

Course Sequence Guide for Bachelor of Arts Degree in Criminology and Criminal Justice

This course sequence guide is designed to assist students in completing their UTSA undergraduate Criminology and Criminal Justice degree requirements. *This is merely a guide and students must satisfy other requirements of this catalog and meet with their academic advisor for individualized degree plans.* Progress within this guide depends upon such factors as course availability, individual student academic preparation, student time management, work obligations, and individual financial considerations. Students may choose to take courses during Summer terms to reduce course loads during long semesters.

Bachelor of Arts in Criminology and Criminal Justice – Recommended Four-Year Academic Plan

First Year

| Fall | | Credit Hours |
|-----------------|-------------------------------------------------------|--------------|
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| CRJ 1113 | The American Criminal Justice System (core and major) | 3 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| University Core | | 3 |
| University Core | | 3 |
| | Credit Hours | 15 |

Spring

| | | |
|-----------------|--------------------------------|---|
| WRC 1023 | Freshman Composition II (core) | 3 |
| University Core | | 3 |
| University Core | | 3 |
| Non-Core CRJ | | 3 |

| | | |
|----------|--------------|----|
| Elective | | 3 |
| | Credit Hours | 15 |

Second Year

Fall

| | | |
|-----------------|-----------------------|----|
| CRJ 2153 | Criminological Theory | 3 |
| University Core | | 3 |
| University Core | | 3 |
| University Core | | 3 |
| Elective | | 3 |
| | Credit Hours | 15 |

Spring

| | | |
|-------------------------|--------------------------------------------------|----|
| CRJ 3013 | Research Design and Analysis in Criminal Justice | 3 |
| University Core | | 3 |
| University Core | | 3 |
| Elective | | 3 |
| Upper-division Elective | | 3 |
| | Credit Hours | 15 |

Third Year

Fall

| | | |
|-------------------------|--------------|----|
| University Core | | 3 |
| Major Core | | 3 |
| Non-Core CRJ | | 3 |
| Elective | | 3 |
| Upper-division Elective | | 3 |
| | Credit Hours | 15 |

Spring

| | | |
|-------------------------|--------------|----|
| Major Core | | 3 |
| Non-Core CRJ | | 3 |
| Elective | | 3 |
| Elective | | 3 |
| Upper-division Elective | | 3 |
| | Credit Hours | 15 |

Fourth Year

Fall

| | | |
|-------------------------|--------------|----|
| Major Core | | 3 |
| Non-Core CRJ | | 3 |
| Elective | | 3 |
| Elective | | 3 |
| Upper-division Elective | | 3 |
| | Credit Hours | 15 |

Spring

| | | |
|-------------------------|--------------------------------|-----|
| CRJ 4933 | Internship in Criminal Justice | 3 |
| Non-Core CRJ | | 3 |
| Non-Core CRJ | | 3 |
| Elective | | 3 |
| Upper-division Elective | | 3 |
| | Credit Hours | 15 |
| | Total Credit Hours | 120 |

Minor in Criminology and Criminal Justice

All students pursuing a Minor in Criminology and Criminal Justice must complete 21 semester credit hours (only available for non-Criminology and Criminal Justice majors).

A. Required Courses (15 semester credit hours)

| | |
|---------------------------------------------------------------------------------------------------------|---|
| 1. 6 semester credit hours from the following: | 6 |
| CRJ 1113 The American Criminal Justice System | |
| CRJ 2153 Criminological Theory | |
| 2. 9 semester credit hours of CRJ electives, with at least 3 credits chosen from each of the sub-areas: | 9 |
| Sub-Area 1: Policing (3 semester credit hours) | |
| CRJ 2213 Introduction to Policing | |
| CRJ 3123 Investigations | |
| CRJ 4413 Contemporary Police Practices | |
| CRJ 4443 Special Topics in Policing | |
| Sub-Area 2: Courts and Law (3 semester credit hours) | |
| CRJ 2623 Substantive Criminal Law | |
| CRJ 2813 Introduction to Courts and the Legal System | |
| CRJ 4633 Constitutional Criminal Procedure | |
| CRJ 4863 Special Topics in Courts | |
| Sub-Area 3: Corrections (3 semester credit hours) | |
| CRJ 2513 Introduction to Corrections | |
| CRJ 3533 Community Corrections | |
| CRJ 4603 Institutional Corrections | |
| CRJ 4663 Special Topics in Corrections | |

B. Elective Courses (6 semester credit hours)

6 semester credit hours of non-criminal justice core electives which must be upper-division (3000 and 4000 level) Criminal Justice (CRJ) electives. These electives will be selected by the student to reflect his or her specific interests.

Total Credit Hours 21

To declare a Minor in Criminology and Criminal Justice, obtain advice, obtain lists of relevant courses, or seek approval of substitutions for course requirements, students should consult their academic advisor.

Department of Demography

Currently, degree programs are in effect at the graduate level only.

Department of Kinesiology

Students pursuing a Bachelor of Science degree in Kinesiology may select a concentration in athletic training, kinesiology and health science, exercise physiology or physical education. Students with a concentration in athletic training are prepared to pursue state licensure in athletic training careers. The student must be admitted into the Athletic Training Apprenticeship Program within the UTSA Athletic Department in order to pursue this concentration. National certification in athletic training requires additional academic training in an accredited graduate program. Students with a concentration in kinesiology and health science are prepared to pursue careers in health care such as physical therapy and/or occupational therapy. Physical and/or occupational therapy licensure requires additional academic training in an accredited graduate program. Students with a concentration in exercise physiology are trained for careers in exercise science, clinical exercise, and fitness programming in corporate, commercial, medical and public settings. Graduates of this concentration are prepared for professional certifications in fitness and exercise physiology. The physical education concentration provides students the academic and professional experience as required by the State Board for Educator Certification. To be certified as a teacher by the State of Texas, a student must complete his or her coursework, have practical teaching experience (student teaching), and pass the Texas Examinations of Educator Standards (TExES). The graduate of this program will then be certified to teach physical education in grades pre-kindergarten–12. Prior to starting the practical teaching experience, a student must be accepted into the Teacher Certification Program. Please refer to the section on Teacher Certification Program in the catalog for more information.

Department Honors

The Department of Kinesiology awards Department Honors to certain outstanding students and provides the opportunity for advanced study under close faculty supervision.

Selection of honors designation is based on the student's academic performance and recommendation by the faculty of the student's major discipline. To be eligible for the program, students must have a minimum overall grade point average of 3.0 at UTSA and a minimum grade point average of 3.5 in their major at UTSA. The minimum grade point averages must be maintained for students to receive the approval of the Department Honors Committee and the discipline faculty. Students applying for Department Honors are expected to enroll in the appropriate honors thesis course during their final two semesters. The completed thesis must be approved by the supervising faculty sponsor and another departmental faculty member. Students interested in this program should contact their professors for additional information.

- B.S. degree in Kinesiology (p. 141)
- B.S. degree in Kinesiology (Athletic Training Concentration) (p. 142)
- B.S. degree in Kinesiology (Exercise Physiology Concentration) (p. 144)
- B.S. degree in Kinesiology (Kinesiology and Health Science Concentration) (p. 147)
- B.S. degree in Kinesiology (Physical Education Concentration) (p. 149)

Bachelor of Science Degree in Kinesiology

This program provides students with the opportunity to pursue a Bachelor of Science (B.S.) degree in Kinesiology. Students may apply for admission into one of the concentrations within the Kinesiology major if they wish to specialize in athletic training, exercise physiology, kinesiology and health science, or physical education. Students may also pursue the major without a concentration. This also applies to students who are unable to complete one of the concentrations. All required Kinesiology (KIN) courses and support work must be completed with a grade of "C-" or better.

Academic advising for students seeking the Kinesiology degree is available in the Life and Health Sciences Advising Center. Students who wish to pursue teacher certification will be advised in the Interdisciplinary Education Advising Center.

The minimum number of semester credit hours for this degree, including the Core Curriculum requirements, is 120, of which at least 39 must be at the upper-division level. All candidates seeking this degree must fulfill the Core Curriculum requirements and the degree requirements, which are listed below.

Internship Policy

Experiential learning is a valuable element for kinesiology professionals. An internship enables the student to gain practical experience as a professional under conditions conducive to educational development. The internship is a time-limited, supervised period of kinesiology activities carried out in a kinesiology-oriented organization. An internship is *optional* for the students in the Kinesiology major with no concentration.

Internship Eligibility

Kinesiology majors with no concentration are eligible to apply for an internship if they:

- Have completed all degree requirements of the major and support work
- Have a minimum grade point average (GPA) of 2.5
- Are within 13 hours of graduation (including the 6 hours of the internship)

Students who do not meet the GPA requirement will not be allowed to complete the internship.

Mandatory meetings are held in the semester prior to the student enrolling in the internship. These meetings are held in June (for Fall), October (for Spring), and March (for Summer). Students are required to meet with their academic advisor prior to the meeting to verify that they are eligible for the internship. This must be done by October 1st, March 1st, or May 1st for the respective internship meeting. Students must bring a signed degree plan from their advisor to the mandatory internship meeting.

Students who miss the meeting may be ineligible for the internship in the following semester. Extenuating circumstances must be documented and will be considered on a case-by-case basis by the internship coordinator.

Students requesting an internship at a site that requires a criminal background check are responsible for having the background check completed and submitted to the internship site for approval. Students are responsible for paying any fees associated with the completion of the background check. Students must have the background check completed

and accepted by the internship site when the work plan for the internship site when the work plan for the internship is submitted.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the B.S. degree in Kinesiology must fulfill University Core Curriculum requirements in the same manner as other students. If courses are taken to satisfy both degree requirements and Core Curriculum requirements, then students may need to take additional courses in order to meet the minimum number of semester credit hours required for this degree.

Core Curriculum Component Area Requirements (p. 7)

| | |
|-----------------------------------|-----------|
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |
| Life and Physical Sciences | 6 |
| Language, Philosophy and Culture | 3 |
| Creative Arts | 3 |
| American History | 6 |
| Government-Political Science | 6 |
| Social and Behavioral Sciences | 3 |
| Component Area Option | 3 |
| Total Credit Hours | 42 |

Gateway Course

Students pursuing the B.S. degree in Kinesiology must successfully complete the following Gateway Course with a grade of "C-" or better in no more than two attempts. A student who is unable to successfully complete this course within two attempts, including dropping the course with a grade of "W" or taking an equivalent course at another institution, will be required to change his or her major.

KIN 2303 Foundations of Kinesiology

Degree Requirements

Students in the Kinesiology major are required to successfully complete all required KIN courses, and select elective courses based on their post-graduate goals.

A. Required KIN courses

| | | |
|----------|-----------------------------------------|---|
| KIN 2123 | Fitness and Wellness Concepts | 3 |
| KIN 2303 | Foundations of Kinesiology | 3 |
| KIN 3103 | Motor Development | 3 |
| KIN 3323 | Biomechanics | 3 |
| KIN 3433 | Exercise Physiology | 3 |
| KIN 4023 | Exercise Psychology | 3 |
| KIN 4113 | Evaluation | 3 |
| KIN 4123 | Introduction to Sport Psychology | 3 |
| KIN 4403 | Motor Learning | 3 |
| KIN 4423 | Developmental/Adapted Physical Activity | 3 |

B. Support courses

| | | |
|------------------------------------|------------------------|-----|
| BIO 1233 | Contemporary Biology I | 3-4 |
| or BIO 1404 | Biosciences I | |
| BIO 2043/ HTH 3013/ KIN 4253 | Nutrition | 3 |

| | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|-------|
| or NDT 2043 | Introduction to Nutritional Sciences | |
| BIO 2053 | Human Anatomy and Physiology I | 3 |
| or KIN 3313 | Anatomy and Physiology for Kinesiology | |
| COM 1053 | Business and Professional Speech | 3 |
| or COM 2113 | Public Speaking | |
| MAT 1023 | College Algebra with Applications | 3 |
| or MAT 1073 | Algebra for Scientists and Engineers | |
| STA 1053 | Basic Statistics | 3 |
| or STA 1403 | Probability and Statistics for the Biosciences | |
| C. Electives | | |
| All candidates for this degree must complete up to 28 hours of free electives to meet the 120 hour minimum for the degree, including a sufficient number of electives at the upper-division level to meet the UTSA minimum of 39 upper-division hours. | | 28 |
| KIN 4936 | Internship in Kinesiology | 6 |
| KIN 4933 | Practicum in Kinesiology Research | 3 |
| Total Credit Hours | | 85-86 |

B.S. in Kinesiology – Recommended Four-Year Academic Plan

First Year

| | | Credit Hours |
|-------------------------------|-----------------------------------------|--------------|
| Fall | | |
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| KIN 2303 | Foundations of Kinesiology | 3 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| Life & Physical Sciences core | | 3 |
| Mathematics core | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|------------------------|-----------------------------------------|-------|
| BIO 1233 | Contemporary Biology I (core and major) | 3-4 |
| or BIO 1404 | or Biosciences I | |
| KIN 2123 | Fitness and Wellness Concepts | 3 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| University core course | | 3 |
| University core course | | 3 |
| Credit Hours | | 15-16 |

Second Year

Fall

| | | |
|------------------------|---------------------------------------------------|----|
| BIO 2053 | Human Anatomy and Physiology I | 3 |
| or KIN 3313 | or Anatomy and Physiology for Kinesiology | |
| STA 1053 | Basic Statistics | 3 |
| or STA 1403 | or Probability and Statistics for the Biosciences | |
| University core course | | 3 |
| University core course | | 3 |
| University core course | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|-------------|--------------------------------------|---|
| MAT 1073 | Algebra for Scientists and Engineers | 3 |
| or MAT 1023 | or College Algebra with Applications | |

| | | |
|----------------------------------------------------|---|----|
| Nutrition course (BIO 2043, HTH 3013, or KIN 4253) | 3 | |
| University core course | 3 | |
| University core course | 3 | |
| University core course | 3 | |
| Credit Hours | | 15 |

Third Year

Fall

| | | |
|---------------|-----------------------------------------|----|
| COM 1053 | Business and Professional Speech | 3 |
| or COM 2113 | or Public Speaking | |
| KIN 3103 | Motor Development | 3 |
| KIN 4423 | Developmental/Adapted Physical Activity | 3 |
| Free elective | | 3 |
| Free elective | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|---------------|----------------------------------|----|
| KIN 3323 | Biomechanics | 3 |
| KIN 3433 | Exercise Physiology | 3 |
| KIN 4123 | Introduction to Sport Psychology | 3 |
| Free elective | | 3 |
| Free elective | | 3 |
| Credit Hours | | 15 |

Fourth Year

Fall

| | | |
|------------------------------------------|---------------------|-------|
| KIN 4023 | Exercise Psychology | 3 |
| KIN 4113 | Evaluation | 3 |
| KIN 4403 | Motor Learning | 3 |
| Free elective | | 3 |
| Free elective | | 3 |
| Free elective (to meet 120 hour minimum) | | 2-3 |
| Credit Hours | | 18-17 |

Spring

| | | |
|--------------------|---------------------------|-----|
| KIN 4936 | Internship in Kinesiology | 6 |
| Free elective | | 3 |
| Free elective | | 3 |
| Credit Hours | | 12 |
| Total Credit Hours | | 120 |

Bachelor of Science Degree in Kinesiology (Athletic Training Concentration)

This program provides students with the opportunity to pursue a Bachelor of Science (B.S.) degree in Kinesiology with a concentration in Athletic Training. Students become eligible to apply for the Texas state licensure upon completion of this concentration. Students must be accepted into the Athletic Training Apprenticeship Program to pursue this concentration. The apprenticeship program involves 1800 hours of clinical internship over a minimum of five semesters. All kinesiology degree core and support work must be completed with a grade of "C-" or better.

Admission Policy

The goal of admission requirements for the Athletic Training concentration is to provide undergraduate students with a program of study with the highest possible standards. To achieve this goal, the

admission policy is designed to identify those students most likely to succeed in athletic training. All applicants for admission to the Athletic Training concentration will be initially admitted to the Kinesiology program without a concentration. In order for a student to declare the Athletic Training concentration, a student must be admitted to the Athletic Training Apprenticeship Program, and meet the following academic criteria.

To declare an Athletic Training concentration, a Kinesiology major must have:

- Completed 30 semester credit hours with a cumulative grade point average of 2.50
- Successfully completed the following or equivalent courses with a grade of "C-" or better:

| | | |
|----------|--------------------------------------|---|
| BIO 1233 | Contemporary Biology I | 3 |
| KIN 2303 | Foundations of Kinesiology | 3 |
| MAT 1073 | Algebra for Scientists and Engineers | 3 |
| WRC 1013 | Freshman Composition I | 3 |

Applicants who have completed all of the above courses as equivalent transferable college credit with a grade of "C-" or better and have no UTSA coursework can declare an Athletic Training concentration if they:

- Meet all UTSA undergraduate admission requirements
- Have completed 30 semester credit hours
- Are admitted into the Athletic Training Apprenticeship Program.

The minimum number of semester credit hours for this degree, including the Core Curriculum requirements, is 120, of which at least 39 must be at the upper-division level. All candidates seeking this degree must fulfill the Core Curriculum requirements and the degree requirements, which are listed below.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the B.S. degree in Kinesiology with a concentration in Athletic Training must fulfill University Core Curriculum requirements in the same manner as other students. The courses listed below satisfy both degree requirements and Core Curriculum requirements. If courses are taken to satisfy both degree requirements and Core Curriculum requirements, then students may need to take additional courses in order to meet the minimum number of semester credit hours required for this degree.

STA 1053 should be used to satisfy the core requirement in Mathematics. BIO 1233 should be used to satisfy one of the core requirements in Life and Physical Sciences. PSY 1013 or SOC 1013 is recommended to satisfy the core requirement in Social and Behavioral Sciences. COM 2113 is recommended to satisfy the core requirement in the Component Area Option.

For a complete listing of courses that satisfy the Core Curriculum requirements, see Core Curriculum Component Area Requirements above.

Gateway Course

Students pursuing the Bachelor of Science degree in Kinesiology must successfully complete the following Gateway Course with a grade of "C-" or better in no more than two attempts. A student who is unable to successfully complete this course within two attempts, including

dropping a course with a grade of "W" or taking an equivalent course at another institution, will be required to change his or her major.

KIN 2303 Foundations of Kinesiology

Degree Requirements

Students in the Athletic Training concentration are required to successfully complete all required HTH and KIN courses, and select designated elective courses based on their post-graduate goals.

A. Required HTH and KIN courses

| | | |
|----------|-----------------------------------------------------------------------------------|---|
| HTH 3003 | Survey of Drugs and Health | 3 |
| KIN 2141 | Medical Terminology | 1 |
| KIN 2211 | First Aid and CPR | 1 |
| KIN 2303 | Foundations of Kinesiology | 3 |
| KIN 3071 | Musculoskeletal Fitness Instruction | 1 |
| KIN 3303 | Care and Prevention of Athletic Injuries | 3 |
| KIN 3323 | Biomechanics | 3 |
| KIN 3433 | Exercise Physiology | 3 |
| KIN 3453 | Exercise Prescription | 3 |
| KIN 3463 | Musculoskeletal Anatomy | 3 |
| KIN 4043 | Therapeutic Modalities | 3 |
| KIN 4123 | Introduction to Sport Psychology | 3 |
| KIN 4143 | Evaluation of Athletic Injuries | 3 |
| KIN 4243 | Musculoskeletal Rehabilitation | 3 |
| KIN 4253 | Exercise Nutrition | 3 |
| KIN 4403 | Motor Learning | 3 |
| KIN 4931 | Clinical Applications of Athletic Injuries (repeated for 6 semester credit hours) | 6 |

B. Support courses

| | | |
|-------------------------|-----------------------------------------------------------------------------------|---|
| BIO 1233 | Contemporary Biology I | 3 |
| BIO 2053 & BIO 2051 | Human Anatomy and Physiology I and Human Anatomy and Physiology Laboratory I | 4 |
| BIO 2063 & BIO 2061 | Human Anatomy and Physiology II and Human Anatomy and Physiology Laboratory II | 4 |
| CHE 1103 | General Chemistry I | 3 |
| COM 2113 or COM 1053 | Public Speaking Business and Professional Speech | 3 |
| MAT 1073 | Algebra for Scientists and Engineers | 3 |
| PHY 1603 | Algebra-based Physics I | 3 |
| PSY 1013 or SOC 1013 | Introduction to Psychology Introduction to Sociology | 3 |
| STA 1053 | Basic Statistics | 3 |

C. Designated electives

| | |
|-------------------------------------------------------------|----------------------------------------|
| Select 13 semester credit hours from the following courses: | 13 |
| BIO 1033 | Drugs and Society |
| CHE 1113 | General Chemistry II |
| CHE 1121 | General Chemistry I Laboratory |
| CHE 1131 | General Chemistry II Laboratory |
| HTH 3013 or BIO 2043 | Survey of Human Nutrition Nutrition |
| HTH 4503 | Human Disease and Epidemiology |
| KIN 2123 | Fitness and Wellness Concepts |
| KIN 3103 | Motor Development |

| | | |
|--------------------|----------------------------------------|----|
| KIN 3313 | Anatomy and Physiology for Kinesiology | |
| KIN 4023 | Exercise Psychology | |
| KIN 4113 | Evaluation | |
| KIN 4413 | Coaching Athletics | |
| PHY 1611 | Algebra-based Physics I Laboratory | |
| PHY 1623 | Algebra-based Physics II | |
| PHY 1631 | Algebra-based Physics II Laboratory | |
| PSY 2503 | Developmental Psychology | |
| Total Credit Hours | | 90 |

B.S. in Kinesiology, Athletic Training Concentration – Recommended Four-Year Academic Plan

First Year

| Fall | | Credit Hours |
|--------------|-----------------------------------------|--------------|
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| BIO 1233 | Contemporary Biology I (core and major) | 3 |
| KIN 2303 | Foundations of Kinesiology | 3 |
| MAT 1073 | Algebra for Scientists and Engineers | 3 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|-------------------------------|------------------------------------------------------------------------------|----|
| COM 2113 or COM 1053 | Public Speaking or Business and Professional Speech | 3 |
| KIN 2141 | Medical Terminology | 1 |
| PSY 1013 or SOC 1013 | Introduction to Psychology (core and major) or Introduction to Sociology | 3 |
| STA 1053 | Basic Statistics (core and major) | 3 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| Life & Physical Sciences core | | 3 |
| Credit Hours | | 16 |

Second Year

| Fall | | Credit Hours |
|-----------------------------------------------|--------------------------------------------|--------------|
| BIO 2053 | Human Anatomy and Physiology I | 3 |
| BIO 2051 | Human Anatomy and Physiology Laboratory I | 1 |
| CHE 1103 | General Chemistry I | 3 |
| KIN 2211 | First Aid and CPR | 1 |
| KIN 4931 | Clinical Applications of Athletic Injuries | 1 |
| Designated elective or University core course | | 3 |
| Designated elective or University core course | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|----------|--------------------------------------------|---|
| BIO 2063 | Human Anatomy and Physiology II | 3 |
| BIO 2061 | Human Anatomy and Physiology Laboratory II | 1 |
| KIN 3303 | Care and Prevention of Athletic Injuries | 3 |

| | | |
|-----------------------------------------------|--------------------------------------------|----|
| KIN 4931 | Clinical Applications of Athletic Injuries | 1 |
| PHY 1603 | Algebra-based Physics I | 3 |
| Designated elective or University core course | | 3 |
| Credit Hours | | 14 |

Third Year

Fall

| | | |
|-----------------------------------------------|--------------------------------------------|----|
| KIN 3071 | Musculoskeletal Fitness Instruction | 1 |
| KIN 3323 | Biomechanics | 3 |
| KIN 3433 | Exercise Physiology | 3 |
| KIN 3463 | Musculoskeletal Anatomy | 3 |
| KIN 4931 | Clinical Applications of Athletic Injuries | 1 |
| Designated elective or University core course | | 3 |
| Credit Hours | | 14 |

Spring

| | | |
|-----------------------------------------------|--------------------------------------------|----|
| HTH 3003 | Survey of Drugs and Health | 3 |
| KIN 3453 | Exercise Prescription | 3 |
| KIN 4143 | Evaluation of Athletic Injuries | 3 |
| KIN 4931 | Clinical Applications of Athletic Injuries | 1 |
| Designated elective or University core course | | 3 |
| Designated elective or University core course | | 3 |
| Credit Hours | | 16 |

Fourth Year

Fall

| | | |
|-----------------------------------------------|--------------------------------------------|----|
| KIN 4123 | Introduction to Sport Psychology | 3 |
| KIN 4243 | Musculoskeletal Rehabilitation | 3 |
| KIN 4253 | Exercise Nutrition | 3 |
| KIN 4931 | Clinical Applications of Athletic Injuries | 1 |
| Designated elective or University core course | | 3 |
| Designated elective or University core course | | 3 |
| Credit Hours | | 16 |

Spring

| | | |
|-----------------------------------------------|--------------------------------------------|-----|
| KIN 4043 | Therapeutic Modalities | 3 |
| KIN 4403 | Motor Learning | 3 |
| KIN 4931 | Clinical Applications of Athletic Injuries | 1 |
| Designated elective or University core course | | 3 |
| Designated elective or University core course | | 3 |
| Designated elective | | 1 |
| Credit Hours | | 14 |
| Total Credit Hours | | 120 |

Bachelor of Science Degree in Kinesiology (Exercise Physiology Concentration)

This program provides students with the opportunity to pursue a Bachelor of Science (B.S.) degree in Kinesiology with a concentration in Exercise Physiology. Students are trained for careers in exercise science. All kinesiology degree core and support work must be completed with a grade of "C-" or better.

Admission Policy

The goal of admission requirements for the Exercise Physiology concentration is to provide undergraduate students with a program of study with the highest possible standards. To achieve this goal, the admission policy is designed to identify those students most likely to succeed in kinesiology education. Academic performance for declaration of the Exercise Physiology concentration will be evaluated after the following criteria has been met:

- Completed 30 semester credit hours with a cumulative grade point average of 2.5
- Successfully completed the following or equivalent courses with a grade of "C-" or better:

| | | |
|-------------|--------------------------------------|---|
| BIO 1233 | Contemporary Biology I | 3 |
| or BIO 1404 | Biosciences I | |
| KIN 2303 | Foundations of Kinesiology | 3 |
| MAT 1023 | College Algebra with Applications | 3 |
| or MAT 1073 | Algebra for Scientists and Engineers | |
| WRC 1013 | Freshman Composition I | 3 |

Applicants who have completed all of the above courses as equivalent transferable college credit with a grade of "C-" or better and have no UTSA coursework can declare an Exercise Physiology concentration if they:

- Meet all UTSA undergraduate admission requirements
- Have completed 30 semester credit hours.

The minimum number of semester credit hours for this degree, including the Core Curriculum requirements, is 120, of which at least 39 must be at the upper-division level. All candidates seeking this degree must fulfill the Core Curriculum requirements and the degree requirements, which are listed below.

Internship Eligibility

Kinesiology majors with Exercise Physiology concentration are eligible to apply for an internship if they:

- Have completed all degree requirements of the major and support work
- Have a minimum grade point average (GPA) of 2.5
- Are within 13 hours of graduation (including the 6 hours of the internship).

Students who do not meet the GPA requirement will not be allowed to complete the internship. The program coordinator will assign students who do not meet the GPA requirement two upper-level courses (3 credit hours each) to take in place of the internship course.

Mandatory meetings are held in the semester prior to the student enrolling in the internship. These meetings are held in June (for Fall), October (for Spring), and March (for Summer). Students are required to meet with their academic advisor prior to the meeting to verify that they are eligible for the internship. This must be done by October 1st, March 1st, or May 1st for the respective internship meeting. Students must bring a signed degree plan from their advisor to the mandatory internship meeting.

Students who miss the meeting may be ineligible for the internship in the following semester. Extenuating circumstances must be documented and will be considered on a case-by-case basis by the internship coordinator.

Students requesting an internship at a site that requires a criminal background check are responsible for having the background check completed and submitted to the internship site for approval. Students are responsible for paying any fees associated with the completion of the background check. Students must have the background check completed and accepted by the internship site when the work plan for the internship is submitted.

Appeal Process

Students who wish to appeal the internship requirement due to prior work experience may do so by completing and submitting the appeal form, available from the academic advisor, with written documentation to a three-member review committee. Prior work experience is defined as an experience that is at least equivalent to what students will earn in a 300-hour internship. Both the length and quality of the experience will be evaluated. Written documentation submitted with the form includes: 1) a letter from the student detailing his or her work experience, how it fits his or her degree plan, and his or her career goals; 2) the student's resume; and 3) a letter from his or her work supervisor verifying employment and stating the extent of their job responsibilities and the relationship to the degree. The appeal packet must be received by the department internship coordinator no later than October 7th, March 7th, or May 7th, for the Spring, Summer, or Fall semesters, respectively. The committee will meet prior to the internship meeting to discuss the appeals and make a recommendation to the Department Chair. Students who are denied appeals must attend the internship meeting and complete the internship.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the B.S. degree in Kinesiology with a concentration in Exercise Physiology must fulfill University Core Curriculum requirements in the same manner as other students. The courses listed below satisfy both degree requirements and Core Curriculum requirements. If courses are taken to satisfy both degree requirements and Core Curriculum requirements, then students may need to take additional courses in order to meet the minimum number of semester credit hours required for this degree.

MAT 1023 should be used to satisfy the core requirement in Mathematics. BIO 1233 or BIO 1404 should be used to satisfy one of the Life and Physical Sciences core requirements. COM 2113 should be used to satisfy the Component Area Option requirement.

For a complete listing of courses that satisfy the Core Curriculum requirements, see Core Curriculum Component Area Requirements above.

Gateway Course

Students pursuing the B.S. degree in Kinesiology must successfully complete the following Gateway Course with a grade of "C-" or better in no more than two attempts. A student who is unable to successfully complete this course within two attempts, including dropping a course with a grade of "W" or taking an equivalent course at another institution, will be required to change his or her major.

KIN 2303 Foundations of Kinesiology

Degree Requirements

A. Required KIN courses

| | | |
|----------|---------------------------------------|---|
| KIN 2111 | Lifetime Fitness Activity Instruction | 1 |
| KIN 2211 | First Aid and CPR | 1 |
| KIN 2303 | Foundations of Kinesiology | 3 |

| | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|-------|
| KIN 2441 | Management in Kinesiology | 1 |
| KIN 3051 | Group Fitness Instruction | 1 |
| KIN 3071 | Musculoskeletal Fitness Instruction | 1 |
| KIN 3321 | Biomechanics Laboratory | 1 |
| KIN 3323 | Biomechanics | 3 |
| KIN 3431 | Exercise Physiology Laboratory | 1 |
| KIN 3433 | Exercise Physiology | 3 |
| KIN 3441 | Health Related Fitness Assessment Laboratory | 1 |
| KIN 3443 | Health Related Fitness Assessment | 3 |
| KIN 3453 | Exercise Prescription | 3 |
| KIN 4023 | Exercise Psychology | 3 |
| KIN 4233 | Advanced Exercise Physiology | 3-4 |
| or KIN 4403 & KIN 4401 | Motor Learning and Motor Learning Laboratory | |
| KIN 4253 | Exercise Nutrition | 3 |
| KIN 4933 | Practicum in Kinesiology Research (repeated twice) | 6 |
| or KIN 4936 | Internship in Kinesiology | |
| B. Support courses | | |
| BIO 1233 | Contemporary Biology I | 3 |
| or BIO 1404 | Biosciences I | |
| BIO 2053 & BIO 2051 | Human Anatomy and Physiology I and Human Anatomy and Physiology Laboratory I | 4 |
| BIO 2063 & BIO 2061 | Human Anatomy and Physiology II and Human Anatomy and Physiology Laboratory II | 4 |
| COM 2113 | Public Speaking | 3 |
| MAT 1023 | College Algebra with Applications | 3 |
| STA 1053 | Basic Statistics | 3 |
| C. Minor Required (Student must choose from one of the four minors: Biology, Business, Community Health, or Wellness) | | |
| D. Electives | | |
| All candidates for this degree must complete enough hours of electives to meet the 120 hour minimum for the degree, including a sufficient number of electives at the upper-division level to meet the UTSA minimum of 39 upper-division hours. | | 10-14 |
| Total Credit Hours | | 90 |

B.S. in Kinesiology, Exercise Physiology Concentration – Recommended Four-Year Academic Plan

| | | |
|----------------------|----------------------------------------------------------|----|
| First Year | | |
| Fall | | |
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| BIO 1233 or BIO 1404 | Contemporary Biology I (core and major) or Biosciences I | 3 |
| KIN 2303 | Foundations of Kinesiology | 3 |
| MAT 1023 | College Algebra with Applications (core and major) | 3 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| | Credit Hours | 15 |
| Spring | | |
| BIO 2053 | Human Anatomy and Physiology I | 3 |
| BIO 2051 | Human Anatomy and Physiology Laboratory I | 1 |

| | | |
|-------------------------------|-----------------------------------|----|
| STA 1053 | Basic Statistics (core and major) | 3 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| Life & Physical Sciences core | | 3 |
| University core course | | 3 |
| | Credit Hours | 16 |

| | | |
|------------------------|--------------------------------------------|----|
| Second Year | | |
| Fall | | |
| BIO 2063 | Human Anatomy and Physiology II | 3 |
| BIO 2061 | Human Anatomy and Physiology Laboratory II | 1 |
| KIN 2111 | Lifetime Fitness Activity Instruction | 1 |
| KIN 2211 | First Aid and CPR | 1 |
| Minor course | | 3 |
| University core course | | 3 |
| University core course | | 3 |
| | Credit Hours | 15 |

| | | |
|------------------------|----------------------------------|----|
| Spring | | |
| COM 2113 | Public Speaking (core and major) | 3 |
| KIN 2441 | Management in Kinesiology | 1 |
| KIN 3051 | Group Fitness Instruction | 1 |
| Elective course | | 3 |
| Minor course | | 3 |
| University core course | | 3 |
| | Credit Hours | 14 |

| | | |
|------------------------|-------------------------------------|----|
| Third Year | | |
| Fall | | |
| KIN 3071 | Musculoskeletal Fitness Instruction | 1 |
| KIN 3323 | Biomechanics | 3 |
| KIN 3321 | Biomechanics Laboratory | 1 |
| KIN 3433 | Exercise Physiology | 3 |
| KIN 3431 | Exercise Physiology Laboratory | 1 |
| Minor course | | 3 |
| University core course | | 3 |
| | Credit Hours | 15 |

| | | |
|------------------------|----------------------------------------------|----|
| Spring | | |
| KIN 3443 | Health Related Fitness Assessment | 3 |
| KIN 3441 | Health Related Fitness Assessment Laboratory | 1 |
| KIN 3453 | Exercise Prescription | 3 |
| KIN 4023 | Exercise Psychology | 3 |
| Minor course | | 3 |
| University core course | | 3 |
| | Credit Hours | 16 |

| | | |
|-----------------|--------------|---|
| Summer | | |
| Elective course | | 2 |
| | Credit Hours | 2 |

| | | |
|-----------------------------------|------------------------------------------------------------------------------|-----|
| Fourth Year | | |
| Fall | | |
| KIN 4233 or KIN 4403 and KIN 4401 | Advanced Exercise Physiology or Motor Learning and Motor Learning Laboratory | 3-4 |
| KIN 4253 | Exercise Nutrition | 3 |
| Minor course | | 3 |

| | |
|--------------------------------------------|-----|
| Elective course (to meet 120 hour minimum) | 2-3 |
| University core course | 3 |
| Credit Hours | 15 |
| Spring | |
| KIN 4936 Internship in Kinesiology | 6 |
| Minor course | 3 |
| Elective course | 3 |
| Credit Hours | 12 |
| Total Credit Hours | 120 |

Bachelor of Science Degree in Kinesiology (Kinesiology and Health Science Concentration)

This program provides students with the opportunity to pursue a Bachelor of Science (B.S.) degree in Kinesiology with a concentration in Kinesiology and Health Science. All kinesiology degree core and support work must be completed with a grade of "C-" or better. This concentration is suited for students who are taking prerequisite courses for medical schools or graduate programs in health professions (e.g., Physical Therapy, Occupational Therapy, and Physician Assistant). Students who are interested in applying to these programs are encouraged to meet with their academic advisor and consult with the UTSA Health Professions Office.

Admission Policy

The goal of admission requirements for the Kinesiology and Health Science concentration is to provide undergraduate students with a program of study with the highest possible standards. All applicants for admission to the Kinesiology and Health Science concentration will be initially admitted to the Kinesiology program without a concentration. In order for a student to declare the Kinesiology and Health Science concentration must meet the following academic criteria.

To declare an Kinesiology and Health Science concentration, a Kinesiology major must have:

- Completed 30 semester credit hours with a cumulative grade point average (GPA) of 2.75
- Successfully completed the following or equivalent courses with a grade of "C-" or better

| | | |
|----------|--------------------------------------|---|
| BIO 1404 | Biosciences I | 4 |
| KIN 2303 | Foundations of Kinesiology | 3 |
| MAT 1073 | Algebra for Scientists and Engineers | 3 |
| WRC 1013 | Freshman Composition I | 3 |

Applicants who have completed all of the above courses as equivalent transferable college credit with a grade of "C-" or better and have no UTSA coursework can declare a Kinesiology and Health Science concentration if they:

- Meet all UTSA undergraduate admission requirements
- Have completed 30 semester credit hours
- Have a cumulative GPA of 2.75

The minimum number of semester credit hours for this degree, including the Core Curriculum requirements, is 120, of which at least 39 must be at the upper-division level. All candidates seeking this degree must fulfill

the Core Curriculum requirements and the degree requirements, which are listed below.

Internship Policy

Experiential learning is a valuable element for kinesiology professionals. An internship enables the student to gain practical experience as a professional under conditions conducive to educational development. The internship is a time-limited, supervised period of kinesiology activities carried out in a kinesiology-oriented organization. An internship is *optional* for the students in the Kinesiology major with a concentration in Kinesiology and Health Science.

Internship Eligibility

Kinesiology majors with a concentration in Kinesiology and Health Science are eligible to apply for an internship if they:

- Have completed all degree requirements of the major and support work
- Have a minimum grade point average (GPA) of 2.75
- Are within 13 hours of graduation (including the 6 hours of the internship)

Students who do not meet the GPA requirement will not be allowed to complete the internship.

Mandatory meetings are held in the semester prior to the student enrolling in the internship. These meetings are held in June (for Fall), October (for Spring), and March (for Summer). Students are required to meet with their academic advisor prior to the meeting to verify that they are eligible for the internship. This must be done by October 1st, March 1st, or May 1st for the respective internship meeting. Students must bring a signed degree plan from their advisor to the mandatory internship meeting.

Students who miss the meeting may be ineligible for the internship in the following semester. Extenuating circumstances must be documented and will be considered on a case-by-case basis by the internship coordinator.

Students requesting an internship at a site that requires a criminal background check are responsible for having the background check completed and submitted to the internship site for approval. Students are responsible for paying any fees associated with the completion of the background check. Students must have the background check completed and accepted by the internship site when the work plan for the internship site when the work plan for the internship is submitted.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the B.S. degree in Kinesiology with a concentration in Kinesiology and Health Science must fulfill University Core Curriculum requirements in the same manner as other students. The courses listed below satisfy both degree requirements and Core Curriculum requirements. If courses are taken to satisfy both degree requirements and Core Curriculum requirements, then students may need to take additional courses in order to meet the minimum number of semester credit hours required for this degree.

STA 1053 should be used to satisfy the core requirement in Mathematics. BIO 1404 and BIO 1414 should be used to satisfy the core requirement in Life and Physical Sciences. PSY 1013 or SOC 1013 is recommended to satisfy the core requirement in Social and Behavioral

Sciences. COM 2113 is recommended to satisfy the core requirement in the Component Area Option.

For a complete listing of courses that satisfy the Core Curriculum requirements, see Core Curriculum Component Area Requirements above.

Gateway Course

Students pursuing the B.S. degree in Kinesiology must successfully complete the following Gateway Course with a grade of "C-" or better in no more than two attempts. A student who is unable to successfully complete this course within two attempts, including dropping the course with a grade of "W" or taking an equivalent course at another institution, will be required to change his or her major.

KIN 2303 Foundations of Kinesiology

Degree Requirements

Students in the Kinesiology and Health Science concentration are required to successfully complete all required KIN courses, and select designated elective courses based on their post-graduate goals. Students interested in applying to Physical Therapy, Occupational Therapy, and Physician's Assistant programs are encouraged to meet with the academic advisor and consult with the UTSA Health Professions Office.

A. Required KIN courses

| | | |
|----------|------------------------------------------|---|
| KIN 2141 | Medical Terminology | 1 |
| KIN 2303 | Foundations of Kinesiology | 3 |
| KIN 3071 | Musculoskeletal Fitness Instruction | 1 |
| KIN 3303 | Care and Prevention of Athletic Injuries | 3 |
| KIN 3323 | Biomechanics | 3 |
| KIN 3433 | Exercise Physiology | 3 |
| KIN 3453 | Exercise Prescription | 3 |
| KIN 3463 | Musculoskeletal Anatomy | 3 |
| KIN 4043 | Therapeutic Modalities | 3 |
| KIN 4143 | Evaluation of Athletic Injuries | 3 |
| KIN 4243 | Musculoskeletal Rehabilitation | 3 |
| KIN 4253 | Exercise Nutrition | 3 |
| KIN 4403 | Motor Learning | 3 |

B. Support courses

| | | |
|----------------------|--------------------------------------------------------------------------------|---|
| BIO 1404 | Biosciences I | 4 |
| BIO 1414 | Biosciences II | 4 |
| BIO 2053 & BIO 2051 | Human Anatomy and Physiology I and Human Anatomy and Physiology Laboratory I | 4 |
| BIO 2063 & BIO 2061 | Human Anatomy and Physiology II and Human Anatomy and Physiology Laboratory II | 4 |
| CHE 1103 & CHE 1121 | General Chemistry I and General Chemistry I Laboratory | 4 |
| CHE 1113 & CHE 1131 | General Chemistry II and General Chemistry II Laboratory | 4 |
| COM 1053 or COM 2113 | Business and Professional Speech or Public Speaking | 3 |
| MAT 1073 | Algebra for Scientists and Engineers | 3 |
| PHY 1603 & PHY 1611 | Algebra-based Physics I and Algebra-based Physics I Laboratory | 4 |
| PHY 1623 & PHY 1631 | Algebra-based Physics II and Algebra-based Physics II Laboratory | 4 |
| PSY 1013 | Introduction to Psychology | 3 |

| | | |
|----------|---------------------------|---|
| SOC 1013 | Introduction to Sociology | 3 |
| STA 1053 | Basic Statistics | 3 |

C. Electives

| | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|----|
| All candidates for this degree must complete enough hours of electives to meet the 120 hour minimum for the degree, including a sufficient number of electives at the upper-division level to meet the UTSA minimum of 39 upper-division hours. | | 5 |
| KIN 4936 | Internship in Kinesiology | 6 |
| KIN 4933 | Practicum in Kinesiology Research | 3 |
| Total Credit Hours | | 96 |

B.S. in Kinesiology, Kinesiology and Health Science Concentration – Recommended Four-Year Academic Plan

First Year

| Fall | | Credit Hours |
|--------------|---------------------------------------------|--------------|
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| KIN 2303 | Foundations of Kinesiology | 3 |
| MAT 1073 | Algebra for Scientists and Engineers | 3 |
| PSY 1013 | Introduction to Psychology (core and major) | 3 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|--------------|--------------------------------------------|----|
| BIO 1404 | Biosciences I (core and major) | 4 |
| CHE 1103 | General Chemistry I | 3 |
| CHE 1121 | General Chemistry I Laboratory | 1 |
| SOC 1013 | Introduction to Sociology (core and major) | 3 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| Elective | | 2 |
| Credit Hours | | 16 |

Second Year

Fall

| | | |
|------------------------|------------------------------------|----|
| BIO 1414 | Biosciences II (core and major) | 4 |
| CHE 1113 | General Chemistry II | 3 |
| CHE 1131 | General Chemistry II Laboratory | 1 |
| KIN 2141 | Medical Terminology | 1 |
| PHY 1603 | Algebra-based Physics I | 3 |
| PHY 1611 | Algebra-based Physics I Laboratory | 1 |
| University core course | | 3 |
| Credit Hours | | 16 |

Spring

| | | |
|-----------------|-------------------------------------------|----|
| BIO 2053 | Human Anatomy and Physiology I | 3 |
| BIO 2051 | Human Anatomy and Physiology Laboratory I | 1 |
| PHY 1623 | Algebra-based Physics II | 3 |
| PHY 1631 | Algebra-based Physics II Laboratory | 1 |
| STA 1053 | Basic Statistics (core and major) | 3 |
| Elective course | | 3 |
| Credit Hours | | 14 |

Third Year**Fall**

| | | |
|--------------|--------------------------------------------|----|
| BIO 2063 | Human Anatomy and Physiology II | 3 |
| BIO 2061 | Human Anatomy and Physiology Laboratory II | 1 |
| KIN 3071 | Musculoskeletal Fitness Instruction | 1 |
| KIN 3303 | Care and Prevention of Athletic Injuries | 3 |
| KIN 3433 | Exercise Physiology | 3 |
| KIN 3463 | Musculoskeletal Anatomy | 3 |
| Credit Hours | | 14 |

Spring

| | | |
|------------------------|---------------------------------|----|
| KIN 3323 | Biomechanics | 3 |
| KIN 4143 | Evaluation of Athletic Injuries | 3 |
| KIN 4253 | Exercise Nutrition | 3 |
| University core course | | 3 |
| University core course | | 3 |
| Credit Hours | | 15 |

Summer

| | | |
|------------------------|--|---|
| University core course | | 3 |
| Credit Hours | | 3 |

Fourth Year**Fall**

| | | |
|-------------------------|--------------------------------------------------------|----|
| COM 1053 or COM 2113 | Business and Professional Speech or Public Speaking | 3 |
| KIN 3453 | Exercise Prescription | 3 |
| KIN 4043 | Therapeutic Modalities | 3 |
| KIN 4243 | Musculoskeletal Rehabilitation | 3 |
| University core course | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|------------------------|---------------------------|-----|
| KIN 4403 | Motor Learning | 3 |
| KIN 4936 | Internship in Kinesiology | 6 |
| University core course | | 3 |
| Credit Hours | | 12 |
| Total Credit Hours | | 120 |

Bachelor of Science Degree in Kinesiology (Physical Education Concentration)

This program provides students with the opportunity to pursue a Bachelor of Science (B.S.) degree in Kinesiology with a concentration in Physical Education. The physical education concentration provides students the academic and professional experience as required by the State Board for Educator Certification. To be certified as a teacher by the State of Texas, a student must complete his or her coursework, have practical teaching experience (student teaching), and pass the Texas Examinations of Educator Standards (TExES). The graduate of this program will then be certified to teach physical education in grades pre-kindergarten - 12. Prior to starting the practical teaching experience, a student must be accepted into the Teacher Certification Program. The requirements for acceptance into the Teacher Certification Program include a 2.75 cumulative grade point average. Please refer to the section on Teacher Certification Program in the catalog for more information.

All kinesiology degree core and support work must be completed with a grade of "C-" or better.

Academic advising for students seeking the Kinesiology degree is available in the Interdisciplinary Education Advising Center.

The minimum number of semester credit hours for this degree, including the Core Curriculum requirements, is 120, of which at least 39 must be at the upper-division level. All candidates seeking this degree must fulfill the Core Curriculum requirements and the degree requirements, which are listed below.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the B.S. degree in Kinesiology with a concentration in Physical Education must fulfill University Core Curriculum requirements in the same manner as other students. The courses listed below satisfy both degree requirements and Core Curriculum requirements. If courses are taken to satisfy both degree requirements and Core Curriculum requirements, then students may need to take additional courses in order to meet the minimum number of semester credit hours required for this degree.

STA 1053 or MAT 1023 should be used to satisfy the core requirement in Mathematics. BIO 1233 should be used to satisfy one of the core requirements in Life and Physical Sciences. SOC 1013 is recommended to satisfy the core requirement in Social and Behavioral Sciences.

For a complete listing of courses that satisfy the Core Curriculum requirements, see Core Curriculum Component Area Requirements above.

Gateway Courses

Students pursuing the B.S. degree in Kinesiology must successfully complete each of the following Gateway Courses with a grade of "C-" or better in no more than two attempts. A student who is unable to successfully complete these courses within two attempts, including dropping a course with a grade of "W" or taking an equivalent course at another institution, will be required to change his or her major.

| | |
|----------|----------------------------------------|
| KIN 2303 | Foundations of Kinesiology |
| KIN 3313 | Anatomy and Physiology for Kinesiology |

Degree Requirements

| | |
|---------------------------------------------------------|-------------------------------------------------------------------|
| A. Required KIN courses | 27 |
| KIN 2303 | Foundations of Kinesiology |
| KIN 3103 | Motor Development |
| KIN 3313 | Anatomy and Physiology for Kinesiology |
| KIN 3323 | Biomechanics |
| KIN 3413 | Instruction of Sports Activities and Games |
| KIN 3433 | Exercise Physiology |
| KIN 4113 | Evaluation |
| KIN 4343 | Fundamental Motor Skills |
| KIN 4423 | Developmental/Adapted Physical Activity |
| B. Support courses | 6 |
| BIO 1233 | Contemporary Biology I |
| STA 1053 | Basic Statistics or MAT 1023 College Algebra with Applications |
| C. Second Teaching Field or Coaching Certificate | 18 |
| D. Teaching Certificate courses | 33 |

| | | |
|--------------------|---------------------------------------------------------------------------------------|----|
| IDS 2013 | Introduction to Learning and Teaching in a Culturally Diverse Society | |
| EDU 2103 | Social Foundations for Education in a Diverse U.S. Society | |
| EDP 3203 | Learning and Development in the Secondary School Adolescent | |
| BBL 3403 | Cultural and Linguistic Equity for Schooling | |
| SPE 3603 | Introduction to Special Education | |
| LTED 3773 | Reading and Writing Across the Disciplines-Grades 7-12 ¹ | |
| ESL 3073 | Second Language Teaching and Learning for Grades 4-8 | |
| CI 4273 | Methods of Teaching Content in the Elementary School- Physical Education ¹ | |
| CI 4313 | Methods of Teaching Content in the Secondary School- Physical Education ¹ | |
| CI 4713 | Clinical Teaching: All Level EC-12 (Repeat for 6 semester credit hours) ¹ | |
| Total Credit Hours | | 84 |

¹

These courses require an advisor code and are restricted to students who have applied and been accepted into the Teacher Certification Program.

All the courses listed for the Physical Education Concentration (84 hours) are required for teacher certification in physical education. Only the courses marked with an asterisk are restricted and require an advisor code and acceptance into the Teacher Certification Program. Advisor codes for these classes will be issued only if all prerequisites have been completed.

B.S. in Kinesiology, Physical Education Concentration – Recommended Four-Year Academic Plan

First Year

| Fall | | Credit Hours |
|--------------|-------------------------------------------------------------|--------------|
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| HIS 1043 | United States History: Pre-Columbus to Civil War Era (core) | 3 |
| KIN 2303 | Foundations of Kinesiology | 3 |
| POL 1013 | Introduction to American Politics (core) | 3 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|-------------------------|----------------------------------------------------------------------------|----|
| BIO 1233 | Contemporary Biology I (core and major) | 3 |
| HIS 1053 or HIS 2053 | United States History: Civil War Era to Present (core) or Texas History | 3 |
| IDS 2013 | Introduction to Learning and Teaching in a Culturally Diverse Society | 3 |
| POL 1133 or POL 1213 | Texas Politics and Society (core) or Civil Rights in Texas and America | 3 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| Credit Hours | | 15 |

Summer

| | | |
|------------------------|--|---|
| University core course | | 3 |
| Credit Hours | | 3 |

Second Year

Fall

| | | |
|-------------------------|---------------------------------------------------------------------------|----|
| KIN 3103 | Motor Development | 3 |
| KIN 3313 | Anatomy and Physiology for Kinesiology | 3 |
| EDU 2103 | Social Foundations for Education in a Diverse U.S. Society | 3 |
| SOC 1013 | Introduction to Sociology (core) | 3 |
| STA 1053 or MAT 1023 | Basic Statistics (core and major) or College Algebra with Applications | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|-----------------------|-------------------------------------------------------------|----|
| EDP 3203 | Learning and Development in the Secondary School Adolescent | 3 |
| KIN 3323 | Biomechanics | 3 |
| KIN 3413 | Instruction of Sports Activities and Games | 3 |
| KIN 4113 | Evaluation | 3 |
| Second Teaching Field | | 3 |
| Credit Hours | | 15 |

Summer

| | | |
|------------------------|--|---|
| University core course | | 3 |
| Credit Hours | | 3 |

Third Year

Fall

| | | |
|-----------------------|-------------------------------------------------------------------------|----|
| BBL 3403 | Cultural and Linguistic Equity for Schooling | 3 |
| CI 4313 | Methods of Teaching Content in the Secondary School- Physical Education | 3 |
| KIN 4343 | Fundamental Motor Skills | 3 |
| SPE 3603 | Introduction to Special Education | 3 |
| Second Teaching Field | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|-----------------------|--------------------------------------------------------------------------|----|
| CI 4273 | Methods of Teaching Content in the Elementary School- Physical Education | 3 |
| ESL 3073 | Second Language Teaching and Learning for Grades 4-8 | 3 |
| KIN 4423 | Developmental/Adapted Physical Activity | 3 |
| LTED 3773 | Reading and Writing Across the Disciplines-Grades 7-12 | 3 |
| Second Teaching Field | | 3 |
| Credit Hours | | 15 |

Summer

| | | |
|------------------------|---------------------|---|
| University core course | | 3 |
| KIN 3433 | Exercise Physiology | 3 |
| Credit Hours | | 6 |

Fourth Year**Fall**

| | | |
|-----------------------|------------------------------------|---|
| Second Teaching Field | 3 | |
| Second Teaching Field | 3 | |
| CI 4713 | Clinical Teaching: All Level EC-12 | 3 |
| | Credit Hours | 9 |

Spring

| | | |
|--------------------------|------------------------------------|-----|
| CI 4713 | Clinical Teaching: All Level EC-12 | 3 |
| Secondary Teaching Field | | 3 |
| University core course | | 3 |
| | Credit Hours | 9 |
| Total Credit Hours | | 120 |

Certificate in Athletic Coaching

All students pursuing a Certificate in Athletic Coaching must complete the following 15 semester credit hours:

| | | |
|--------------------|--------------------------------------------|----|
| KIN 3013 | Theory of Coaching | 3 |
| KIN 3113 | Scientific Principles of Physical Activity | 3 |
| KIN 4123 | Introduction to Sport Psychology | 3 |
| KIN 4413 | Coaching Athletics | 3 |
| KIN 4943 | Athletic Coaching Practicum | 3 |
| Total Credit Hours | | 15 |

Department of Psychology

The Department of Psychology offers a Bachelor of Arts (B.A.) degree in Psychology and a Minor in Psychology. The Bachelor of Arts degree emphasizes the empirical study of human behavior and is structured around a comprehensive core curriculum that can lead to additional training in biological psychology, clinical psychology, cognitive psychology, cross-cultural psychology, developmental psychology, health psychology, industrial-organizational psychology, and social psychology. It also provides excellent preparation for post-graduate study in a wide range of health professions and for careers in business and industry.

Department Honors

The Department of Psychology awards Honors in Psychology to certain of its outstanding students and provides the opportunity for advanced study under close faculty supervision.

Selection of students for honors designation is based on a student's academic performance and recommendation by the faculty in the student's major discipline. To be eligible for the program, students must have a minimum overall grade point average of 3.0 at UTSA and a minimum grade point average of 3.5 in Psychology at UTSA. The minimum grade point averages must be maintained for students to receive the approval of the department faculty. Students applying for Honors in Psychology are expected to enroll in the appropriate honors thesis course during their final two semesters. The completed thesis must be approved by the supervising faculty sponsor and another departmental faculty member.

Students interested in this program should contact their faculty advisors for additional information.

Bachelor of Arts Degree in Psychology

The Department of Psychology offers a Bachelor of Arts in Psychology. Students interested in studying human behavior with a humanities and social science-oriented supporting curriculum would pursue a B.A. degree. The B.A. can successfully prepare students interested in graduate and professional programs that stress a humanities and social science framework (e.g., counseling, social work, educational psychology, school psychology, business, law) as well as students interested in employment in business, social services, or applied psychology.

The minimum number of semester credit hours required for this degree, including the Core Curriculum requirements, is 120. Thirty-nine of the total semester credit hours required for the degree must be at the upper-division level.

All candidates for this degree must fulfill the Core Curriculum requirements and the degree requirements, which are listed below.

The Psychology Department encourages students' participation in the College of Liberal and Fine Arts Signature Experience by offering students a variety of opportunities to apply their ideas and knowledge to real-world settings. All Psychology majors enroll in Experimental Psychology and the accompanying laboratory. Experimental Psychology offers students the opportunity to learn the fundamentals of research design and use these fundamentals to design an original research project which addresses many questions of applied interest. In addition, students can enroll in internships and independent study or Honors thesis projects as part of their program of study. Internships are arranged through the Department of Psychology Internship Coordinator and

are designed to provide students with experiences at a wide variety of organizations and institutions in the San Antonio area. Independent study and Honors thesis projects are arranged through consultation with individual members of the Psychology faculty and are designed to provide students with an opportunity to further develop their research skills. These projects are conducted under the supervision of a faculty member and usually involve work associated with the faculty member's primary line of research.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the B.A. degree in Psychology must fulfill University Core Curriculum requirements in the same manner as other students. The courses listed below satisfy both degree requirements and Core Curriculum requirements; however, if these courses are taken to satisfy both requirements, then students will need to take additional courses in order to meet the minimum number of semester credit hours required for this degree.

MAT 1023, MAT 1073, or STA 1053 is recommended to satisfy the core requirement in Mathematics. PSY 1013 should be used to satisfy the core requirement in Social and Behavioral Sciences.

Core Curriculum Component Area Requirements (p. 7)

| | |
|-----------------------------------|-----------|
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |
| Life and Physical Sciences | 6 |
| Language, Philosophy and Culture | 3 |
| Creative Arts | 3 |
| American History | 6 |
| Government-Political Science | 6 |
| Social and Behavioral Sciences | 3 |
| Component Area Option | 3 |
| Total Credit Hours | 42 |

Gateway Courses

Students pursuing the B.A. degree in Psychology must successfully complete each of the following Gateway Courses with a grade of "C-" or better in no more than two attempts. A student who is unable to successfully complete these courses within two attempts, including dropping a course with a grade of "W" or taking an equivalent course at another institution, will be required to change his or her major.

| | | |
|----------|----------------------------|---|
| PSY 1013 | Introduction to Psychology | 3 |
| PSY 2073 | Statistics for Psychology | 3 |

Degree Requirements

A. Psychology major courses

| | | |
|-----------------------------------------------------|----------------------------|---|
| 1. Lower-division courses | | |
| a. Introduction to Psychology | | |
| PSY 1013 | Introduction to Psychology | 3 |
| b. Select three of the following courses: | | |
| PSY 2503 | Developmental Psychology | 9 |
| PSY 2513 | Abnormal Psychology | |
| PSY 2533 | Social Psychology | |
| PSY 2563 | Cognitive Psychology | |
| c. Statistics for Psychology or approved substitute | | |

| | | |
|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| PSY 2073 | Statistics for Psychology (Prerequisites: MAT 1023, MAT 1073, or STA 1053; and PSY 1013. PSY 2073 must be completed with a minimum grade of "C-" before enrolling in PSY 3403 and PSY 3413, and should be completed during the freshman or sophomore year.) | 3 |
|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|

| | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|---|
| 2. Upper-Division courses | | |
| a. Experimental Psychology | | |
| PSY 3403 | Experimental Psychology (PSY 3403 must be completed with a minimum grade of "C-") | 3 |
| PSY 3413 | Experimental Projects and Laboratory | 3 |
| b. Select 12 semester credit hours of upper-division courses in psychology. The following courses may be taken as electives, but will not be counted for this requirement: Independent Study, Internship in Psychology, or Honors Thesis. | | |

| | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------|
| B. Electives | | 45 |
| Select 45 semester credit hours of electives. In fulfillment of this requirement, majors are encouraged to take at least 9 semester credit hours of upper-division coursework in disciplines outside of Psychology that support the study of Psychology. Majors who are interested in gaining experience in applied settings are encouraged to investigate options for Internship hours. Majors who plan to attend graduate school are encouraged to take at least 6 hours of upper-division Psychology courses in these free electives, and majors who intend to pursue a research focused graduate degree are encouraged to gain research experience, including through Independent Study or Honors Thesis electives. | | |

| | |
|---------------------------|-----------|
| Total Credit Hours | 78 |
|---------------------------|-----------|

Course Sequence Guide for B.A. Degree in Psychology

This course sequence guide is designed to assist students in completing their UTSA undergraduate Psychology degree requirements. *This is merely a guide and students must satisfy other requirements of this catalog and meet with their academic advisor for individualized degree plans.* Progress within this guide depends upon such factors as course availability, individual student academic preparation, student time management, work obligations, and individual financial considerations. Students may choose to take courses during Summer terms to reduce course loads during long semesters.

B.A. in Psychology – Four-Year Academic Plan

| | | |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|---------------------|
| First Year | | |
| Fall | | Credit Hours |
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| HIS 1043 or HIS 1053 or HIS 2053 | United States History: Pre-Columbus to Civil War Era (core) or United States History: Civil War Era to Present or Texas History | 3 |
| MAT 1023 or MAT 1073 or STA 1053 | College Algebra with Applications (core) or Algebra for Scientists and Engineers or Basic Statistics | 3 |
| PSY 1013 | Introduction to Psychology (core and major) | 3 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|-------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|----|
| HIS 1043 or HIS 1053 or HIS 2053 | United States History: Pre-Columbus to Civil War Era (core) or United States History: Civil War Era to Present or Texas History | 3 |
| PSY 2073 | Statistics for Psychology | 3 |
| PSY 2503 or PSY 2513 or PSY 2533 or PSY 2563 | Developmental Psychology or Abnormal Psychology or Social Psychology or Cognitive Psychology | 3 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| Life & Physical Sciences core | | 3 |
| Credit Hours | | 15 |

Second Year**Fall**

| | | |
|-------------------------------------------------------|-------------------------------------------------------------------------------------------------------|----|
| POL 1013 | Introduction to American Politics (core) | 3 |
| PSY 2513 or PSY 2503 or PSY 2533 or PSY 2563 | Abnormal Psychology or Developmental Psychology or Social Psychology or Cognitive Psychology | 3 |
| PSY 2533 or PSY 2503 or PSY 2513 or PSY 2563 | Social Psychology or Developmental Psychology or Abnormal Psychology or Cognitive Psychology | 3 |
| Component Area Option core | | 3 |
| Life & Physical Sciences core | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|-------------------------------------|---------------------------------------------------------------------------|----|
| POL 1133 or POL 1213 | Texas Politics and Society (core) or Civil Rights in Texas and America | 3 |
| PSY 3403 | Experimental Psychology | 3 |
| PSY 3413 | Experimental Projects and Laboratory | 3 |
| Free elective | | 3 |
| Language, Philosophy & Culture core | | 3 |
| Credit Hours | | 15 |

Third Year**Fall**

| | | |
|-----------------------------|--|----|
| Free elective | | 3 |
| Free elective | | 3 |
| Upper-division PSY elective | | 3 |
| Upper-division PSY elective | | 3 |
| Creative Arts core | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|------------------------------|--|----|
| Free elective | | 3 |
| Upper division free elective | | 3 |
| Upper-division free elective | | 3 |
| Upper-division PSY elective | | 3 |
| Upper-division PSY elective | | 3 |
| Credit Hours | | 15 |

Fourth Year**Fall**

| | | |
|---------------------------------------------------------------|--|----|
| Free elective | | 3 |
| Free elective | | 3 |
| Upper-division free elective | | 3 |
| Upper-division free elective | | 3 |
| Upper-division free elective (upper-division PSY recommended) | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|---------------------------------------------------------------|--|-----|
| Free elective | | 3 |
| Free elective | | 3 |
| Upper-division free elective (upper-division PSY recommended) | | 3 |
| Upper-division free elective | | 3 |
| Free elective (to meet 120 hour minimum) | | 3 |
| Credit Hours | | 15 |
| Total Credit Hours | | 120 |

Minor in Psychology

All students pursuing a Minor in Psychology must complete 21 semester credit hours.

A. Required courses

| | | |
|----------|------------------------------------------------------------------------------------------------------------------------------------|---|
| PSY 1013 | Introduction to Psychology (This course may be used to satisfy the Core Curriculum requirement in Social and Behavioral Sciences.) | 3 |
| PSY 2073 | Statistics for Psychology (must be completed with a minimum grade of "C-") | 3 |
| PSY 3403 | Experimental Psychology (must be completed with a minimum grade of "C-") | 3 |

B. Select two of the following:

| | | |
|----------|--------------------------|---|
| PSY 2503 | Developmental Psychology | 6 |
| PSY 2513 | Abnormal Psychology | |
| PSY 2533 | Social Psychology | |
| PSY 2563 | Cognitive Psychology | |

C. Upper-division psychology courses

Select 6 additional upper-division credit hours of psychology courses. 6
The following courses may be taken as electives, but will not be counted for this requirement: Independent Study, Internship in Psychology, or Honors Thesis.

| | |
|--------------------|----|
| Total Credit Hours | 21 |
|--------------------|----|

To declare a Minor in Psychology, obtain advice, or seek approval of substitutions for course requirements, students should consult their academic advisor.

Department of Public Administration

The Department of Public Administration offers a Bachelor of Arts in Public Administration and Policy degree which provides the opportunity for the comprehensive study of public administration, a Minor in Civic Engagement, a Minor in Public Administration and Policy, a Minor in Nonprofit Management, and a Certificate in Public Policy and Data Analysis. Students completing the Bachelor of Arts in Public Administration and Policy degree may pursue professional careers in government, the nonprofit sector, or the private sector as well as apply for admission to law or graduate schools.

The mission of the Department of Public Administration is to prepare students for careers and leadership roles in public and nonprofit organizations and to nurture their commitment to ethical public service in a diverse society.

Bachelor of Arts in Public Administration and Policy Degree

A Bachelor of Arts in Public Administration and Policy degree is designed to prepare students for employment in the public and nonprofit sector by giving them a broad background in the basics of administration, combined with a contemporary focus on urban management, the nonprofit sector, tools of analysis, and the role of ethics.

The minimum number of semester credit hours required for the degree, including the Core Curriculum requirements, is 120. Thirty-nine of the total semester credit hours required for the degree must be at the upper-division level.

All required and prescribed (elective) public administration (PAD) courses must be completed with a grade of "C-" or better.

All candidates seeking this degree must fulfill the Core Curriculum requirements and the degree requirements, which are listed below.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the Bachelor of Arts in Public Administration and Policy must fulfill University Core Curriculum requirements. If courses are taken to satisfy both degree requirements and Core Curriculum requirements, then students may need to take additional courses in order to meet the minimum number of semester credit hours required for this degree.

| Core Curriculum Component Area Requirements (p. 7) | |
|----------------------------------------------------|-----------|
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |
| Life and Physical Sciences | 6 |
| Language, Philosophy and Culture | 3 |
| Creative Arts | 3 |
| American History | 6 |
| Government-Political Science | 6 |
| Social and Behavioral Sciences | 3 |
| Component Area Option | 3 |
| Total Credit Hours | 42 |

Gateway Course

Students pursuing the Bachelor of Arts in Public Administration and Policy degree must successfully complete the following Gateway Course with a grade of "C-" or better in no more than two attempts. A student who is unable to successfully complete this course within two attempts, including dropping the course with a grade of "W" or taking an equivalent course at another institution, will be required to change his or her major.

| | |
|----------|------------------------------------------------------|
| PAD 1113 | Public Administration and Policy in American Society |
|----------|------------------------------------------------------|

Degree Requirements

A. Core Public Administration & Policy coursework

| | |
|-----------------------------------------------------------------------------|---------------------------------------------------------|
| 18 semester credit hours of core Public Administration & Policy coursework: | 18 |
| PAD 1113 | Public Administration and Policy in American Society |
| PAD 2013 | Introduction to Public Policy |
| PAD 2073 | Foundations of Civic Engagement |
| PAD 3163 | Analysis and Assessment for Public Administration |
| PAD 4853 | Contemporary Issues in Public Administration and Policy |
| DEM 4963 | Social Demography and Public Policy |

B. Prescribed courses

| | |
|------------------------------------------------------------------|-------------------------------------------------------------------|
| 18 semester credit hours selected from the courses listed below: | 18 |
| DEM 4013 | Geographic Information Systems for Population Analysis and Policy |
| ECO 2013 | Introductory Macroeconomics |
| PAD 3003 | Fundraising in Nonprofit Agencies |
| PAD 3023 | Introduction to Urban Management and Policy |
| PAD 3033 | Introduction to Nonprofit Agencies |
| PAD 3043 | Public and Nonprofit Financial Management |
| PAD 3053 | Urban Economic Development |
| PAD 3073 | Civic Leadership Integrative Seminar |
| PAD 3113 | Managing Nonprofit Organizations |
| PAD 3123 | Strategic Planning in the Public and Nonprofit Sectors |
| PAD 3133 | Politics and Policies of San Antonio and South Texas |
| PAD 3143 | Urban and Regional Planning |
| PAD 3153 | Administrative Law and Policy |
| URP 3153 | Comparative Urban and Regional Development |
| URP 4123 | Sustainable Community Development |
| URP 4213 | Urban Planning and Public Health |
| PAD 4843 | Study Abroad: International Public Administration |
| PAD 4911 | Independent Study (prior approval required) |
| PAD 4913 | Independent Study (prior approval required) |
| PAD 4933 | Internship in Public Administration (prior approval required) |
| PAD 4936 | Internship in Public Administration (prior approval required) |
| PAD 4963 | Special Topics in Public Administration |
| PAD 4993 | Honors Thesis (prior approval required) |

C. Upper-division support work

18 semester credit hours of upper-division support work, chosen in consultation with an academic advisor 18

D. Free electives

24 semester hours of free electives (some may need to be upper division in order to meet the 39 hour University requirement) 24

Total Credit Hours 78

Course Sequence Guide for Bachelor of Arts in Public Administration and Policy Degree

This course sequence guide is designed to assist students in completing their UTSA undergraduate Public Administration and Policy degree requirements. *This is merely a guide and students must satisfy other requirements of this catalog and meet with their academic advisor for individualized degree plans.* Progress within this guide depends upon such factors as course availability, individual student academic preparation, student time management, work obligations, and individual financial considerations. Students may choose to take courses during Summer terms to reduce course loads during long semesters.

Bachelor of Arts in Public Administration and Policy – Recommended Four-Year Academic Plan

First Year

| | | Credit Hours |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|--------------|
| Fall | | |
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| HIS 1043 or HIS 1053 or HIS 2053 | United States History: Pre-Columbus to Civil War Era (core) or United States History: Civil War Era to Present or Texas History | 3 |
| PAD 1113 | Public Administration and Policy in American Society | 3 |
| POL 1013 | Introduction to American Politics (core) | 3 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| | Credit Hours | 15 |

Spring

| | | |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|----|
| HIS 1043 or HIS 1053 or HIS 2053 | United States History: Pre-Columbus to Civil War Era (core) or United States History: Civil War Era to Present or Texas History | 3 |
| PAD 2073 | Foundations of Civic Engagement | 3 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| Mathematics core | | 3 |
| Creative Arts core | | 3 |
| | Credit Hours | 15 |

Second Year

| | | |
|-------------------------------------|---------------------------------------------------|----|
| Fall | | |
| PAD 3163 | Analysis and Assessment for Public Administration | 3 |
| Elective | | 3 |
| Elective | | 3 |
| Language, Philosophy & Culture core | | 3 |
| Life & Physical Sciences core | | 3 |
| | Credit Hours | 15 |

Spring

| | | |
|----------------------------------------------|---------------------------------------------------------------------------|----|
| PAD 2013 | Introduction to Public Policy | 3 |
| POL 1133 or POL 1213 | Texas Politics and Society (core) or Civil Rights in Texas and America | 3 |
| Life & Physical Sciences core | | 3 |
| Social & Behavioral Sciences core | | 3 |
| Prescribed course (see degree requirement B) | | 3 |
| | Credit Hours | 15 |

Third Year

| | | |
|----------------------------------------------|--------------|----|
| Fall | | |
| Component Area Option core | | 3 |
| Prescribed course (see degree requirement B) | | 3 |
| Prescribed course (see degree requirement B) | | 3 |
| Prescribed course (see degree requirement B) | | 3 |
| Upper-division support work | | 3 |
| | Credit Hours | 15 |

Spring

| | | |
|----------------------------------------------|--------------|----|
| Elective | | 3 |
| Elective | | 3 |
| Prescribed course (see degree requirement B) | | 3 |
| Upper-division support work | | 3 |
| Upper-division support work | | 3 |
| | Credit Hours | 15 |

Fourth Year

| | | |
|----------------------------------------------|--------------|----|
| Fall | | |
| Elective | | 3 |
| Elective | | 3 |
| Prescribed course (see degree requirement B) | | 3 |
| Upper-division support work | | 3 |
| Upper-division support work | | 3 |
| | Credit Hours | 15 |

Spring

| | | |
|----------------------------------------------|---------------------------------------------------------|-----|
| PAD 4853 | Contemporary Issues in Public Administration and Policy | 3 |
| Elective | | 3 |
| Elective | | 3 |
| Prescribed course (see degree requirement B) | | 3 |
| Upper-division support work | | 3 |
| | Credit Hours | 15 |
| | Total Credit Hours | 120 |

- Minor in Civic Engagement (p. 155)
- Minor in Nonprofit Management (p. 157)
- Minor in Public Administration and Policy (p. 157)

Minor in Civic Engagement

Through the Minor in Civic Engagement students learn about community challenges and prepare to play a leadership role in affecting social change. In the required courses students actively participate in the local community through service learning projects. The elective courses allow students to explore the diversity of our communities and the systems

that affect communities. This interdisciplinary minor is open to all majors in the University.

All students seeking the Minor in Civic Engagement must complete 18 semester credit hours.

A. Required courses: **6**

| | |
|----------|--------------------------------------|
| PAD 2073 | Foundations of Civic Engagement |
| PAD 3073 | Civic Leadership Integrative Seminar |

B. Electives: **12**

Students must complete 12 hours of electives.

| | |
|----------|------------------------------------------------------|
| AAS 3013 | African American Cultural Experiences |
| AAS 3113 | African American Studies Research Seminar |
| AAS 3123 | Civil Rights Movement and African American Education |
| AAS 3133 | African Americans in Higher Education |
| AMS 3343 | Studies in Race and Ethnicity |
| AMS 3443 | Studies in Gender and Sexuality |
| ANT 3223 | Anthropology and the Environment |
| ANT 3603 | Sex, Gender, and Culture |
| ANT 3733 | Political and Legal Anthropology |
| ANT 3823 | Applied Anthropology |
| ANT 3873 | Food, Culture, and Society |
| ARC 4183 | Environmental Systems |
| ASC 3013 | Air Force Leadership Studies I |
| ASC 3023 | Air Force Leadership Studies II |
| BBL 3033 | Mexican Americans in the Southwest |
| BBL 3123 | Mexican American Culture |
| BIO 3283 | Principles of Ecology |
| BIO 3333 | Plants and Society |
| BIO 4033 | Conservation Biology |
| BIO 4053 | Wildlife Biology |
| CE 4633 | Water and Wastewater Treatment |
| COM 3293 | Introduction to Health Communication |
| COM 3493 | Global Health Communication |
| COM 3553 | Intercultural Communication |
| COM 3593 | Health Communication Campaigns |
| COM 4893 | Health Communication Practicum |
| CRJ 3213 | Managing Criminal Justice Organizations |
| CRJ 3533 | Community Corrections |
| CRJ 3563 | Juvenile Justice |
| CRJ 3573 | Restorative Justice |
| CRJ 4403 | Race, Ethnicity, and Criminal Justice |
| DEM 4963 | Social Demography and Public Policy |
| ECO 3233 | Health Economics and Policy |
| ECO 3253 | Economics of Public and Social Issues |
| ECO 4303 | Economics of Developing Countries |
| ECO 4273 | Environmental and Resource Economics |
| ES 3053 | Environmental Remediation |
| ES 3143 | Watershed Processes |
| ES 3203 | Environmental Law |
| ES 3213 | Biology of Flowering Plants |
| ES 4133 | Natural Resource Policy and Administration |
| ES 4153 | Introduction to Sustainability |

| | |
|----------|----------------------------------------------------------|
| ES 4163 | Renewable Energy |
| ES 4233 | Restoration Ecology |
| ES 4243 | Wildlife Management |
| GES 3153 | Geography of Texas |
| GES 3213 | Cultural Geography |
| GES 3314 | Introduction to Geographic Information Systems |
| GES 3453 | Population Geography |
| GES 3513 | Urban Geography |
| GES 3533 | Geography of Local Economic Activity |
| GES 3613 | Conservation of Resources |
| GES 3643 | Political Geography |
| GES 3653 | Gender and Cities: An Introduction to Feminist Geography |
| GES 3753 | Climate Change |
| HIS 3493 | History of San Antonio |
| HIS 3623 | History of the Civil Rights Movement |
| HON 3103 | Honors Service |
| HON 3401 | Honors Cultural Exploration |
| HON 3403 | Honors Cultural Exploration |
| HON 3513 | Archer: Policy-Making Process |
| HON 3523 | Archer: Politics of National Memory |
| HON 3533 | Archer: Advocacy and Politics |
| HON 4403 | Citymester: City Sites |
| HTH 3003 | Survey of Drugs and Health |
| HTH 3503 | Theories of Health Behavior |
| HTH 3513 | Community Health |
| HTH 3523 | Worksite Health Promotion |
| IDS 3013 | Diversity, Equity, and the Social Sciences |
| MAS 3013 | Chicana/o Queer Communities, Identities and Theories |
| MAS 3033 | Mexican Americans in the Southwest |
| MAS 3413 | Mexican American Family |
| MKT 4063 | Multicultural Marketing |
| MSC 3013 | Training Management and the Warfighting Functions |
| MSC 3023 | Applied Leadership in Small Unit Operations |
| PAD 2013 | Introduction to Public Policy |
| PAD 3003 | Fundraising in Nonprofit Agencies |
| PAD 3023 | Introduction to Urban Management and Policy |
| PAD 3033 | Introduction to Nonprofit Agencies |
| PAD 3053 | Urban Economic Development |
| PAD 3113 | Managing Nonprofit Organizations |
| PAD 3133 | Politics and Policies of San Antonio and South Texas |
| PAD 3143 | Urban and Regional Planning |
| PAD 4933 | Internship in Public Administration |
| PAD 4936 | Internship in Public Administration |
| PAL 3113 | Minorities and the Law |
| PAL 4013 | Issues in Law and Society |
| POL 3183 | Women in Politics |
| POL 3293 | Political Movements |
| POL 3413 | Urban Development: Politics Planning, and Power |
| PSY 3053 | Cross-Cultural Psychology |

| | |
|--------------------|------------------------------------------------------------------|
| PSY 4103 | Social Psychology of Prejudice |
| SOC 3013 | Social Stratification |
| SOC 3043 | Race and Ethnic Relations |
| SOC 3083 | Social Change and Development |
| SOC 3093 | Religion and Society |
| SOC 3163 | Families in Society |
| SOC 3203 | Gerontology |
| SOC 3223 | Population Dynamics and Demographic Techniques |
| SOC 3263 | Latinas in U.S. Society |
| SOC 3293 | Sociology of Gender |
| SOC 3413 | Sociology of the Mexican American Community |
| SOC 4433 | Culture and Society |
| SOC 4683 | Health Disparities |
| URP 3123 | Introduction to Community and Regional Planning and Urban Design |
| URP 3153 | Comparative Urban and Regional Development |
| URP 4123 | Sustainable Community Development |
| URP 4213 | Urban Planning and Public Health |
| WGSS 4623 | Feminist Theories |
| WGSS 4863 | Feminism and Globalization |
| <hr/> | |
| Total Credit Hours | 18 |

To declare a Minor in Civic Engagement, obtain advice, obtain lists of relevant courses, or seek approval of substitutions for course requirements, students should consult with their academic advisor.

Minor in Nonprofit Management

The Minor in Nonprofit Management is open to students in any discipline. The Minor in Nonprofit Management provides the opportunity for students to learn the characteristics of the nonprofit sector, the purpose of the nonprofit sector in American society, and basic management and fundraising techniques. Students will be provided the opportunity to prepare themselves for leadership positions in social service, youth, environmental, health, arts, senior and other nonprofit organizations.

All required and prescribed (elective) public administration (PAD) courses must be completed with a grade of "C-" or better.

All students seeking the Minor in Nonprofit Management must complete 18 semester credit hours.

| | | |
|----------------------------------------------------------------------------|---------------------------------------------------------------|-----------|
| A. Required courses: | | 6 |
| PAD 3003 | Fundraising in Nonprofit Agencies | |
| PAD 3033 | Introduction to Nonprofit Agencies | |
| B. 12 semester credit hours selected from the courses listed below: | | 12 |
| PAD 2013 | Introduction to Public Policy | |
| PAD 2073 | Foundations of Civic Engagement | |
| MGT 3013 | Introduction to Organization Theory, Behavior, and Management | |
| PAD 3023 | Introduction to Urban Management and Policy | |
| PAD 3043 | Public and Nonprofit Financial Management | |
| PAD 3053 | Urban Economic Development | |
| PAD 3073 | Civic Leadership Integrative Seminar | |
| PAD 3113 | Managing Nonprofit Organizations | |

| | |
|--------------------|---------------------------------------------------------------|
| PAD 3123 | Strategic Planning in the Public and Nonprofit Sectors |
| PAD 3133 | Politics and Policies of San Antonio and South Texas |
| PAD 3143 | Urban and Regional Planning |
| PAD 3153 | Administrative Law and Policy |
| MGT 3613 | Managing Human Resources |
| ENT 4623 | Tools and Objectives of the Social Enterprise |
| SOC 4683 | Health Disparities |
| PAD 4843 | Study Abroad: International Public Administration |
| PAD 4933 | Internship in Public Administration (prior approval required) |
| PAD 4936 | Internship in Public Administration (prior approval required) |
| PAD 4963 | Special Topics in Public Administration |
| <hr/> | |
| Total Credit Hours | 18 |

Students should not take PAD 4933 Internship in Public Administration, PAD 4936 Internship in Public Administration, or PAD 4936 Internship in Public Administration until they have completed 9 hours in the minor. To declare a Minor in Nonprofit Management, obtain advice, obtain lists of relevant courses, or seek approval of substitutions for course requirements, students should consult with their academic advisor.

Minor in Public Administration and Policy

The Minor in Public Administration and Policy is open to students in any discipline. The minor provides undergraduate students with foundational knowledge of the public sector. This includes fundamentals of public leadership and management, the meaning of public service in a diverse society, ethical decision-making, and the practice of policy formation and implementation. All students seeking the Minor in Public Administration and Policy must complete 18 semester credit hours.

All required and prescribed (elective) public administration (PAD) courses must be completed with a grade of "C-" or better.

| | | |
|------------------------------------------------------------------------------------------|--------------------------------------------------------|----------|
| A. Required courses: | | 9 |
| PAD 1113 | Public Administration and Policy in American Society | |
| PAD 2013 | Introduction to Public Policy | |
| PAD 2073 | Foundations of Civic Engagement | |
| B. 9 upper-division semester credit hours selected from the courses listed below: | | 9 |
| PAD 3003 | Fundraising in Nonprofit Agencies | |
| PAD 3023 | Introduction to Urban Management and Policy | |
| PAD 3033 | Introduction to Nonprofit Agencies | |
| PAD 3043 | Public and Nonprofit Financial Management | |
| PAD 3053 | Urban Economic Development | |
| PAD 3073 | Civic Leadership Integrative Seminar | |
| PAD 3113 | Managing Nonprofit Organizations | |
| PAD 3123 | Strategic Planning in the Public and Nonprofit Sectors | |
| PAD 3133 | Politics and Policies of San Antonio and South Texas | |
| PAD 3143 | Urban and Regional Planning | |
| PAD 3153 | Administrative Law and Policy | |

| | |
|------------------------------|---------------------------------------------------------------|
| PAD 3163 | Analysis and Assessment for Public Administration |
| PAD 4843 | Study Abroad: International Public Administration |
| PAD 4911 | Independent Study (prior approval required) |
| PAD 4913 | Independent Study (prior approval required) |
| PAD 4933 | Internship in Public Administration (prior approval required) |
| PAD 4936 | Internship in Public Administration (prior approval required) |
| PAD 4963 | Special Topics in Public Administration |
| PAD 4993 | Honors Thesis (prior approval required) |
| Total Credit Hours 18 | |

To declare a Minor in Public Administration and Policy, obtain advice, obtain lists of relevant courses, or seek approval of substitutions for course requirements, students should consult with their academic advisor.

Certificate in Public Policy and Data Analysis

This certificate program prepares students to address policy challenges and to lead in data-driven decision-making in the private, public and nonprofit sectors. Sound public policy requires a thorough analysis of the root causes of problems and the drivers of meaningful change. Students in this certificate program will learn to use data to define, understand, and solve problems in our community. Students will be able to effectively communicate and influence decision-making using evidence-based policy proposals. By learning evaluation techniques, students will be better equipped to improve program and service delivery.

This is an interdisciplinary program administered by the Department of Public Administration. The certificate includes courses currently offered in Public Administration, Criminology and Criminal Justice, Demography, Political Science, Public Health, and Sociology.

This certificate program is open to all majors in the University. Courses taken in the certificate program may be applied to a B.S. or B.A. degree, depending on program requirements and with approval of the undergraduate advisor of record of the degree program. Students not currently enrolled in any UTSA degree program can apply as a non-degree-seeking special student at the undergraduate level to pursue this certificate.

Students pursuing the Certificate in Public Policy and Data Analysis must complete 15 semester credit hours as follows:

A. Required courses: 6

| | |
|----------|---------------------------------------------------|
| PAD 2013 | Introduction to Public Policy |
| PAD 3163 | Analysis and Assessment for Public Administration |

B. Public Policy courses: 3

Select one course from the following list:

| | |
|----------|------------------------------------------------------|
| HON 3513 | Archer: Policy-Making Process |
| HON 3533 | Archer: Advocacy and Politics |
| PAD 3023 | Introduction to Urban Management and Policy |
| PAD 3133 | Politics and Policies of San Antonio and South Texas |
| PAD 3153 | Administrative Law and Policy |

| | |
|---------------------------------------------|-------------------------------------------------------------------|
| POL 3173 | Justice and Social Policy |
| POL 3373 | The Legislative Process |
| C. Data Analysis courses: 6 | |
| Select two courses from the following list: | |
| DEM 4013 | Geographic Information Systems for Population Analysis and Policy |
| DEM 4963 | Social Demography and Public Policy |
| GES 3314 | Introduction to Geographic Information Systems |
| GES 3334 | Advanced Geographic Information Systems |
| HTH 2623 | Database Management in Community and Public Health |
| SOC 3223 | Population Dynamics and Demographic Techniques |
| SOC 3373 | Qualitative Research Methods |
| Total Credit Hours 15 | |

Department of Public Health

The Department of Public Health offers Bachelor of Science (B.S.) degrees in Health and in Public Health, as well as minors in Community Health and in Wellness.

The B.S. degree in Health and the B.S. degree in Public Health with concentrations in Health Promotion and Behavioral Science and Epidemiology and Disease Control, provide students the opportunity to prepare for health careers in city, county, state and national government health agencies; corporate wellness programs; and voluntary health agencies. The degrees require both academic coursework and practical experience via an internship and help to prepare students for admission to graduate programs in public health and health promotion. Students interested in pursuing a major or minor in health or public health are required to consult with their academic advisor.

Department Honors

The Department of Public Health awards Department Honors to certain outstanding students and provides the opportunity for advanced study under close faculty supervision.

Selection of honors designation is based on the student's academic performance and recommendation by the faculty of the student's major discipline. To be eligible for the program, students must have a minimum overall grade point average of 3.0 at UTSA and a minimum grade point average of 3.5 in their major at UTSA. The minimum grade point averages must be maintained for students to receive the approval of the Department Honors Committee and the discipline faculty. Students applying for Department Honors are expected to enroll in the appropriate honors thesis course during their final two semesters. The completed thesis must be approved by the supervising faculty sponsor and another departmental faculty member. Students interested in this program should contact their professors for additional information.

- B.S. degree in Health (Community Health and Preventive Services Specialization) (p. 159)
- B.S. degree in Public Health (p. 161)

Bachelor of Science Degree in Health (Community Health and Preventive Services Specialization)

This program provides students with the opportunity to pursue a Bachelor of Science (B.S.) degree in Health for students interested in careers in community health, public health and health promotion. All degree core, designated electives, and support work must be completed with a grade of "C-" or better.

Academic advising for students seeking the degree is available in the Life and Health Sciences Advising Center.

The minimum number of semester credit hours for this degree, including the Core Curriculum requirements, is 120, at least 39 of which must be at the upper-division level. All candidates seeking this degree must fulfill the Core Curriculum requirements and the degree requirements, which are listed below.

Internship Policy

Experiential learning is a valuable element for health professionals. An internship enables the student to gain practical experience as a

professional under conditions conducive to educational development. The internship is a time-limited, supervised period of health education activities carried out in a health-oriented organization. All Health majors are expected to complete an internship (6 semester credit hours, 300 hours of time on site).

Internship Eligibility

Health majors are eligible to apply for an internship if they:

- Have completed all degree requirements of the major and support work
- Have a minimum grade point average (GPA) of 2.5
- Are within 13 hours of graduation (including the 6 hours of the internship)

Students who do not meet the GPA requirement will not be allowed to complete the internship. The program coordinator will assign students who do not meet the GPA requirement two upper-level courses (3 credit hours each) to take in place of the internship course.

Mandatory meetings are held in the semester prior to the student enrolling in the internship. These meetings are held in June (for Fall), October (for Spring), and March (for Summer). Students are required to meet with their academic advisor prior to the meeting to verify that they are eligible for the internship. This must be done by October 1st, March 1st, or May 1st for the respective internship meeting. Students must bring a signed degree plan from their advisor to the mandatory internship meeting.

Students who miss the meeting may be ineligible for the internship in the following semester. Extenuating circumstances must be documented and will be considered on a case-by-case basis by the internship coordinator.

Students requesting an internship at a site that requires a criminal background check are responsible for having the background check completed and submitted to the internship site for approval. Students are responsible for paying any fees associated with the completion of the background check. Students must have the background check completed and accepted by the internship site when the work plan for the internship is submitted.

Appeal Process

Students who wish to appeal the internship requirement due to prior work experience may do so by completing and submitting the appeal form, available from the academic advisor, with written documentation to a three-member review committee. Prior work experience is defined as a minimum of one year of full-time work experience in the field of the respective degree. Written documentation submitted with the form includes: 1) a letter from the student detailing his or her work experience, how it fits his or her degree plan, and his or her career goals; 2) the student's resume; and 3) a letter from his or her work supervisor verifying employment and stating the extent of their job responsibilities and the relationship to the degree. The appeal packet must be received by the department internship coordinator no later than October 7th, March 7th, or May 7th, for the Spring, Summer, or Fall semesters, respectively. The committee will meet prior to the internship meeting to discuss the appeals and make a recommendation to the Department Chair. Students who are denied appeals must attend the internship meeting and complete the internship.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the B.S. degree in Health must fulfill University Core Curriculum requirements. The courses listed below satisfy both degree requirements and Core Curriculum requirements. If courses are taken to satisfy both degree requirements and Core Curriculum requirements, then students may need to take additional courses in order to meet the minimum number of semester credit hours required for this degree.

STA 1053 should be used to satisfy the core requirement in Mathematics. BIO 1233 should be used to satisfy one of the Life and Physical Sciences core requirements. HTH 2413 should be used to satisfy the core requirement in Social and Behavioral Sciences. COM 2113 should be used to satisfy the core requirement in the Component Area Option.

Core Curriculum Component Area Requirements (p. 7)

| | |
|-----------------------------------|-----------|
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |
| Life and Physical Sciences | 6 |
| Language, Philosophy and Culture | 3 |
| Creative Arts | 3 |
| American History | 6 |
| Government-Political Science | 6 |
| Social and Behavioral Sciences | 3 |
| Component Area Option | 3 |
| Total Credit Hours | 42 |

All candidates for the degree must complete the following degree requirements in addition to the Core Curriculum requirements.

Gateway Courses

Students pursuing the B.S. degree in Health must successfully complete each of the following Gateway Courses with a grade of "C-" or better in no more than two attempts. A student who is unable to successfully complete these courses within two attempts, including dropping a course with a grade of "W" or taking an equivalent course at another institution, will be required to change his or her major.

| | |
|----------|---------------------------------------------|
| HTH 2413 | Introduction to Community and Public Health |
| HTH 3503 | Theories of Health Behavior |

Degree Requirements

A. Degree core requirements

| | | |
|----------|----------------------------------------------------------------|---|
| HTH 2413 | Introduction to Community and Public Health | 3 |
| HTH 2601 | Field-Based Skills in Community Health and Preventive Services | 1 |
| HTH 2623 | Database Management in Community and Public Health | 3 |
| HTH 3503 | Theories of Health Behavior | 3 |
| HTH 3513 | Community Health | 3 |
| HTH 3663 | Program Planning and Evaluation | 3 |
| HTH 4503 | Human Disease and Epidemiology | 3 |
| HTH 4513 | Consumer Health | 3 |
| HTH 4543 | Environmental Health and Safety | 3 |
| HTH 4921 | Capstone for Community Health and Preventive Services | 1 |

| | | |
|----------|----------------------|---|
| HTH 4936 | Internship in Health | 6 |
|----------|----------------------|---|

B. Support work

| | | |
|---------------------|--------------------------------------------------------------------------------|---|
| BIO 1233 | Contemporary Biology I | 3 |
| BIO 2053 & BIO 2051 | Human Anatomy and Physiology I and Human Anatomy and Physiology Laboratory I | 4 |
| BIO 2063 & BIO 2061 | Human Anatomy and Physiology II and Human Anatomy and Physiology Laboratory II | 4 |
| COM 2113 | Public Speaking | 3 |
| MAT 1023 | College Algebra with Applications | 3 |
| STA 1053 | Basic Statistics | 3 |

C. Designated electives

Select 15 semester credit hours of the following: 15

Select at least two of the following four courses:

| | |
|----------|-------------------------------|
| HTH 3303 | Physical Activity and Health |
| HTH 3533 | Drugs and Health |
| HTH 4523 | Understanding Human Sexuality |
| HTH 4533 | Nutrition and Health |

Additional designated electives can be taken from the following courses:

| | |
|----------|---------------------------------------------------------------|
| HTH 2513 | Personal Health |
| HTH 3003 | Survey of Drugs and Health |
| HTH 3013 | Survey of Human Nutrition |
| HTH 3023 | Survey of Human Sexuality |
| HTH 3043 | Principles of Weight Management |
| HTH 3523 | Worksite Health Promotion |
| HTH 3543 | Growth and Development |
| HTH 3553 | Emotional Wellness |
| HTH 3563 | Child and Adolescent Health Promotion |
| HTH 4953 | Special Studies in Health |
| MGT 3013 | Introduction to Organization Theory, Behavior, and Management |
| | or MGT 4953 Special Studies in Management |

D. Free electives 23

All candidates for this degree must complete up to 23 hours of free electives to meet the 120 hour minimum for the degree, including a sufficient number of electives at the upper-division level to meet the UTSA minimum of 39 upper-division hours.

| | |
|---------------------------|-----------|
| Total Credit Hours | 90 |
|---------------------------|-----------|

B.S. in Health – Recommended Four-Year Academic Plan

First Year

| Fall | | Credit Hours |
|---------------------|-----------------------------------------|--------------|
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| MAT 1023 | College Algebra with Applications | 3 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| | University core course | 3 |
| | University core course | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|----------|--------------------------------------------------------------|---|
| BIO 1233 | Contemporary Biology I (core) | 3 |
| HTH 2413 | Introduction to Community and Public Health (core and major) | 3 |
| STA 1053 | Basic Statistics (core) | 3 |

| | | |
|------------------------|--------------------------------|----|
| WRC 1023 | Freshman Composition II (core) | 3 |
| University core course | | 3 |
| Credit Hours | | 15 |

Second Year**Fall**

| | | |
|------------------------|--|----|
| University core course | | 3 |
| University core course | | 3 |
| University core course | | 3 |
| University core course | | 3 |
| Free elective | | 2 |
| Credit Hours | | 14 |

Spring

| | | |
|---------------|----------------------------------------------------------------|----|
| BIO 2053 | Human Anatomy and Physiology I | 3 |
| BIO 2051 | Human Anatomy and Physiology Laboratory I | 1 |
| COM 2113 | Public Speaking (core) | 3 |
| HTH 2601 | Field-Based Skills in Community Health and Preventive Services | 1 |
| HTH 3503 | Theories of Health Behavior | 3 |
| Free elective | | 3 |
| Free elective | | 3 |
| Credit Hours | | 17 |

Third Year**Fall**

| | | |
|---------------|----------------------------------------------------|----|
| BIO 2063 | Human Anatomy and Physiology II | 3 |
| BIO 2061 | Human Anatomy and Physiology Laboratory II | 1 |
| HTH 2623 | Database Management in Community and Public Health | 3 |
| HTH 3513 | Community Health | 3 |
| HTH 3663 | Program Planning and Evaluation | 3 |
| Free elective | | 3 |
| Credit Hours | | 16 |

Spring

| | | |
|---------------------|--------------------------------|----|
| HTH 4503 | Human Disease and Epidemiology | 3 |
| Designated elective | | 3 |
| Designated elective | | 3 |
| Designated elective | | 3 |
| Free elective | | 3 |
| Credit Hours | | 15 |

Fourth Year**Fall**

| | | |
|---------------------|---------------------------------|----|
| HTH 4513 | Consumer Health | 3 |
| HTH 4543 | Environmental Health and Safety | 3 |
| Designated elective | | 3 |
| Designated elective | | 3 |
| Free elective | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|---------------|-------------------------------------------------------|---|
| HTH 4936 | Internship in Health | 6 |
| HTH 4921 | Capstone for Community Health and Preventive Services | 1 |
| Free elective | | 3 |

| | | |
|--------------------|--|-----|
| Free elective | | 3 |
| Credit Hours | | 13 |
| Total Credit Hours | | 120 |

Bachelor of Science Degree in Public Health

The Bachelor of Science (B.S.) degree in Public Health is offered with an interdisciplinary curriculum designed for students who are interested in gaining knowledge and developing skills needed in a variety of health care related areas, including biostatistics, environmental science, health and public administration, epidemiology, and health behavior. The degree requirements consist of the University Core Curriculum, major core requirements, elective courses in areas of specializations, a foreign language, and an internship. The major core is multidisciplinary introducing students to the fundamental subjects and the essential knowledge necessary for working in any field related to public health. The degree program is offered in two concentrations: (1) Epidemiology and Disease Control and (2) Health Promotion and Behavioral Science.

The degree program prepares students for health care related careers in government, private, and nonprofit organizations. In addition, graduates of this program will be competent in pursuing graduate studies in a variety of academic fields, including public health, allied health, public policy, nutrition, business, and law. For students in the Epidemiology and Disease Control concentration, it can also provide students with a pathway to advanced studies in medicine or dentistry, if the students use the electives to fulfill the additional admission requirements for medical and dental schools.

The minimum number of semester credit hours required for this degree, including Core Curriculum requirements, is 120. Thirty-nine of the total semester credit hours required for the degree must be at the upper-division level. All candidates seeking this degree must fulfill the Core Curriculum requirements and the degree requirements, which are listed below.

Internship Policy

Experiential learning is a valuable element for health professionals. An internship enables the student to gain practical experience as a professional under conditions conducive to educational development. The internship is a time-limited, supervised period of health education activities carried out in a health-oriented organization. All Public Health majors are expected to complete an internship (6 semester credit hours, 300 hours of time on site).

Internship Eligibility

Public Health majors are eligible to apply for an internship if they have a minimum grade point average (GPA) of 2.5 and follow the guidelines outlined in the internship manual for the Department of Public Health.

Students who do not meet the GPA requirement will not be allowed to complete the internship. The program coordinator will assign students who do not meet the GPA requirement two upper-level courses (3 credit hours each) to take in place of the internship course.

Students requesting an internship at a site that requires a criminal background check are responsible for having the background check completed and submitted to the internship site for approval. Students are responsible for paying any fees associated with the completion of the background check. Students must have the background check completed

and accepted by the internship site when the work plan for the internship is submitted.

Appeal Process

Students who wish to appeal the internship requirement due to prior work experience may do so by completing and submitting the appeal form, available from the internship coordinator, with written documentation. Prior work experience is defined as a minimum of one year of full-time work experience in the field of the respective degree. Written documentation submitted with the form includes: 1) a letter from the student detailing his or her work experience, how it fits his or her degree plan, and his or her career goals; 2) the student's resume; and 3) letter(s) from his or her work supervisor(s) verifying employment and stating the extent of their job responsibilities and the relationship to the degree. Work appeals must be submitted by the specified deadline for that semester. The work appeal committee will make a recommendation to the Department Chair.

Core Curriculum requirements (42 semester credit hours)

Students seeking the B.S. degree in Public Health must fulfill University Core Curriculum requirements in the same manner as other students. The courses listed below satisfy both degree requirements and Core Curriculum requirements; however, if these courses are taken to satisfy both requirements, then students may need to take additional courses in order to meet the minimum number of semester credit hours required for this degree.

STA 1053 may be used to satisfy the core requirement in Mathematics as well as a major requirement. BIO 1404 and BIO 1414 may be used to satisfy the core requirement in Life and Physical Sciences as well as major requirements. HTH 2413 may be used to satisfy the core requirement in Social and Behavioral Sciences.

Core Curriculum Component Area Requirements (p. 7)

| | |
|-----------------------------------|-----------|
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |
| Life and Physical Sciences | 6 |
| Language, Philosophy and Culture | 3 |
| Creative Arts | 3 |
| American History | 6 |
| Government-Political Science | 6 |
| Social and Behavioral Sciences | 3 |
| Component Area Option | 3 |
| Total Credit Hours | 42 |

Degree Requirements

All candidates for the B.S. degree in Public Health must complete the following 87 semester credit hours, which includes 9 semester credit hours of Core Curriculum requirements.

A. Public Health Foundation courses

All candidates for this degree must complete the following 38 semester credit hours of coursework:

| | | |
|----------|---------------------------------------------|---|
| BIO 1404 | Biosciences I | 4 |
| BIO 1414 | Biosciences II | 4 |
| HTH 2413 | Introduction to Community and Public Health | 3 |

| | | |
|----------|---------------------------------------------------------------|---|
| HTH 2623 | Database Management in Community and Public Health | 3 |
| HTH 3503 | Theories of Health Behavior | 3 |
| HTH 4503 | Human Disease and Epidemiology | 3 |
| HTH 4543 | Environmental Health and Safety | 3 |
| MGT 3013 | Introduction to Organization Theory, Behavior, and Management | 3 |
| PUB 4043 | Global Health | 3 |
| PUB 4053 | Health Care System | 3 |
| SOC 3223 | Population Dynamics and Demographic Techniques | 3 |
| STA 1053 | Basic Statistics | 3 |

B. Public Health Concentrations. All candidates for the degree in Public Health must complete the requirements for one of the following concentrations:

Epidemiology and Disease Control Concentration

All candidates for the degree in Public Health with an Epidemiology and Disease Control Concentration must complete the following 18 semester credit hours of coursework:

| | | |
|-----------------------------------------------------|--------------------------------------------------------------------------------------|--|
| SOC 3323 | Introduction to Social Research | |
| SOC 4683 | Health Disparities | |
| Select at least 12 semester hours of the following: | | |
| ANT 3523 | Medical Anthropology | |
| BIO 2053 | Human Anatomy and Physiology I | |
| BIO 2063 | Human Anatomy and Physiology II | |
| BIO 2313 | Genetics | |
| BIO 3413 | Physiology | |
| BIO 3422 | Physiology Laboratory | |
| BIO 3433 | Neurobiology | |
| BIO 3713 | Microbiology | |
| BIO 3722 | Microbiology Laboratory | |
| GES 3443 | Medical Geography | |
| PUB 3413 | Behavioral Epidemiology | |
| PUB 3613 | Etiology 1: Epidemiologic Methods to Investigate Outbreaks and New Epidemics | |
| PUB 4613 | Etiology 2: Epidemiologic Methods to Investigate Chronic Disease, Exposure, and Risk | |
| SOC 3213 | Medical Sociology | |

Health Promotion and Behavioral Science Concentration

All candidates for the degree in Public Health with a Health Promotion and Behavioral Science Concentration must complete the following 18 semester credit hours of coursework:

| | | |
|------------------------------------------------------------------------------|---------------------------------|--|
| HTH 3663 | Program Planning and Evaluation | |
| Select at least 15 semester credit hours from the following list of courses: | | |
| ANT 3523 | Medical Anthropology | |
| BIO 2003 | Biology of Human Reproduction | |
| BIO 2043 | Nutrition | |
| BIO 4813 | Brain and Behavior | |
| HTH 3043 | Principles of Weight Management | |
| HTH 3513 | Community Health | |
| HTH 3523 | Worksite Health Promotion | |
| HTH 3533 | Drugs and Health | |
| HTH 3543 | Growth and Development | |

| | | |
|----------|---------------------------------------|--|
| HTH 3553 | Emotional Wellness | |
| HTH 3563 | Child and Adolescent Health Promotion | |
| HTH 4513 | Consumer Health | |
| HTH 4523 | Understanding Human Sexuality | |
| HTH 4533 | Nutrition and Health | |
| KIN 2123 | Fitness and Wellness Concepts | |
| KIN 4023 | Exercise Psychology | |
| PSY 4253 | Psychology of Health | |
| SOC 2023 | Social Context of Drug Use | |
| SOC 3213 | Medical Sociology | |

C. Advanced Public Health Requirement

All candidates for this degree must complete 6 hours of an internship in public health.

| | | |
|-------------|------------------------------------------|---|
| PUB 4933 | Public Health Internship (repeated once) | 6 |
| or PUB 4936 | Public Health Internship | |

D. Foreign Language

All candidates for this degree must complete 6 hours of coursework in a single foreign language. 6

E. Free electives

All candidates for this degree must complete up to 19 hours of free electives to meet the 120 hour minimum for the degree, including a sufficient number of electives at the upper-division level to meet the UTSA minimum of 39 upper-division hours. 19

Total Credit Hours 87

Course Sequence Guides for B.S. Degree in Public Health

These course sequence guides are designed to assist students in completing the requirements for their UTSA undergraduate Public Health degree. *These are merely guides and students must satisfy other requirements of this catalog and meet with their academic advisor for individualized degree plans.* Progress within these guides depends upon such factors as course availability, individual student academic preparation, student time management, work obligations, and individual financial considerations. Students may choose to take courses during Summer terms to reduce course loads during long semesters.

B.S. in Public Health, Epidemiology and Disease Control Concentration – Four-Year Academic Plan**First Year**

| | | Credit Hours |
|-------------------------------------|--------------------------------------------------------------|--------------|
| Fall | | |
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| HTH 2413 | Introduction to Community and Public Health (core and major) | 3 |
| STA 1053 | Basic Statistics (core and major) | 3 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| Language, Philosophy & Culture core | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|-------------|-------------------------------------------------------------|---|
| BIO 1404 | Biosciences I (core and major) | 4 |
| HIS 1043 | United States History: Pre-Columbus to Civil War Era (core) | 3 |
| or HIS 1053 | or United States History: Civil War Era to Present | |
| or HIS 2053 | or Texas History | |

| | | |
|---------------|--------------------------------|----|
| WRC 1023 | Freshman Composition II (core) | 3 |
| Free elective | | 3 |
| Free elective | | 3 |
| Credit Hours | | 16 |

Second Year**Fall**

| | | |
|---------------|-------------------------------------------------------------|----|
| BIO 1414 | Biosciences II | 4 |
| HIS 1043 | United States History: Pre-Columbus to Civil War Era (core) | 3 |
| or HIS 1053 | or United States History: Civil War Era to Present | |
| or HIS 2053 | or Texas History | |
| HTH 3503 | Theories of Health Behavior | 3 |
| Free elective | | 3 |
| Free elective | | 3 |
| Credit Hours | | 16 |

Spring

| | | |
|----------------------------|---------------------------------------------------------------|----|
| HTH 2623 | Database Management in Community and Public Health | 3 |
| MGT 3013 | Introduction to Organization Theory, Behavior, and Management | 3 |
| SOC 3223 | Population Dynamics and Demographic Techniques | 3 |
| Component Area Option core | | 3 |
| Creative Arts core | | 3 |
| Credit Hours | | 15 |

Third Year**Fall**

| | | |
|--------------------------------|------------------------------------------|----|
| POL 1013 | Introduction to American Politics (core) | 3 |
| PUB 4043 | Global Health | 3 |
| Free elective | | 3 |
| Free elective (upper-division) | | 3 |
| Foreign language (semester I) | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|--------------------------------|--------------------------------------|----|
| HTH 4503 | Human Disease and Epidemiology | 3 |
| POL 1133 | Texas Politics and Society (core) | 3 |
| or POL 1213 | or Civil Rights in Texas and America | |
| PUB 4053 | Health Care System | 3 |
| SOC 3323 | Introduction to Social Research | 3 |
| Foreign language (semester II) | | 3 |
| Credit Hours | | 15 |

Fourth Year**Fall**

| | | |
|---------------------------------------|---------------------------------|----|
| HTH 4543 | Environmental Health and Safety | 3 |
| SOC 4683 | Health Disparities | 3 |
| Concentration course (upper-division) | | 3 |
| Concentration course (upper-division) | | 3 |
| Concentration course (upper-division) | | 3 |
| Credit Hours | | 15 |

| | | |
|------------------------------------------|-------------------------------------------------------------------------|-----|
| Spring | | |
| PUB 4933 or PUB 4936 | Public Health Internship (repeated once) or Public Health Internship | 6 |
| Concentration course (upper-division) | | 3 |
| Free elective (upper-division) | | 3 |
| Free elective (to meet 120 hour minimum) | | 1 |
| Credit Hours | | 13 |
| Total Credit Hours | | 120 |

B.S. in Public Health, Health Promotion and Behavioral Science Concentration – Four-Year Academic Plan

First Year

| | | |
|-------------------------------------|--------------------------------------------------------------|---------------------|
| Fall | | Credit Hours |
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| HTH 2413 | Introduction to Community and Public Health (core and major) | 3 |
| STA 1053 | Basic Statistics (core and major) | 3 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| Language, Philosophy & Culture core | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|----|
| BIO 1404 | Biosciences I (core and major) | 4 |
| HIS 1043 or HIS 1053 or HIS 2053 | United States History: Pre-Columbus to Civil War Era (core) or United States History: Civil War Era to Present or Texas History | 3 |
| POL 1013 | Introduction to American Politics (core) | 3 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| Free elective | | 3 |
| Credit Hours | | 16 |

Second Year

| | | |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|----|
| Fall | | |
| BIO 1414 | Biosciences II (core and major) | 4 |
| HIS 1043 or HIS 1053 or HIS 2053 | United States History: Pre-Columbus to Civil War Era (core) or United States History: Civil War Era to Present or Texas History | 3 |
| HTH 3503 | Theories of Health Behavior | 3 |
| POL 1133 or POL 1213 | Texas Politics and Society (core) or Civil Rights in Texas and America | 3 |
| Creative Arts core | | 3 |
| Credit Hours | | 16 |

Spring

| | | |
|----------------------------|----------------------------------------------------|---|
| HTH 2623 | Database Management in Community and Public Health | 3 |
| HTH 3663 | Program Planning and Evaluation | 3 |
| SOC 3223 | Population Dynamics and Demographic Techniques | 3 |
| Component Area Option core | | 3 |

| | | |
|---------------|--|----|
| Free elective | | 3 |
| Credit Hours | | 15 |

Third Year

| | | |
|-------------------------------|---------------------------------------------------------------|----|
| Fall | | |
| MGT 3013 | Introduction to Organization Theory, Behavior, and Management | 3 |
| PUB 4043 | Global Health | 3 |
| Free elective | | 3 |
| Free elective | | 3 |
| Foreign language (semester I) | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|--------------------------------|---------------------------------|----|
| HTH 4503 | Human Disease and Epidemiology | 3 |
| HTH 4543 | Environmental Health and Safety | 3 |
| PUB 4053 | Health Care System | 3 |
| Free elective (upper-division) | | 3 |
| Foreign language (semester II) | | 3 |
| Credit Hours | | 15 |

Fourth Year

| | | |
|--------------------------------|--|----|
| Fall | | |
| Concentration course | | 3 |
| Concentration course | | 3 |
| Concentration course | | 3 |
| Free elective (upper-division) | | 3 |
| Free elective (upper-division) | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|------------------------------------------|------------------------------------------------------------------------------------|-----|
| PUB 4933 or PUB 4936 | Public Health Internship (repeated) ¹ or Public Health Internship | 6 |
| Concentration course (upper-division) | | 3 |
| Concentration course (upper-division) | | 3 |
| Free elective (to meet 120 hour minimum) | | 1 |
| Credit Hours | | 13 |
| Total Credit Hours | | 120 |

¹

May be repeated in a different semester.

Master of Public Health: 4+1 Program for Public Health Majors

This is a collaborative program between The University of Texas at San Antonio and UTHealth Houston - School of Public Health.

Program Description

The 4+1 program provides a direct line for Health and Public Health students to enroll in and complete their master's coursework over the course of five years, as opposed to the traditional four years of undergraduate work and two years of graduate work. The 4+1 degree between The University of Texas at San Antonio (UTSA) and UTHealth Houston - School of Public Health (UTHealth Houston SPH) allows undergraduate health and public health majors to streamline and advance their education efficiently.

The student will graduate with a baccalaureate degree in health or public health while earning a certificate in public health from UTHealth Houston SPH. Additionally, they will have the opportunity to complete a Master of Public Health (MPH) degree program in one additional year instead of the customary two years. Upon graduation from UTSA, students can immediately transition to master's status and continue on to complete the remaining degree requirements at UTHealth Houston SPH. Students who do not wish to continue with the master's degree will graduate with a certificate in public health from UTHealth Houston SPH.

Graduates will be expected to acquire the education, skill-set and experience needed to enter the professional work force in any of the varied fields of public health, or be well prepared to continue with their education through doctoral studies or in professional degrees such as medicine, dentistry and pharmacy.

Requirements

Students in good standing in the Bachelor of Science in Health or the Bachelor of Science in Public Health program who have a minimum cumulative grade point average of a 3.2 or higher and ideally have completed select degree foundation courses can apply for acceptance into the 4+1 program during their third full year of study. Students who are accepted into the 4+1 program will then complete selected online or in person graduate courses during their last year of study at the UTHealth San Antonio Regional Campus. This coursework will simultaneously satisfy remaining undergraduate requirements, as well as the core courses for the Master of Public Health (MPH) degree. After satisfying the undergraduate degree requirements students will then apply for and finish the graduate program.

- Minor in Community Health (p. 165)
- Minor in Wellness (p. 165)

Minor in Community Health

All students pursuing the Minor in Community Health must complete the following 18 semester credit hours:

| | | |
|--------------------|----------------------------------------------------|----|
| HTH 2413 | Introduction to Community and Public Health | 3 |
| HTH 2623 | Database Management in Community and Public Health | 3 |
| HTH 3503 | Theories of Health Behavior | 3 |
| HTH 3513 | Community Health | 3 |
| HTH 3663 | Program Planning and Evaluation | 3 |
| HTH 4503 | Human Disease and Epidemiology | 3 |
| Total Credit Hours | | 18 |

Minor in Wellness

All students pursuing the Minor in Wellness must complete the following 18 semester credit hours:

| | | |
|-----------------------------------------------------------|---------------------------------|---|
| HTH 3003 | Survey of Drugs and Health | 3 |
| HTH 3013 | Survey of Human Nutrition | 3 |
| HTH 3023 | Survey of Human Sexuality | 3 |
| HTH 3553 | Emotional Wellness | 3 |
| KIN 2123 | Fitness and Wellness Concepts | 3 |
| One additional Health course selected from the following: | | 3 |
| HTH 2513 | Personal Health | |
| HTH 3043 | Principles of Weight Management | |
| HTH 3543 | Growth and Development | |

or HTH 4513 Consumer Health

| | |
|--------------------|----|
| Total Credit Hours | 18 |
|--------------------|----|

To declare a Minor in Community Health or Wellness or to obtain advice, students should consult their academic advisor.

Department of Social Work

Currently, programs are in effect at the graduate level only.

Department of Sociology

The Department of Sociology offers a Bachelor of Arts degree in Sociology and a Minor in Sociology. At least 36 semester credit hours of sociology coursework are required to fulfill a Sociology major. The 36-hour total is considered a minimum, and students are encouraged to deepen and broaden their grasp of their major through careful allocation of their elective semester credit hours.

The Sociology degree requires students to complete at least 6 semester credit hours of support work. These courses, which require advance approval from advisors, should serve to introduce students to other social sciences in addition to those entailed in the coursework within students' major discipline.

Internship in Sociology

The Sociology Department encourages its students to participate in an internship. Internship entails supervised experience, usually within selected organizations in the San Antonio area. The majors are asked to find their internship placements. The internship coordinator of the Department of Sociology approves placement. Students majoring in nonsocial science disciplines are welcome to participate but should consult with their faculty advisors regarding the role of the internship within their own degree programs. Further information can be obtained from the internship coordinator.

Department Honors

The Department of Sociology, through its Department Honors program, provides the opportunity for advanced study under close faculty supervision to those students who have demonstrated outstanding scholarship.

Selection for honors designation is based on academic performance and recommendation by discipline faculty. To be eligible for the program, students must have a minimum grade point average of 3.0 overall at UTSA and a minimum grade point average of 3.5 in Sociology at UTSA. Minimum grade point averages must be maintained for students to receive the approval of the Department Honors Committee and the Sociology faculty. Students applying for Department Honors are expected to enroll in the appropriate honors thesis course during their final two semesters. The supervising faculty sponsor and another department faculty member must approve the completed thesis. Students interested in this program should contact the department's faculty undergraduate advisor for additional information.

Bachelor of Arts Degree in Sociology

The minimum number of semester credit hours required for the Bachelor of Arts (B.A.) degree in Sociology, including the Core Curriculum requirements, is 120. Thirty-nine of the total semester credit hours required for the degree must be at the upper-division level.

All candidates for this degree must fulfill the Core Curriculum requirements and the degree requirements, which are listed below.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the B.A. degree in Sociology must fulfill University Core Curriculum requirements in the same manner as other students. The course listed below will satisfy both degree requirements and Core Curriculum requirements; however, if this course is taken to satisfy both

requirements, then students may need to take an additional course in order to meet the minimum number of semester credit hours required for this degree.

SOC 1013 Introduction to Sociology should be used to satisfy the core requirement in Social and Behavioral Sciences.

Core Curriculum Component Area Requirements (p. 7)

| | |
|-----------------------------------|-----------|
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |
| Life and Physical Sciences | 6 |
| Language, Philosophy and Culture | 3 |
| Creative Arts | 3 |
| American History | 6 |
| Government-Political Science | 6 |
| Social and Behavioral Sciences | 3 |
| Component Area Option | 3 |
| Total Credit Hours | 42 |

Gateway Course

Students pursuing the B.A. degree in Sociology must successfully complete the following Gateway Course with a grade of "D-" or better in no more than two attempts. A student who is unable to successfully complete this course within two attempts, including dropping the course with a grade of "W" or taking an equivalent course at another institution, will be required to change his or her major.

SOC 1013 Introduction to Sociology

Degree Requirements

A. Sociology major courses

| | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|-----------|
| 1. Required courses. It is strongly recommended that theory and research methods requirements be completed by the first semester of the junior year. | | |
| SOC 1013 | Introduction to Sociology | 3 |
| SOC 3323 | Introduction to Social Research | 3 |
| SOC 3353 | Sociological Theory | 3 |
| SOC 3373 | Qualitative Research Methods | 3 |
| or SOC 3393 | Quantitative Research Methods | |
| 2. Select 24 additional semester credit hours of Sociology electives as approved by the student's advisor, at least 15 semester credit hours of which must be upper division. Students are encouraged to take a broad variety of courses. | | 24 |
| B. Single language other than English | | |
| Select 6 semester credit hours in a single language other than English. | | 6 |
| C. Electives | | |
| Select 36 semester credit hours of electives; 15 hours in upper-division courses. | | 36 |
| Total Credit Hours | | 78 |

Course Sequence Guide for B.A. Degree in Sociology

This course sequence guide is designed to assist students in completing their UTSA undergraduate Sociology degree requirements. *This is merely a guide and students must satisfy other requirements of this catalog and meet with their academic advisor for individualized degree plans.* Progress within this guide depends upon such factors as course availability,

individual student academic preparation, student time management, work obligations, and individual financial considerations. Students may choose to take courses during Summer terms to reduce course loads during long semesters.

B.A. in Sociology – Four-Year Academic Plan

First Year

| Fall | | Credit Hours |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|--------------|
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| HIS 1043 or HIS 1053 or HIS 2053 | United States History: Pre-Columbus to Civil War Era (core) or United States History: Civil War Era to Present or Texas History | 3 |
| SOC 1013 | Introduction to Sociology (core and major) | 3 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| Mathematics core | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|------------------------------------|----------------------------------------------|----|
| WRC 1023 | Freshman Composition II (History (HIS) Core) | 3 |
| American History (HIS) core | | 3 |
| Social and Behavioral Science core | | 3 |
| Free elective | | 3 |
| Life & Physical Sciences core | | 3 |
| Credit Hours | | 15 |

Second Year

Fall

| | | |
|-------------------------------|---------------------|----|
| SOC 3353 | Sociological Theory | 3 |
| Creative Arts core | | 3 |
| Component Area Option core | | 3 |
| Life & Physical Sciences core | | 3 |
| Free elective | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|--------------------------------------|---------------------------------|----|
| SOC 3323 | Introduction to Social Research | 3 |
| Free elective | | 3 |
| Free elective | | 3 |
| Language, Philosophy, & Culture core | | 3 |
| Upper-division free elective | | 3 |
| Credit Hours | | 15 |

Third Year

Fall

| | | |
|-------------------------------|---------------------------------------------------------------|-------|
| POL 1013 | Introduction to American Politics (core) | 3 |
| SOC 3373 or SOC 3393 | Qualitative Research Methods or Quantitative Research Methods | 3 |
| Foreign language (semester I) | | 3-4 |
| SOC elective | | 3 |
| Upper-division free elective | | 3 |
| Credit Hours | | 15-16 |

Spring

| | | |
|--------------------------------|------------------------------------------------------------------------|-------|
| POL 1133 or POL 1213 | Texas Politics and Society (core) or Civil Rights in Texas and America | 3 |
| Foreign language (semester II) | | 3-4 |
| Upper-division free elective | | 3 |
| Upper-division SOC elective | | 3 |
| Upper-division SOC elective | | 3 |
| Credit Hours | | 15-16 |

Fourth Year

Fall

| | | |
|------------------------------|--|----|
| Upper-division SOC elective | | 3 |
| Upper-division SOC elective | | 3 |
| Upper-division free elective | | 3 |
| Upper-division free elective | | 3 |
| Free Elective | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|------------------------------------------|--|-------|
| Free elective (to meet 120 hour minimum) | | 1-3 |
| Upper-division free elective | | 3 |
| Upper-division SOC elective | | 3 |
| SOC elective | | 3 |
| SOC elective | | 3 |
| Credit Hours | | 15-13 |
| Total Credit Hours | | 120 |

Minor in Sociology

All students pursuing a Minor in Sociology must complete 21 semester credit hours, 12 of which must be at the upper-division level.

A. Required courses

| | | |
|----------|---------------------------------|---|
| SOC 1013 | Introduction to Sociology | 3 |
| SOC 3323 | Introduction to Social Research | 3 |
| SOC 3353 | Sociological Theory | 3 |

B. Electives

| | | |
|--------------------------------------------------------|--|----|
| Select 12 semester credit hours of Sociology electives | | 12 |
| Total Credit Hours | | 21 |

To declare a Minor in Sociology, obtain advice, or seek approval of substitutions for course requirements, students should consult their academic advisor.

9. COLLEGE OF LIBERAL AND FINE ARTS

Vision Statement

The College of Liberal and Fine Arts will become an internationally recognized college of liberal and fine arts providing the core intellectual experience that prepares students for their role as responsible citizens in a free society.

Mission Statement

The College of Liberal and Fine Arts will meet the needs of the diverse population of Texas through quality research and creative work, exemplary teaching, and professional contributions to the community.

General Information

The College of Liberal and Fine Arts (COLFA) includes 9 departments in the fine arts, humanities, and social sciences. COLFA is responsible for one-third of all the instruction delivered at the University and serves all University students through the Core Curriculum. In addition, the College offers 19 major degree programs, 33 minors, and one certificate program. One-fourth of all UTSA undergraduate degree recipients annually are COLFA majors.

COLFA faculty are among the University's leading researchers, recognized regionally, nationally, and internationally. Faculty and their students play a major role in improving the community through the creation and application of new knowledge in numerous artistic, cultural, business, and public policy settings.

The COLFA Signature Experience

Every undergraduate degree program in the College includes a capstone experience that involves the practical application of liberal and fine arts training in a professional setting. The Signature Experience may be pursued through an organized class assignment, independent study research project, internship, performance, public presentation, or other activity as deemed appropriate to the discipline. Students should consult with their advisor or department chair to learn about Signature Experience opportunities in their major.

- Minor in Film Studies (p. 168)
- Minor in Latin American Studies (p. 168)
- Minor in Museum Studies (p. 169)

Minor in Film Studies

The Minor in Film Studies provides a broad, interdisciplinary approach to film analysis and criticism, history of cinema, film production, and the uses of film in the fine arts, humanities, and social science disciplines.

All students pursuing a Minor in Film Studies must complete 18 semester credit hours from among the following courses:

| | | |
|----------|----------------------------------|---|
| ANT 3803 | Media, Power, and Public Culture | 3 |
| ANT 4243 | Ethnographic Film | 3 |
| CSH 2113 | The Foreign Film | 3 |
| HIS 3803 | World History in the Cinema | 3 |
| HUM 2053 | History of Film | 3 |
| HUM 3103 | American Film | 3 |

| | | |
|----------|--------------------------|---|
| HUM 3203 | Film Genres | 3 |
| HUM 3303 | Major Filmmaker | 3 |
| HUM 3403 | Literature into Film | 3 |
| MES 3113 | Film Studies | 3 |
| MES 3333 | Digital Video Production | 3 |
| MES 4333 | Digital Video Practicum | 3 |
| MUS 2743 | Music and Film | 3 |
| POL 3743 | Politics in Film | 3 |
| SOC 3423 | Mass Media in Society | 3 |

The following topics courses may also be applied toward the 18-hour requirement when they examine film or cinema:

| | | |
|----------|------------------------------------------|---|
| AHC 4333 | Topics in Art History and Criticism | 3 |
| AMS 3343 | Studies in Race and Ethnicity | 3 |
| AMS 4823 | Topics in American Culture | 3 |
| ART 4033 | Studio Art Problems | 3 |
| ENG 4613 | Topics in Mexican American Literature | 3 |
| ENG 4953 | Special Studies in English | 3 |
| ENG 4973 | Seminar for English Majors | 3 |
| FRN 4213 | Topics in French Culture and Linguistics | 3 |
| GER 4213 | Topics in German Culture and Linguistics | 3 |
| HUM 3703 | Topics in Popular Culture | 3 |
| HUM 4953 | Special Studies in Humanities | 3 |
| HUM 4973 | Senior Seminar in Humanities | 3 |
| SPN 4303 | Topics in Hispanic Cultures | 3 |

Other courses that include a focus on film or cinema may be proposed as substitutions in satisfying requirements for the minor.

To declare a Minor in Film Studies, obtain advice, or seek approval of substitutions for course requirements, students should consult their advisor.

Minor in Latin American Studies

Latin America is one of the most dynamic regions of the world, encompassing Mexico, Central America, South America and the Caribbean. The Minor in Latin American Studies provides an interdisciplinary approach to understanding the political, cultural, historical, economical and societal processes and systems of this region. Considering its multidisciplinary nature, the minor draws on courses from different disciplines like History, Anthropology, Political Sciences, Modern Languages and Art History among many others.

All students pursuing a minor In Latin American Studies must complete 18 semester credit hours. In order to promote a multidisciplinary education, COLFA students must take at least 6 credit hours outside their major. Students are strongly encouraged to enroll in Spanish language courses in the Department of Modern Languages and Literatures, participate in an International Education program (or study abroad) in Latin America, and take advantage of a variety of internship opportunities.

Students must choose 18 semester credit hours from the following courses. Students must take 6 of these credit hours outside of their major. In addition to the courses outlined below, study abroad programs and courses taken as a part of an international education program in Latin America also qualify for the minor.

| | | |
|---------------------------------------------------|-----------------------------------------------------------------------------------------------------|---|
| Anthropology | | |
| ANT 3273 | Civilizations of Mexico | 3 |
| ANT 3303 | Nature and Culture in Greater Amazonia | 3 |
| ANT 3253 | Archaeology of South America | 3 |
| ANT 3303 | Nature and Culture in Greater Amazonia | 3 |
| ANT 3403 | Field Course in Archaeology (when topic includes Latin American content) | 3 |
| Art/Art History | | |
| AHC 3423 | Arts of Ancient Mesoamerica | 3 |
| AHC 3523 | Latin American Art | 3 |
| AHC 4333 | Topics in Art History and Criticism (topics with Latin American content are offered every semester) | 3 |
| Geography/Global Affairs/Political Science | | |
| GES 3123 | Geography of Latin America | 3 |
| GES 3143 | Geography of Mexico | 3 |
| GLA 3393 | Latin American Politics | 3 |
| or POL 3393 | Latin American Politics | |
| GLA 3453 | Politics of Mexico | 3 |
| or POL 3453 | Politics of Mexico | |
| GLA 3473 | Latin America in the World | 3 |
| or POL 3473 | Latin America in the World | |
| GLA 3593 | Topics in Latin American Security | 3 |
| or POL 3593 | Topics in Latin American Security | |
| History | | |
| HIS 2533 | Introduction to Latin American Civilization | 3 |
| HIS 3033 | The Spanish and Mexican Borderlands | 3 |
| HIS 3123 | Colonial Texas under Spanish and Mexican Rule to 1836 | 3 |
| HIS 3293 | Imperial Spain | 3 |
| HIS 3303 | History of Mexico | 3 |
| HIS 3313 | History of U.S. Relations with Latin America | 3 |
| HIS 3363 | History of Cuba | 3 |
| HIS 3373 | Revolution in Latin America | 3 |
| HIS 3393 | Women in Mexican History | 3 |
| HIS 3403 | Pre-Hispanic and Colonial Latin America | 3 |
| HIS 3803 | World History in the Cinema (when topic includes Latin American content) | 3 |
| HIS 3983 | Women and Gender in Latin America | 3 |
| Modern Languages and Literatures (Spanish) | | |
| SPN 3423 | The Literature of Spain from 1700 to the Present | 3 |
| SPN 3463 | Latin American Literature to Modernism | 3 |
| SPN 3473 | Latin American Literature since Modernism | 3 |
| SPN 3623 | Latin American Culture and Civilization | 3 |
| SPN 4203 | Topics in Hispanic Literatures | 3 |
| SPN 4303 | Topics in Hispanic Cultures | 3 |
| Music | | |
| MUS 2243 | World Music in Society (emphasis in Latin American music) | 3 |
| Spanish | | |
| SPN 1014 | Elementary Spanish I | 4 |
| SPN 1024 | Elementary Spanish II | 4 |
| SPN 2013 | Intermediate Spanish I | 3 |

| | | |
|----------|-------------------------|---|
| SPN 2023 | Intermediate Spanish II | 3 |
|----------|-------------------------|---|

Courses outside COLFA

Classes from other colleges that have Latin American content may be substituted for any of the elective courses outline above up to a maximum of 9 semester credit hours.

To declare a Minor in Latin American Studies, obtain advice, or seek approval of substitutions for course requirements, students should consult their academic advisor.

Minor in Museum Studies

The Minor in Museum Studies will provide students, through theoretical and practical training in the display and interpretation of exhibited objects, opportunities to develop an interdisciplinary relationship with the arts, material culture, cultural production, cultural history, and natural history. This minor also provides undergraduates with the opportunity to undertake systematic coursework that emphasizes both conceptual and applied approaches in the museum field, coupled with work in language and writing skills.

All students pursuing a Minor in Museum Studies must complete 18 semester credit hours:

Required Courses:

| | | |
|----------|--------------------------------|---|
| MSM 3003 | Fundamentals of Museum Studies | 3 |
| MSM 4933 | Museum Internship | 3 |

Students will choose 12 additional semester credit hours from the following courses:

Elective Courses:

| | | |
|----------|------------------------------------------------------------|---|
| AHC 3113 | Contemporary Art | 3 |
| AHC 4333 | Topics in Art History and Criticism (Histories of Display) | 3 |
| ANT 3383 | Folklore and Folklife | 3 |
| ANT 3413 | The Ethnographic Experience | 3 |
| ANT 3543 | Museum Studies in Anthropology | 3 |
| ANT 3713 | Anthropology of Material Culture | 3 |
| ANT 3803 | Media, Power, and Public Culture | 3 |
| ANT 4243 | Ethnographic Film | 3 |
| ART 4973 | B.A. Senior Seminar | 3 |
| ART 4833 | Internship in the Visual Arts | 3 |
| ART 4983 | B.F.A. Senior Seminar and Exhibition | 3 |
| CLA 3063 | Ancient Mediterranean Art and Archaeology | 3 |
| CLA 3123 | Cultural Issues in Mediterranean Antiquity | 3 |
| ENG 4433 | Advanced Professional Writing | 3 |
| HIS 3493 | History of San Antonio | 3 |
| HIS 4133 | History and the Public | 3 |
| MES 3333 | Digital Video Production | 3 |
| MES 4333 | Digital Video Practicum | 3 |
| MSM 4913 | Independent Study in Museum Studies | 3 |
| MUS 2273 | Introduction to Music and Art Nonprofit Organizations | 3 |
| MUS 3103 | Audio Technology I | 3 |
| MUS 3163 | Audio Technology II | 3 |
| SOC 4433 | Culture and Society | 3 |

Department of Anthropology

The Department of Anthropology offers a Bachelor of Arts (B.A.) degree in Anthropology and minors in Anthropology, Archaeological Practice, and American Indian Studies. Department Honors may also be earned in Anthropology.

Department Honors

The Department of Anthropology awards Department Honors to certain of its outstanding students and provides the opportunity for advanced study under close faculty supervision.

Selection of students for honors designation is based on the student's academic performance and recommendation by the faculty in the student's major discipline. To be eligible for the program, students must have a minimum overall grade point average of 3.0 at UTSA and a minimum grade point average of 3.5 in their major at UTSA. The minimum grade point averages must be maintained for students to receive the approval of the Department Honors Committee and the discipline faculty. Students applying for Department Honors usually enroll in the appropriate honors thesis courses during their final two semesters, although other arrangements are possible with the approval of the faculty advisor. The completed thesis must be approved by the supervising faculty sponsor and another departmental faculty member.

Students interested in this program should contact their faculty advisors for additional information.

Bachelor of Arts Degree in Anthropology

The minimum number of semester credit hours required for this degree, including Core Curriculum requirements, is 120. Thirty-nine of the total semester credit hours required for the degree must be at the upper-division level.

All candidates for this degree must fulfill the Core Curriculum requirements and the degree requirements, which are listed below.

As part of the College of Liberal and Fine Arts Signature Experience, which seeks to offer students opportunities to apply ideas and knowledge in real-world settings, the Department of Anthropology encourages students to take advantage of internships, independent studies, study abroad, research opportunities, and service learning as part of their undergraduate program of study. Internships are arranged through the Undergraduate Advisor of Record and are designed to provide students with experiences at a wide variety of institutions in the region, including the Department's Center for Archaeological Research and the UTSA Institute of Texan Cultures. Independent studies are arranged in consultation with Anthropology faculty and may include research on areas not normally covered by organized coursework, work associated with a professor's research, or a student's independent research project. Faculty-led and other study abroad opportunities are organized by the Education Abroad Services office. Service learning is offered through the UTSA Student Activities Office and focuses on activities designed around civic engagements that address or meet community needs.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the B.A. degree in Anthropology must fulfill University Core Curriculum requirements in the same manner as other students. The courses listed below satisfy both degree requirements and Core

Curriculum requirements; however, if these courses are taken to satisfy both requirements, then students may need to take additional courses in order to meet the minimum number of semester credit hours required for this degree.

ANT 2033 may be used to help satisfy the Life and Physical Sciences component requirement. ANT 2043 or ANT 2053 will satisfy the Social and Behavioral Sciences component requirement. ANT 2063 may be used to satisfy the Language, Philosophy, and Culture component requirement. ANT 1013 is an elective course for the major in anthropology; it also will satisfy the Component Area Option of the Core Curriculum.

Core Curriculum Component Area Requirements (p. 7)

| | |
|-----------------------------------|-----------|
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |
| Life and Physical Sciences | 6 |
| Language, Philosophy and Culture | 3 |
| Creative Arts | 3 |
| American History | 6 |
| Government-Political Science | 6 |
| Social and Behavioral Sciences | 3 |
| Component Area Option | 3 |
| Total Credit Hours | 42 |

Degree Requirements

A. 39 semester credit hours in the major, 24 of which must be at the upper-division level

1. Required courses:

| | | |
|----------|-----------------------------------------|---|
| ANT 2033 | Introduction to Biological Anthropology | 3 |
| ANT 2043 | Introduction to Archaeology | 3 |
| ANT 2053 | Introduction to Cultural Anthropology | 3 |
| ANT 2063 | Language, Thought, and Culture | 3 |

2. Upper-division semester credit hours distributed across these sub-disciplines:

| | |
|-------------------------|---|
| Archaeology | 3 |
| Cultural Anthropology | 3 |
| Biological Anthropology | 3 |

3. Additional semester credit hours of anthropology electives chosen in consultation with the student's advisor, at least 15 semester credit hours of which must be upper division.

B. Electives

39 semester credit hours of electives. In fulfillment of this requirement, students are encouraged to take at least 9 semester credit hours of upper-division coursework in disciplines that support the study of anthropology.

| | |
|---------------------------|-----------|
| Total Credit Hours | 78 |
|---------------------------|-----------|

Course Sequence Guide for B.A. Degree in Anthropology

This course sequence guide is designed to assist students in completing their UTSA undergraduate Anthropology degree requirements. *This is merely a guide and students must satisfy other requirements of this catalog and meet with their academic advisor for individualized degree plans.* Progress toward the degree depends upon such factors as course availability, individual student academic preparation, student time management, work obligations, and individual financial considerations.

Students may choose to take courses during Summer terms to reduce course loads during long semesters.

B.A. in Anthropology – Four-Year Academic Plan

First Year

| Fall | | Credit Hours |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|--------------|
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| ANT 2043 | Introduction to Archaeology (core and major) | 3 |
| HIS 1043 or HIS 1053 or HIS 2053 | United States History: Pre-Columbus to Civil War Era (core) or United States History: Civil War Era to Present or Texas History | 3 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| | Life and Physical Sciences core | 3 |
| | Credit Hours | 15 |

Spring

| | | |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|-----------|
| ANT 2033 | Introduction to Biological Anthropology (core and major) | 3 |
| HIS 1043 or HIS 1053 or HIS 2053 | United States History: Pre-Columbus to Civil War Era (core) or United States History: Civil War Era to Present or Texas History | 3 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| | Creative Arts core | 3 |
| | Mathematics core | 3 |
| | Credit Hours | 15 |

Second Year

Fall

| | | |
|----------|------------------------------------------|-----------|
| ANT 2053 | Introduction to Cultural Anthropology | 3 |
| POL 1013 | Introduction to American Politics (core) | 3 |
| | Free elective | 3 |
| | Component Area Option core | 3 |
| | Upper-division Archaeology course | 3 |
| | Credit Hours | 15 |

Spring

| | | |
|-------------------------|------------------------------------------------------------------------|-----------|
| ANT 2063 | Language, Thought, and Culture (core and major) | 3 |
| POL 1133 or POL 1213 | Texas Politics and Society (core) or Civil Rights in Texas and America | 3 |
| | Free elective | 3 |
| | Free elective | 3 |
| | Upper-division Cultural Anthropology course | 3 |
| | Credit Hours | 15 |

Third Year

Fall

| | | |
|--|-----------------------------------------------|---|
| | Free elective | 3 |
| | Upper-division ANT elective | 3 |
| | Upper-division Biological Anthropology course | 3 |

| | |
|------------------------------|------------|
| Upper-division free elective | 3 |
| Upper-division support work | 3 |
| Credit Hours | 15 |
| Spring | |
| Upper-division ANT elective | 3 |
| Upper-division ANT elective | 3 |
| Free elective | 3 |
| Free elective | 3 |
| Upper-division support work | 3 |
| Credit Hours | 15 |
| Fourth Year | |
| Fall | |
| Free elective | 3 |
| Free elective | 3 |
| Upper-division ANT elective | 3 |
| Upper-division ANT elective | 3 |
| Upper-division support work | 3 |
| Credit Hours | 15 |
| Spring | |
| Free elective | 3 |
| Free elective | 3 |
| Upper-division ANT elective | 3 |
| Upper-division free elective | 3 |
| Upper-division free elective | 3 |
| Credit Hours | 15 |
| Total Credit Hours | 120 |

- Minor in Anthropology (p. 172)
- Minor in American Indian Studies (p. 172)
- Minor in Archaeological Practice (p. 172)

Minor in Anthropology

All students pursuing a Minor in Anthropology must complete 18 semester credit hours.

| | |
|------------------------------------------------------------------------------------------------|-----------|
| A. Select three of the following courses: | 9 |
| ANT 2033 Introduction to Biological Anthropology | |
| ANT 2043 Introduction to Archaeology | |
| ANT 2053 Introduction to Cultural Anthropology | |
| ANT 2063 Language, Thought, and Culture | |
| B. 9 additional upper-division semester credit hours distributed across these sub-disciplines: | |
| Archaeology upper-division course | 3 |
| Cultural Anthropology upper-division course | 3 |
| Biological Anthropology upper-division course | 3 |
| Total Credit Hours | 18 |

To declare a Minor in Anthropology, obtain advice, obtain lists of relevant courses, or seek approval of substitutions for course requirements, students should consult their academic advisor.

Minor in American Indian Studies

All students pursuing a Minor in American Indian Studies must complete 18 semester credit hours, at least 9 semester credit hours of which must

be drawn from outside the student's major. Hours are selected from the following:

| | | |
|----------|-----------------------------------------|---|
| AHC 3423 | Arts of Ancient Mesoamerica | 3 |
| ANT 3153 | Indians of the Great Plains | 3 |
| ANT 3203 | Native North Americans | 3 |
| ANT 3253 | Archaeology of South America | 3 |
| ANT 3263 | Archaeology of North America | 3 |
| ANT 3273 | Civilizations of Mexico | 3 |
| ANT 3303 | Nature and Culture in Greater Amazonia | 3 |
| ANT 4113 | Archaeology of Texas | 3 |
| ANT 4123 | Archaeology of the American Southwest | 3 |
| HIS 3083 | History of the American West | 3 |
| HIS 3113 | North American Indian Histories | 3 |
| HIS 3403 | Pre-Hispanic and Colonial Latin America | 3 |

To declare a Minor in American Indian Studies, obtain advice, obtain lists of relevant courses, or seek approval of substitutions for course requirements, students should consult their academic advisor.

Minor in Archaeological Practice

The Minor in Archaeological Practice provides focused training in archaeology, particularly the methods and skills needed to carry out archaeological fieldwork.

All students pursuing a Minor in Archaeological Practice must complete 18 semester credit hours, distributed as below. Courses must be distributed across at least two departments.

| | |
|-----------------------------------------------------------------------------------------------------|----|
| A. Required introductory course: | 3 |
| ANT 2043 Introduction to Archaeology | |
| B. Required methods-intensive, hands-on learning experience. Select one course from the following: | 3 |
| ANT 3403 Field Course in Archaeology | |
| ANT 3406 Field Course in Archaeology | |
| ANT 4913 Independent Study (if it involves working directly with archaeological materials) | |
| ANT 4933 Internship in Anthropology (if it involves working directly with archaeological materials) | |
| CLA 4913 Independent Study (if it involves working directly with archaeological materials) | |
| C. Elective courses with an archaeology focus. Select four courses from the following: | 12 |
| ANT 3023 Great Discoveries in Archaeology | |
| ANT 3233 Frauds, Myths, and Mysteries | |
| ANT 3253 Archaeology of South America | |
| ANT 3263 Archaeology of North America | |
| ANT 3273 Civilizations of Mexico | |
| ANT 3293 Research Methods in Archaeology | |
| ANT 3453 Public Archaeology | |
| ANT 3663 Hunters and Gatherers - Past and Present | |
| ANT 3713 Anthropology of Material Culture | |
| ANT 3883 Death and Dying (when content is focused on archaeology) | |
| ANT 4013 Maya Civilization | |
| ANT 4113 Archaeology of Texas | |

| | |
|--------------------|------------------------------------------------------------------------------------|
| ANT 4123 | Archaeology of the American Southwest |
| CLA 3063 | Ancient Mediterranean Art and Archaeology (when content is focused on archaeology) |
| CLA 4953 | Special Studies in Classics (when content is focused on archaeology) |
| CLA 4973 | Senior Seminar in Classics (when content is focused on archaeology) |
| <hr/> | |
| Total Credit Hours | 18 |

To declare a Minor in Archaeological Practice, obtain advice, or seek approval of substitutions for course requirements, students should consult their academic advisor. Archaeological field schools administered by other universities may be used to fulfill the methods requirement in Section B, but students should obtain pre-approval from the department before signing up for outside field schools.

Department of Art and Art History

The Department of Art and Art History offers a Bachelor of Arts in Art, a Bachelor of Fine Arts in Art, and a Bachelor of Arts in Art History and Criticism, as well as a Minor in Art History and Criticism. These degree programs subscribe to the College of Liberal and Fine Arts Signature Experience through practical experience achieved in the following courses: ART 4833 Internship in the Visual Arts, ART 4973 B.A. Senior Seminar, ART 4983 B.F.A. Senior Seminar and Exhibition, and AHC 4933 Art Gallery and Museum Internship. UTSA is an accredited institutional member of the National Association of Schools of Art and Design.

- B.A. degree in Art (p. 173)
- B.F.A. degree in Art (p. 175)
- B.A. degree in Art History and Criticism (p. 178)

Bachelor of Arts Degree in Art

The Bachelor of Arts (B.A.) degree in Art is awarded upon the completion of 120 hours, of which 42 hours are Core Curriculum requirements. Thirty-nine (39) of the total semester credit hours required for the degree must be at the upper-division level.

The B.A. degree in Art recognizes the successful completion of a program of study that includes foundation study, some specialization in studio art practices, and a broad foundation in art history. The curriculum aims primarily toward breadth of experience in the context of a liberal arts education rather than professional specialization.

Students must complete all lower-division course requirements for this degree prior to enrolling in more than fifteen (15) hours of upper-division coursework.

Transfer students who wish to receive credit for upper-division studio art courses taken at another institution must present a portfolio of work to the department before the registration period. This portfolio should consist of four to six original examples or a digital portfolio of artworks on a CD/DVD completed for each upper-division course taken at another institution for which the student wishes to receive credit.

All candidates seeking this degree must fulfill the Core Curriculum requirements and the degree requirements, which are listed below.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the B.A. degree in Art must fulfill University Core Curriculum requirements in the same manner as other students. The courses listed below satisfy both degree requirements and Core Curriculum requirements; however, if these courses are taken to satisfy both requirements, then students may need to take additional courses in order to meet the minimum number of semester credit hours required for this degree.

AHC 1113, AHC 1123, or AHC 1133 may be used to satisfy the core requirement in Creative Arts as well as a major requirement.

Core Curriculum Component Area Requirements (p. 7)

| | |
|-----------------------------------|---|
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |
| Life and Physical Sciences | 6 |
| Language, Philosophy and Culture | 3 |

| | |
|--------------------------------|----|
| Creative Arts | 3 |
| American History | 6 |
| Government-Political Science | 6 |
| Social and Behavioral Sciences | 3 |
| Component Area Option | 3 |
| Total Credit Hours | 42 |

Gateway Courses

Students pursuing the B.A. degree in Art must successfully complete each of the following Gateway Courses with a grade of "C-" or better in no more than two attempts. A student who is unable to successfully complete these courses within two attempts, including dropping a course with a grade of "W" or taking an equivalent course at another institution, will be required to change his or her major.

| | |
|----------|--------------------------------------------|
| ART 1003 | Two Dimensional Foundations ¹ |
| ART 1013 | Three Dimensional Foundations ¹ |
| ART 1023 | Digital Arts Foundations ¹ |
| ART 1213 | Drawing I ¹ |

Major Requirements

A. Required lower-division art and art history and criticism foundation courses:

| | | |
|----------|-------------------------------------------------------------------------------------------|---|
| AHC 1113 | Survey of Art and Architecture from Prehistoric Times to 1350 ¹ | 3 |
| AHC 1123 | Survey of Art and Architecture in Europe and the New World from 1350 to 1750 ¹ | 3 |
| AHC 1133 | Survey of Modern Art ¹ | 3 |
| ART 1003 | Two Dimensional Foundations ¹ | 3 |
| ART 1013 | Three Dimensional Foundations ¹ | 3 |
| ART 1023 | Digital Arts Foundations ¹ | 3 |
| ART 1213 | Drawing I ¹ | 3 |

B. Basic courses:

| | | |
|--------------------------------|--------------------|---|
| Select three of the following: | | 9 |
| ART 2113 | Painting: Basic | |
| ART 2223 | New Media: Basic | |
| ART 2313 | Photography: Basic | |
| ART 2413 | Printmaking: Basic | |
| ART 2613 | Sculpture: Basic | |
| ART 2713 | Ceramics: Basic | |

C. Upper-division art course electives:

All B.A. Studio Art degree-seeking students must complete ALL lower-division ART and AHC courses required for the degree before enrolling in more than 15 hours of upper-division ART and AHC coursework.

Select 12 additional semester credit hours of upper-division ART course electives. The ART course prefix must precede course numbers for all classes used to fulfill these degree requirements.

D. Upper-division art history and criticism course electives:

Select 6 semester credit hours of upper-division art history and criticism course electives. The AHC course prefix must precede course numbers for all classes used to fulfill these degree requirements with the exception that students may substitute a specific course in the philosophy of art or a humanities course with a strong art history component for one (3 semester credit hours) upper-division art history course with consent of the undergraduate advisor for art programs.

E. Required upper-division courses:

| | | |
|----------|-----------------------------------------------------------------------------------|---|
| ART 3033 | Contemporary Studio: Concepts and Practice | 3 |
| ART 4973 | B.A. Senior Seminar (to be taken in student's final semester prior to graduation) | 3 |

F. Free Electives:

Select 27 semester credit hours of free electives, at least 21 hours of which must be upper-division, including as many semesters of a modern language or Latin as are necessary for the completion of the second semester course of that language. Within the scope of these electives, students may take courses for all-level teacher certification, 24 semester credit hours of professional education courses (including 6 hours of student teaching and 3 hours in a state-mandated reading course). For specific required courses, consult the Interdisciplinary Education Advising and Certification Center.

Total Credit Hours 81

¹

A grade of "C-" or better must be earned in these courses to satisfy the prerequisites for subsequent courses in the Art major.

Note: For the B.A. degree in Art, the major grade point average is calculated using only ART and AHC courses.

Course Sequence Guide for B.A. Degree in Art

This course sequence guide is designed to assist students in completing their UTSA undergraduate Art degree requirements. *This is merely a guide and students must satisfy other requirements of this catalog and meet with their academic advisor for individualized degree plans.* Progress within this guide depends upon such factors as course availability, individual student academic preparation, student time management, work obligations, and individual financial considerations. Students may choose to take courses during Summer terms to reduce course loads during long semesters.

Note: Students desiring to transfer into the Bachelor of Fine Arts (B.F.A.) in Art degree program should follow the B.F.A. Four-Year Academic Plan listed after the B.F.A. Degree Requirements.

B.A. in Art – Four-Year Academic Plan

For students not planning on transferring into the Bachelor of Fine Arts in Art degree program.

First Year

| Fall | | Credit Hours |
|--------------|---------------------------------------------------------------------------------------------|--------------|
| AHC 1113 | Survey of Art and Architecture from Prehistoric Times to 1350 (core and major) ¹ | 3 |
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| ART 1003 | Two Dimensional Foundations ¹ | 3 |
| ART 1213 | Drawing I ¹ | 3 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| Credit Hours | | 15 |

| | | | | | |
|-----------------------------------------------------------------------|-------------------------------------------------------------------------------------------|-------|--------------|----------------------------------------------------------------------------|---------------------|
| Spring | | | | | |
| AHC 1123 | Survey of Art and Architecture in Europe and the New World from 1350 to 1750 ¹ | 3 | | Upper-division Studio ART elective (choose one 3000- or 4000-level course) | 3 |
| | | | Credit Hours | | 15 |
| Second Year | | | | | |
| Fall | | | | | |
| AHC 1133 | Survey of Modern Art ¹ | 3 | | Fourth Year | |
| POL 1013 | Introduction to American Politics (core) | 3 | | Fall | |
| Foreign Language (semester I) | | 3-4 | | Language, Philosophy & Culture core | 3 |
| Lower-division Studio ART Basic (choose one 2000-level studio course) | | 3 | | Upper-division free elective | 3 |
| Life & Physical Sciences core | | 3 | | Upper-division Studio ART elective (choose one 3000- or 4000-level course) | 3 |
| | Credit Hours | 15-16 | | Upper-division Studio ART elective (choose one 3000- or 4000-level course) | 3 |
| Spring | | | | Free elective (to meet 120 hour minimum) | 1-3 |
| POL 1133 | Texas Politics and Society (core) | 3 | | Credit Hours | 15-13 |
| or POL 1213 | or Civil Rights in Texas and America | | | Spring | |
| Social and Behavioral Sciences core | | 3 | | ART 4973 | B.A. Senior Seminar |
| Foreign Language (semester II) | | 3-4 | | Upper-division free elective (choose one 3000- or 4000-level course) | 3 |
| Lower-division Studio ART Basic (choose one 2000-level studio course) | | 3 | | Upper-division free elective (choose one 3000- or 4000-level course) | 3 |
| Life & Physical Sciences core | | 3 | | Upper-division free elective (choose one 3000- or 4000-level course) | 3 |
| | Credit Hours | 15-16 | | Upper-division Studio ART elective (choose one 3000- or 4000-level course) | 3 |
| Third Year | | | | Credit Hours | 15 |
| Fall | | | | Total Credit Hours | 120 |
| ART 3033 | Contemporary Studio: Concepts and Practice | 3 | | | |
| HIS 1043 | United States History: Pre-Columbus to Civil War Era (core) | 3 | | | |
| or HIS 1053 | or United States History: Civil War Era to Present | | | | |
| or HIS 2053 | or Texas History | | | | |
| Lower-division Studio ART Basic (choose one 2000-level studio course) | | 3 | | | |
| Upper-division AHC elective (choose one 3000- or 4000-level course) | | 3 | | | |
| Component Area Option core | | 3 | | | |
| | Credit Hours | 15 | | | |
| Spring | | | | | |
| HIS 1043 | United States History: Pre-Columbus to Civil War Era (core) | 3 | | | |
| or HIS 1053 | or United States History: Civil War Era to Present | | | | |
| or HIS 2053 | or Texas History | | | | |
| Upper-division AHC elective | | 3 | | | |
| Upper-division free elective | | 3 | | | |
| Upper-division free elective | | 3 | | | |

1

Must be completed with a grade of "C-" or better.

Bachelor of Fine Arts Degree in Art

The Bachelor of Fine Arts (B.F.A.) degree in Art is awarded in recognition of successful completion of prolonged and intensive studio coursework with supportive studies in art history and criticism. The final two years of study include a specialized area of study in one of the following concentrations: ceramics, drawing, new media, painting, photography, printmaking, or sculpture. The University is an accredited institutional member of the National Association of Schools of Art and Design.

The B.F.A. degree in Art is awarded upon the completion of 120 hours, of which 42 hours are Core Curriculum requirements. Thirty-nine (39) of the total semester credit hours required for the degree must be at the upper-division level.

Students must complete all lower-division course requirements for this degree prior to enrolling in more than fifteen (15) hours of upper-division coursework.

Transfer students who wish to receive credit for upper-division studio art courses taken at another institution must present a portfolio of work to the department before the registration period. This portfolio should consist of four to six original examples or a digital portfolio of artworks on a CD/DVD completed for each upper-division course taken at another institution for which the student wishes to receive credit.

Most students will fulfill the requirements for this degree with 120 semester credit hours, of which 42 hours are Core Curriculum requirements. Due to the large number of major courses in the B.F.A. degree, full-time art students should enroll in two studio art courses, one art history and criticism course, and one or two Core Curriculum courses

each semester. Art majors in the B.F.A. program should request an appointment with the undergraduate advisor for art programs before all enrollment periods. In order to complete all B.F.A. degree requirements in a timely fashion, both full-time and part-time art students should register every term for twice as many credits in their major course requirements as in Core Curriculum courses. Students seeking teacher certification should consult the Interdisciplinary Education Advising and Certification Center.

All candidates for the degree must complete 63 semester credit hours of art (ART) and 18 semester credit hours of art history and criticism (AHC).

All candidates seeking this degree must fulfill the Core Curriculum requirements and the degree requirements, which are listed below.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the B.F.A. degree in Art must fulfill University Core Curriculum requirements in the same manner as other students. The courses listed below satisfy both degree requirements and Core Curriculum requirements; however, if these courses are taken to satisfy both requirements, then students may need to take additional courses in order to meet the minimum number of semester credit hours required for this degree.

AHC 1113, AHC 1123, or AHC 1133 may be used to satisfy the core requirement in Creative Arts as well as a major requirement.

Core Curriculum Component Area Requirements (p. 7)

| | |
|-----------------------------------|-----------|
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |
| Life and Physical Sciences | 6 |
| Language, Philosophy and Culture | 3 |
| Creative Arts | 3 |
| American History | 6 |
| Government-Political Science | 6 |
| Social and Behavioral Sciences | 3 |
| Component Area Option | 3 |
| Total Credit Hours | 42 |

Gateway Courses

Students pursuing the Bachelor of Fine Arts degree in Art must successfully complete each of the following Gateway Courses with a grade of "C-" or better in no more than two attempts. A student who is unable to successfully complete these courses within two attempts, including dropping a course with a grade of "W" or taking an equivalent course at another institution, will be required to change his or her major.

| | |
|----------|--------------------------------------------|
| ART 1003 | Two Dimensional Foundations ¹ |
| ART 1013 | Three Dimensional Foundations ¹ |
| ART 1023 | Digital Arts Foundations ¹ |
| ART 1213 | Drawing I ¹ |

Major Requirements

A. Required lower-division studio art and art history foundation courses completed as part of the first 60 hours of the curriculum:

| | | |
|----------|----------------------------------------------------------------------------|---|
| AHC 1113 | Survey of Art and Architecture from Prehistoric Times to 1350 ¹ | 3 |
|----------|----------------------------------------------------------------------------|---|

| | | |
|----------|-------------------------------------------------------------------------------------------|---|
| AHC 1123 | Survey of Art and Architecture in Europe and the New World from 1350 to 1750 ¹ | 3 |
| AHC 1133 | Survey of Modern Art ¹ | 3 |
| ART 1003 | Two Dimensional Foundations ¹ | 3 |
| ART 1013 | Three Dimensional Foundations ¹ | 3 |
| ART 1023 | Digital Arts Foundations ¹ | 3 |
| ART 1213 | Drawing I ¹ | 3 |
| ART 2113 | Painting: Basic | 3 |
| ART 2223 | New Media: Basic | 3 |
| ART 2313 | Photography: Basic | 3 |
| ART 2413 | Printmaking: Basic | 3 |
| ART 2613 | Sculpture: Basic | 3 |
| ART 2713 | Ceramics: Basic | 3 |

B. Upper-division art courses including:

All B.F.A. degree-seeking students must complete ALL lower-division ART and AHC courses required for the degree before enrolling in more than 15 hours of upper-division ART and AHC coursework.

| | | |
|----------|--------------------------------------------|---|
| ART 3033 | Contemporary Studio: Concepts and Practice | 3 |
| ART 4983 | B.F.A. Senior Seminar and Exhibition | 3 |

C. Upper-division art courses in one selected area of studio specialization:

Complete 15 hours (5 courses) of upper-division coursework from one of the following specialized areas of study: ceramics, drawing, new media, painting, photography, printmaking, or sculpture.

D. Upper-division art history and criticism courses:

| | | |
|----------|------------------|---|
| AHC 3113 | Contemporary Art | 3 |
|----------|------------------|---|

Select 6 semester credit hours of additional upper-division art history and criticism courses (4000 level). The AHC course prefix must precede course numbers for all classes used to fulfill these degree requirements with the exception that students may substitute a specific course in the philosophy of art or a humanities course with a strong art history component for one (3 semester credit hours) upper-division art history course with consent of the undergraduate advisor for art programs.

E. Art course electives:

Select 12 additional semester credit hours of ART coursework. Nine (9) credit hours of the 12 must be upper-division while 3 credit hours may be lower-division. The ART course prefix must precede course numbers for all classes used to fulfill these degree requirements.

Note: ART 1223 Drawing II is a required course for B.F.A. majors specializing in drawing, painting, and sculpture and thus will take the place of the 3-hour lower-division art elective.

| | |
|---------------------------|-----------|
| Total Credit Hours | 81 |
|---------------------------|-----------|

¹

A grade of "C-" or better must be earned in these courses to satisfy the prerequisites for subsequent courses in the Art major.

Note: For the B.F.A. degree in Art, the major grade point average is calculated using only ART and AHC courses.

Course Sequence Guide for B.F.A. Degree in Art

This course sequence guide is designed to assist students in completing their UTSA undergraduate Art degree requirements. *This is merely a guide and students must satisfy other requirements of this catalog and meet with their academic advisor for individualized degree plans.* Progress within this guide depends upon such factors as course availability, individual student

academic preparation, student time management, work obligations, and individual financial considerations. Students may choose to take courses during Summer terms to reduce course loads during long semesters.

B.F.A. in Art – Four-Year Academic Plan

First Year

| Fall | | Credit Hours |
|--------------|---------------------------------------------------------------------------------------------|--------------|
| AHC 1113 | Survey of Art and Architecture from Prehistoric Times to 1350 (core and major) ¹ | 3 |
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| ART 1003 | Two Dimensional Foundations ¹ | 3 |
| ART 1213 | Drawing I ¹ | 3 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|------------------|-------------------------------------------------------------------------------------------|----|
| AHC 1123 | Survey of Art and Architecture in Europe and the New World from 1350 to 1750 ¹ | 3 |
| ART 1013 | Three Dimensional Foundations ¹ | 3 |
| ART 1023 | Digital Arts Foundations ¹ | 3 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| Mathematics core | | 3 |
| Credit Hours | | 15 |

Second Year

Fall

| | | |
|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|----|
| AHC 1133 | Survey of Modern Art ¹ | 3 |
| ART 2113 | Painting: Basic (or other basic studio course not previously completed: printmaking, photography, new media, ceramics, or sculpture) | 3 |
| ART 2413 | Printmaking: Basic (or other basic studio course not previously completed: painting, photography, new media, ceramics, or sculpture) | 3 |
| Life & Physical Sciences core | | 3 |
| Social and Behavioral Sciences core | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|---|
| ART 2223 | New Media: Basic (or other basic studio course not previously completed: printmaking, photography, painting, ceramics, or sculpture) | 3 |
| ART 2313 | Photography: Basic (or other basic studio course not previously completed: printmaking, painting, new media, ceramics, or sculpture) | 3 |
| HIS 1043 or HIS 1053 or HIS 2053 | United States History: Pre-Columbus to Civil War Era (core) or United States History: Civil War Era to Present or Texas History | 3 |
| Life & Physical Sciences core | | 3 |

| | | |
|---------------------------------------------------------------------------|---|----|
| Upper-division ART specialization (choose one 3000- or 4000-level course) | 3 | |
| Credit Hours | | 15 |

Third Year

Fall

| | | |
|---------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|----|
| AHC 3113 | Contemporary Art | 3 |
| HIS 1043 or HIS 1053 or HIS 2053 | United States History: Pre-Columbus to Civil War Era (core) or United States History: Civil War Era to Present or Texas History | 3 |
| POL 1013 | Introduction to American Politics (Please see core course selection table) | 3 |
| ART 2613 | Sculpture: Basic (or other basic studio course not previously completed: printmaking, photography, new media, ceramics, or painting) | 3 |
| Upper-division ART specialization (choose one 3000- or 4000-level course) | 3 | |
| Credit Hours | | 15 |

Spring

| | | |
|---------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|----|
| POL 1133 or POL 1213 | Texas Politics and Society (core) or Civil Rights in Texas and America | 3 |
| Language, Philosophy & Culture core | | 3 |
| ART 2713 | Ceramics: Basic (or other basic studio course not previously completed: printmaking, photography, new media, painting, or sculpture) | 3 |
| Component Area Option core | | 3 |
| Upper-division ART specialization (choose one 3000- or 4000-level course) | 3 | |
| Credit Hours | | 15 |

Fourth Year

Fall

| | | |
|---------------------------------------------------------------------------|--------------------------------------------|----|
| ART 3033 | Contemporary Studio: Concepts and Practice | 3 |
| Upper-division ART elective (choose one 3000- or 4000-level course) | 3 | |
| Upper-division AHC elective (choose one 3000- or 4000-level course) | 3 | |
| Upper-division ART elective (choose one 3000- or 4000-level course) | 3 | |
| Upper-division ART specialization (choose one 3000- or 4000-level course) | 3 | |
| Credit Hours | | 15 |

Spring

| | | |
|---------------------------------------------------------------------|--------------------------------------|---|
| ART 4983 | B.F.A. Senior Seminar and Exhibition | 3 |
| Upper-division ART Elective (choose one 3000- or 4000-level course) | 3 | |
| Upper-division ART Elective (choose one 3000- or 4000-level course) | 3 | |

| | |
|---------------------------------------------------------------------------|-----|
| Upper-division ART specialization (choose one 3000- or 4000-level course) | 3 |
| Upper-division AHC elective (choose one 3000- or 4000-level course) | 3 |
| Credit Hours | 15 |
| Total Credit Hours | 120 |

1

Must be completed with a grade of "C-" or better.

Bachelor of Arts Degree in Art History and Criticism

The Bachelor of Arts (B.A.) degree in Art History and Criticism is awarded upon the completion of 120 hours, of which 42 hours are Core Curriculum requirements. Thirty-nine (39) of the total semester credit hours required for the degree must be at the upper-division level.

The B.A. degree in Art History and Criticism program offers art historical studies in the context of a liberal arts education. This degree program emphasizes critical thinking, research and writing skills in order to prepare students for careers in the arts in a variety of fields requiring a liberal arts background, or pursuing graduate studies in art history and related fields.

Students must complete all lower-division course requirements for this degree prior to enrolling in more than fifteen (15) hours of upper-division coursework.

All candidates seeking this degree must fulfill the Core Curriculum requirements and the degree requirements, which are listed below.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the B.A. degree in Art History and Criticism must fulfill University Core Curriculum requirements in the same manner as other students. The courses listed below satisfy both degree requirements and Core Curriculum requirements; however, if these courses are taken to satisfy both requirements, then students may need to take additional courses in order to meet the minimum number of semester credit hours required for this degree.

AHC 1113, AHC 1123, or AHC 1133 may be used to satisfy the core requirement in Creative Arts as well as a major requirement.

Core Curriculum Component Area Requirements (p. 7)

| | |
|-----------------------------------|----|
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |
| Life and Physical Sciences | 6 |
| Language, Philosophy and Culture | 3 |
| Creative Arts | 3 |
| American History | 6 |
| Government-Political Science | 6 |
| Social and Behavioral Sciences | 3 |
| Component Area Option | 3 |
| Total Credit Hours | 42 |

Gateway Courses

Students pursuing the B.A. degree in Art History and Criticism must successfully complete each of the following Gateway Courses with a grade of "C-" or better in no more than two attempts. A student who is unable to successfully complete these courses within two attempts, including dropping a course with a grade of "W" or taking an equivalent course at another institution, will be required to change his or her major.

| | |
|----------|------------------------------------------------------------------------------|
| AHC 1113 | Survey of Art and Architecture from Prehistoric Times to 1350 |
| AHC 1123 | Survey of Art and Architecture in Europe and the New World from 1350 to 1750 |
| AHC 1133 | Survey of Modern Art |

Major Requirements

A. Lower-division art history and criticism foundation courses:

| | | |
|----------|-------------------------------------------------------------------------------------------|---|
| AHC 1113 | Survey of Art and Architecture from Prehistoric Times to 1350 ¹ | 3 |
| AHC 1123 | Survey of Art and Architecture in Europe and the New World from 1350 to 1750 ¹ | 3 |
| AHC 1133 | Survey of Modern Art ¹ | 3 |

B. Upper-division art history and criticism required courses:

| | | |
|----------|-----------------------------------------------------------------------------------|---|
| AHC 3113 | Contemporary Art | 3 |
| AHC 3423 | Arts of Ancient Mesoamerica | 3 |
| AHC 3523 | Latin American Art | 3 |
| AHC 4333 | Topics in Art History and Criticism (may be repeated for credit when topics vary) | 3 |
| AHC 4933 | Art Gallery and Museum Internship | 3 |

C. Lower-division art courses:

| | | |
|----------|--------------------------------------------|---|
| ART 1003 | Two Dimensional Foundations ¹ | 3 |
| ART 1013 | Three Dimensional Foundations ¹ | 3 |
| ART 1023 | Digital Arts Foundations ¹ | 3 |

D. Upper-division art history course option:

| | |
|-------------------------------------------------------------------------|---|
| Select one (1) upper-division course in Art History and Criticism (AHC) | 3 |
|-------------------------------------------------------------------------|---|

E. Upper-division art course:

| | | |
|----------|---------------------|---|
| ART 4973 | B.A. Senior Seminar | 3 |
|----------|---------------------|---|

F. Additional coursework options:

| | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| Select 6 additional semester credit hours in coursework to be chosen from offerings within the College of Liberal and Fine Arts, which may include art history (AHC), art (ART), anthropology (ANT), classical studies (CLA), communication (COM), English (ENG), history (HIS), humanities (HUM), philosophy (PHI), or other subjects as individually justified by the student and approved by the undergraduate advisor. | 6 |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|

G. Electives:

| | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| Select 33 semester credit hours of electives, at least 18 of which must be upper-division, and including as many semesters of a single language other than English are necessary for the completion of the fourth UTSA semester course of that language. | 33 |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|

| | |
|--------------------|----|
| Total Credit Hours | 78 |
|--------------------|----|

1

A grade of "C-" or better must be earned in these courses to satisfy the prerequisites for subsequent courses in the Art History and Criticism major.

Note: For the B.A. degree in Art History and Criticism, the major grade point average is calculated using ART and AHC courses.

Course Sequence Guide for B.A. Degree in Art History and Criticism

This course sequence guide is designed to assist students in completing their UTSA undergraduate Art History and Criticism degree requirements. *This is merely a guide and students must satisfy other requirements of this catalog and meet with their academic advisor for individualized degree plans.* Progress within this guide depends upon such factors as course availability, individual student academic preparation, student time management, work obligations, and individual financial considerations. Students may choose to take courses during Summer terms to reduce course loads during long semesters.

B.A. in Art History and Criticism – Four-Year Academic Plan

First Year

| Fall | | Credit Hours |
|--------------|---------------------------------------------------------------------------------------------|--------------|
| AHC 1113 | Survey of Art and Architecture from Prehistoric Times to 1350 (core and major) ¹ | 3 |
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| ART 1003 | Two Dimensional Foundations ¹ | 3 |
| ART 1023 | Digital Arts Foundations ¹ | 3 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|-----------------------|-------------------------------------------------------------------------------------------|-------|
| AHC 1123 | Survey of Art and Architecture in Europe and the New World from 1350 to 1750 ¹ | 3 |
| ART 1013 | Three Dimensional Foundations ¹ | 3 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| Language (semester I) | | 3-4 |
| Mathematics core | | 3 |
| Credit Hours | | 15-16 |

Second Year

| Fall | | Credit Hours |
|-------------------------------------|-----------------------------------|--------------|
| AHC 1133 | Survey of Modern Art ¹ | 3 |
| Language (semester II) | | 3-4 |
| Language, Philosophy & Culture core | | 3 |
| Life & Physical Sciences core | | 3 |
| Upper-division elective | | 3 |
| Credit Hours | | 15-16 |

Spring

| | | |
|------------------------------------------------------------|------------------------------------------|----|
| POL 1013 | Introduction to American Politics (core) | 3 |
| Language (semester III) | | 3 |
| Social and Behavioral Sciences core | | 3 |
| Life & Physical Sciences core | | 3 |
| Upper-division AHC (choose one 3000- or 4000-level course) | | 3 |
| Credit Hours | | 15 |

Third Year

Fall

| | | |
|-------------------------|---------------------------------------------------------------------------|---|
| POL 1133 or POL 1213 | Texas Politics and Society (core) or Civil Rights in Texas and America | 3 |
|-------------------------|---------------------------------------------------------------------------|---|

| | | |
|------------------------------------------------------------|---|----|
| Language (semester IV) | 3 | |
| Upper-division elective | 3 | |
| Upper-division AHC (choose one 3000- or 4000-level course) | 3 | |
| Component Area Option core | 3 | |
| Credit Hours | | 15 |

Spring

| | | |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|---|
| HIS 1043 or HIS 1053 or HIS 2053 | United States History: Pre-Columbus to Civil War Era (core) or United States History: Civil War Era to Present or Texas History | 3 |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|---|

| | | |
|------------------------------------------------------------|---|----|
| Upper-division elective | 3 | |
| Upper-division AHC (choose one 3000- or 4000-level course) | 3 | |
| Upper-division free elective | 3 | |
| Upper-division free elective | 3 | |
| Credit Hours | | 15 |

Fourth Year

Fall

| | | |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|---|
| HIS 1043 or HIS 1053 or HIS 2053 | United States History: Pre-Columbus to Civil War Era (core) or United States History: Civil War Era to Present or Texas History | 3 |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|---|

| | | |
|------------------------------------------------------------|---|----|
| Upper-division AHC (choose one 3000- or 4000-level course) | 3 | |
| Upper-division AHC (choose one 3000- or 4000-level course) | 3 | |
| Upper-division elective | 3 | |
| Upper-division elective | 3 | |
| Credit Hours | | 15 |

Spring

| | | |
|------------------------------------------------------------|---------------------|-------|
| Free elective (to meet 120 hour minimum) | 1-3 | |
| Upper-division AHC (choose one 3000- or 4000-level course) | 3 | |
| Upper-division free elective | 3 | |
| Upper-division free elective | 3 | |
| ART 4973 | B.A. Senior Seminar | 3 |
| Credit Hours | | 15-13 |

| | | |
|--------------------|--|-----|
| Total Credit Hours | | 120 |
|--------------------|--|-----|

¹

Must be completed with a grade of "C-" or better.

Minor in Art History and Criticism

The discipline of the history of art addresses cultural, historical, and critical issues through the visual arts. A Minor in Art History and Criticism provides students with a general overview of the discipline.

All students pursuing the Minor in Art History and Criticism must complete 18 semester credit hours.

A. Minor requirements:

| | | |
|------------------------------|------------------------------------------------------------------------------|---|
| Select two of the following: | | 6 |
| AHC 1113 | Survey of Art and Architecture from Prehistoric Times to 1350 | |
| AHC 1123 | Survey of Art and Architecture in Europe and the New World from 1350 to 1750 | |
| AHC 1133 | Survey of Modern Art | |

B. Additional courses:

| | | |
|-------------------------------|-------------------------------------|----|
| Select four of the following: | | 12 |
| AHC 3113 | Contemporary Art | |
| AHC 3423 | Arts of Ancient Mesoamerica | |
| AHC 3523 | Latin American Art | |
| AHC 4333 | Topics in Art History and Criticism | |
| AHC 4933 | Art Gallery and Museum Internship | |
| MSM 3003 | Fundamentals of Museum Studies | |

| | | |
|--------------------|--|----|
| Total Credit Hours | | 18 |
|--------------------|--|----|

Department of Communication

The Department of Communication offers a Bachelor of Arts (B.A.) degree and a minor in Communication. Honors may also be earned in Communication. If a student majors in Communication, he or she also may choose to concentrate his or her coursework in either Public Relations, Digital Communication, or Health Communication.

The B.A. degree in Communication is also offered in a 100 percent online format (<https://go.online.utsa.edu/>).

Department Honors

Students whose grade point average in the Communication major (including support work) before the beginning of their final year at UTSA is 3.25 or above, and whose overall grade point average is 3.0, may earn Honors in Communication. In order to do so, a student must complete a substantial paper or project approved by the Department Honors Committee and maintain a 3.25 grade point average in both the major and support work. The grade point average requirements apply to all transfer work and courses at UTSA. In the event that a student does not meet the minimum grade point average requirements, the student may appeal to the Department Honors Committee for special consideration. Appropriate forms and letter(s) of recommendation from UTSA faculty are necessary for such consideration.

- B.A. degree in Communication (p. 180)
- B.A. in Communication with a Public Relations Concentration (p. 182)
- B.A. in Communication with a Digital Communication Concentration (p. 182)
- B.A. in Communication with a Health Communication Concentration (p. 182)

Bachelor of Arts Degree in Communication

The minimum number of semester credit hours required for this degree is 120, including Core Curriculum requirement hours. Thirty-nine of the 120 total semester credit hours required for the degree must be at the upper-division level. The College of Liberal and Fine Arts Signature Experience may be fulfilled by successful completion of COM 4533 Public Relations Planning and Campaigns, COM 4723 Digital Media Production II, COM 4813 Theory and Practice of Social Interaction, COM 4893 Health Communication Practicum or COM 4933 Internship in Communication.

All candidates seeking this degree must fulfill the Core Curriculum requirements and the degree requirements, which are listed below.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the B.A. degree in Communication must fulfill University Core Curriculum requirements in the same manner as other students. If courses are taken to satisfy both degree requirements and Core Curriculum requirements, then students may need to take additional courses in order to meet the minimum number of semester credit hours required for this degree.

COM 2113 may be used to satisfy a core requirement in the Component Area Option as well as a major requirement.

Note: If a language is used to satisfy the three-hour Language, Philosophy and Culture core requirement, students will need to take an additional three hours in the same language for the degree requirement.

| Core Curriculum Component Area Requirements (p. 7) | |
|----------------------------------------------------|-----------|
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |
| Life and Physical Sciences | 6 |
| Language, Philosophy and Culture | 3 |
| Creative Arts | 3 |
| American History | 6 |
| Government-Political Science | 6 |
| Social and Behavioral Sciences | 3 |
| Component Area Option | 3 |
| Total Credit Hours | 42 |

Gateway Courses

Students pursuing the B.A. degree in Communication must successfully complete each of the following Gateway Courses with a grade of "C-" or better in no more than two attempts. A student who is unable to successfully complete these courses within two attempts, including dropping a course with a grade of "W" or taking an equivalent course at another institution, will be required to change his or her major.

| | |
|----------|-----------------------------------|
| COM 3023 | Foundations of Communication |
| COM 3073 | Conduct of Communication Inquiry |
| COM 3083 | Language and Communication Theory |

Degree Requirements

A. Communication Gateway Courses

| | | |
|----------|-----------------------------------|---|
| COM 3023 | Foundations of Communication | 3 |
| COM 3073 | Conduct of Communication Inquiry | 3 |
| COM 3083 | Language and Communication Theory | 3 |

B. Communication Core

| | | |
|-------------|-----------------------------|---|
| COM 2113 | Public Speaking | 3 |
| COM 3553 | Intercultural Communication | 3 |
| or COM 3563 | International Communication | |
| ENG 2413 | Technical Writing | 3 |

C. Single foreign language

| | |
|-------------------------------------------------------------|-----------|
| Select 6 semester credit hours in a single foreign language | 6 |
| Total Credit Hours | 24 |

B.A. in Communication (no concentration)

All candidates seeking this degree must fulfill the Core Curriculum requirements, the degree requirements, and the following:

A. Additional Communication courses

| | |
|------------------------------------------------------------------------------------------------------|----|
| Select 21 additional semester credit hours in Communication, at least 15 at the upper-division level | 21 |
|------------------------------------------------------------------------------------------------------|----|

B. Capstone course

| | | |
|----------|-------------------------------------------|---|
| COM 4813 | Theory and Practice of Social Interaction | 3 |
|----------|-------------------------------------------|---|

C. Electives

30 semester credit hours of free electives. In fulfillment of this requirement, majors are encouraged to take coursework in disciplines that support the study of Communication. At least 9 of these elective credit hours must be at the upper-division level.

| | |
|---------------------------|-----------|
| Total Credit Hours | 54 |
|---------------------------|-----------|

Course Sequence Guide for B.A. Degree in Communication

This course sequence guide is designed to assist students in completing their UTSA undergraduate Communication degree requirements. *This is merely a guide and students must satisfy other requirements of this catalog and meet with their academic advisor for individualized degree plans.* Progress within this guide depends upon such factors as course availability, individual student academic preparation, student time management, work obligations, and individual financial considerations. Students may choose to take courses during Summer terms to reduce course loads during long semesters.

B.A. in Communication – Four-Year Academic Plan

First Year

| Fall | | Credit Hours |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|--------------|
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| HIS 1043 or HIS 1053 or HIS 2053 | United States History: Pre-Columbus to Civil War Era (core) or United States History: Civil War Era to Present or Texas History | 3 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| Foreign Language (semester I) (core) | | 3-4 |
| Mathematics core | | 3 |
| | Credit Hours | 15-16 |

Spring

| | | |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|--------------|
| COM 2113 | Public Speaking (core and major) | 3 |
| HIS 1043 or HIS 1053 or HIS 2053 | United States History: Pre-Columbus to Civil War Era (core) or United States History: Civil War Era to Present or Texas History | 3 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| Foreign Language (semester II) | | 3-4 |
| Life & Physical Sciences core | | 3 |
| | Credit Hours | 15-16 |

Second Year

Fall

| | | |
|-------------------------------|------------------------------------------------|-----------|
| COM 3023 | Foundations of Communication ¹ | 3 |
| COM 3083 | Language and Communication Theory ¹ | 3 |
| ENG 2413 | Technical Writing | 3 |
| POL 1013 | Introduction to American Politics (core) | 3 |
| Life & Physical Sciences core | | 3 |
| | Credit Hours | 15 |

Spring

| | | |
|-----------------------|----------------------------------|---|
| COM 3073 ¹ | Conduct of Communication Inquiry | 3 |
|-----------------------|----------------------------------|---|

| | | |
|-------------------------------------|------------------------------------------------------------------------------|----|
| COM 3553 or COM 3563 | Intercultural Communication or International Communication | 3 |
| POL 1133 or POL 1213 | Texas Politics and Society (core) or Civil Rights in Texas and America | 3 |
| Free elective | | 3 |
| Social and Behavioral Sciences core | | 3 |
| Credit Hours | | 15 |

Third Year

Fall

| | | |
|---------------------------------------|--|----|
| Creative Arts core (or free elective) | | 3 |
| Free elective | | 3 |
| Free elective | | 3 |
| COM elective | | 3 |
| Upper-division COM elective | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|---------------------------------------|--|----|
| Free elective (or Creative Arts core) | | 3 |
| Free elective | | 3 |
| Free elective | | 3 |
| Upper-division COM elective | | 3 |
| Upper-division COM elective | | 3 |
| Credit Hours | | 15 |

Fourth Year

Fall

| | | |
|-----------------------------|--|----|
| Free elective | | 3 |
| Free elective | | 3 |
| Free elective | | 3 |
| COM elective | | 3 |
| Upper-division COM elective | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|------------------------------------------|----------------------------------------------|-------|
| COM 4813 | Theory and Practice of Social Interaction | 3 |
| Free elective | | 3 |
| Free elective | | 3 |
| Free elective (to meet 120 hour minimum) | | 1-3 |
| Upper-division COM elective | | 3 |
| Credit Hours | | 15-13 |
| Total Credit Hours | | 120 |

1

Must be completed with a grade of "C-" or better.

B.A. in Communication with a Public Relations Concentration

All candidates seeking this degree must fulfill the Core Curriculum requirements and the degree requirements listed above. Additionally, students seeking a Public Relations Concentration must complete COM 3523, COM 3533, COM 3623, COM 4523, and COM 4533 with a grade of "C-" or better in each course.

A. Public Relations Concentration courses

| | | |
|----------|------------------------------|---|
| COM 3523 | Public Relations | 3 |
| COM 3533 | Writing for Public Relations | 3 |

| | | |
|----------|-----------------------------------------|---|
| COM 3623 | Commercial Publications | 3 |
| COM 4523 | Case Studies in Public Relations | 3 |
| COM 4533 | Public Relations Planning and Campaigns | 3 |

B. Additional Communication courses

Select 9 additional semester credit hours in Communication, at least one course at the upper-division level

C. Electives

30 semester credit hours of free electives. In fulfillment of this requirement, majors are encouraged to take coursework in disciplines that support the study of Communication. At least 9 of these elective credit hours must be at the upper-division level.

Total Credit Hours 54

B.A. in Communication with a Digital Communication Concentration

All candidates seeking this degree must fulfill the Core Curriculum requirements and the degree requirements listed above. Additionally, students seeking a Digital Communication Concentration must complete COM 2433, COM 2733, COM 3623, COM 3723, and COM 4723 with a grade of "C-" or better in each course.

A. Digital Communication Concentration courses

| | | |
|----------|---------------------------------------|---|
| COM 2433 | Editing | 3 |
| COM 2733 | Introduction to Digital Communication | 3 |
| COM 3623 | Commercial Publications | 3 |
| COM 3723 | Digital Media Production I | 3 |
| COM 4723 | Digital Media Production II | 3 |

B. Additional Communication courses

Select 9 additional semester credit hours in Communication at the upper-division level.

C. Electives

30 semester credit hours of free electives. In fulfillment of this requirement, majors are encouraged to take coursework in disciplines that support the study of Communication. At least 9 of these elective credit hours must be at the upper-division level.

Total Credit Hours 54

B.A. in Communication with a Health Communication Concentration

All candidates seeking this degree must fulfill the Core Curriculum requirements and the degree requirements listed above. Additionally, students seeking a Health Communication Concentration must complete COM 3293, COM 3493, COM 3593, COM 3693, and COM 4893 with a grade of "C-" or better in each course.

A. Health Communication Concentration courses

| | | |
|----------|--------------------------------------|---|
| COM 3293 | Introduction to Health Communication | 3 |
| COM 3493 | Global Health Communication | 3 |
| COM 3593 | Health Communication Campaigns | 3 |
| COM 3693 | Interpersonal Health Communication | 3 |
| COM 4893 | Health Communication Practicum | 3 |

B. Additional Communication courses

Select 9 additional semester credit hours in Communication, at least one course at the upper-division level

C. Electives

30 semester credit hours of free electives. In fulfillment of this requirement, majors are encouraged to take coursework in disciplines that support the study of Communication. At least 9 of these elective credit hours must be at the upper-division level.

Total Credit Hours 54

Course Sequence Guide for B.A. Degree in Communication with a Public Relations, Digital Communication or Health Communication Concentration

This course sequence guide is designed to assist students in completing their UTSA undergraduate Communication degree requirements. *This is merely a guide and students must satisfy other requirements of this catalog and meet with their academic advisor for individualized degree plans.* Progress within this guide depends upon such factors as course availability, individual student academic preparation, student time management, work obligations, and individual financial considerations. Students may choose to take courses during Summer terms to reduce course loads during long semesters.

B.A. in Communication with a concentration – Four-Year Academic Plan

First Year

| Fall | | Credit Hours |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|--------------|
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| HIS 1043 or HIS 1053 or HIS 2053 | United States History: Pre-Columbus to Civil War Era (core) or United States History: Civil War Era to Present or Texas History | 3 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| Foreign Language (semester I) (core) | | 3-4 |
| Mathematics core | | 3 |
| Credit Hours | | 15-16 |

Spring

| | | |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|-------|
| COM 2113 | Public Speaking (core and major) | 3 |
| HIS 1043 or HIS 1053 or HIS 2053 | United States History: Pre-Columbus to Civil War Era (core) or United States History: Civil War Era to Present or Texas History | 3 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| Foreign Language (semester II) | | 3-4 |
| Life & Physical Sciences core | | 3 |
| Credit Hours | | 15-16 |

Second Year

| Fall | | Credit Hours |
|-------------------------------|------------------------------------------------|--------------|
| COM 3023 | Foundations of Communication ¹ | 3 |
| COM 3083 | Language and Communication Theory ¹ | 3 |
| ENG 2413 | Technical Writing | 3 |
| POL 1013 | Introduction to American Politics (core) | 3 |
| Life & Physical Sciences core | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|-------------------------------------|---------------------------------------------------------------------------|----|
| COM 3073 | Conduct of Communication Inquiry ¹ | 3 |
| COM 3553 or COM 3563 | Intercultural Communication or International Communication | 3 |
| POL 1133 or POL 1213 | Texas Politics and Society (core) or Civil Rights in Texas and America | 3 |
| Social and Behavioral Sciences core | | 3 |
| Free elective | | 3 |
| Credit Hours | | 15 |

Third Year

Fall

| | | |
|--------------------------------------------|----------------------|---|
| Creative Arts core (or free elective) | | 3 |
| Free elective | | 3 |
| Free elective | | 3 |
| Select one of the following: | | |
| COM 2433 | Editing ³ | |
| Upper-division COM elective ^{2,4} | | |
| Select one of the following: | | |

| | | |
|--------------|------------------------------------------------------|----|
| COM 2733 | Introduction to Digital Communication ^{1,3} | |
| COM 3293 | Introduction to Health Communication ^{1,4} | |
| COM 3523 | Public Relations ^{1,2} | |
| Credit Hours | | 15 |

Spring

| | | |
|------------------------------------------|-----------------------------------------------|----|
| Free elective (or Creative Arts core) | | 3 |
| Free elective | | 3 |
| Free elective | | 3 |
| Select one of the following: | | |
| COM 3623 | Commercial Publications ^{1,2,3} | |
| COM 3493 | Global Health Communication ^{1,4} | |
| Select one of the following: | | |
| COM 3533 | Writing for Public Relations ^{1,2} | |
| COM 3593 | Health Communication Campaigns ^{1,4} | |
| Upper-division COM elective ³ | | |
| Credit Hours | | 15 |

Fourth Year

Fall

| | | |
|------------------------------|---------------------------------------------------|----|
| Free elective | | 3 |
| Free elective | | 3 |
| Free elective | | 3 |
| COM elective | | 3 |
| Select one of the following: | | |
| COM 3693 | Interpersonal Health Communication ^{1,4} | |
| COM 3723 | Digital Media Production I ^{1,3} | |
| COM 4523 | Case Studies in Public Relations ^{1,2} | |
| Credit Hours | | 15 |

Spring

| | | |
|---------------|--|---|
| Free elective | | 3 |
|---------------|--|---|

| | |
|-----------------------------------------------------------------|-------|
| Free elective | 3 |
| Free elective (to meet 120 hour minimum) | 1-3 |
| Upper-division COM elective | 3 |
| Select one of the following: | |
| COM 4533 Public Relations Planning and Campaigns ^{1,2} | |
| COM 4723 Digital Media Production II ^{1,3} | |
| COM 4893 Health Communication Practicum ^{1,4} | |
| Credit Hours | 15-13 |
| Total Credit Hours | 120 |

1

Must be completed with a grade of "C-" or better.

2

Public Relations concentration only.

3

Digital Communication concentration only.

4

Health Communication concentration only.

Minor in Communication

All students pursuing the Minor in Communication must complete 21 semester credit hours of courses in the Communication program, at least 3 hours of which must be in COM 2113 Public Speaking.

COM 2113 may be used to satisfy a core requirement in the Component Area Option as well as a minor requirement.

To declare a Minor in Communication, obtain advice, obtain lists of relevant courses, or seek approval of substitutions for course requirements, students should consult their academic advisor.

Department of English

The department offers a Bachelor of Arts (B.A.) degree in English with concentrations in professional writing, creative writing, and English language arts and reading as well as minors in English Literature and Professional Writing, and a certificate in Professional Writing and Rhetoric. Honors can also be earned in English.

Honors in English

The English Department offers its outstanding students the opportunity to pursue Department Honors through advanced study and close faculty mentorship in major courses. To earn Honors, a student must:

1. Maintain a 3.5 grade point average in both major work and support work as well as a 3.25 overall grade point average. Grade point average requirements apply to both transfer and courses taken at UTSA.
2. Take and successfully complete three Honors-designated English classes with a grade of "B" or better. Any upper-division English class may be designated as Honors pending student petition and approval of the individual instructor. Honors designations involve additional coursework and faculty mentoring.
3. Before graduating, submit for approval from the Departmental Scholarship and Honors Committee a portfolio containing (a) three substantial papers (totaling a minimum of 25 pages) and (b) a critical statement (5 to 8 pages). The substantial papers, at least two of which must be written for Honors-designated English courses, may be revised and edited for submission. The critical statement should assess the papers' contribution to the student's goals as an English major seeking Honors. The critical statement and the substantial papers will be evaluated in terms of research, analysis, eloquence, and command of subject.

Students interested in pursuing Honors may contact the English Department for further information.

- B.A. degree in English (p. 184)
- B.A. degree in English with a Professional Writing Concentration (p. 187)
- B.A. degree in English with a Creative Writing Concentration (p. 188)
- B.A. degree in English with an English Language Arts and Reading Concentration (p. 189)

Bachelor of Arts Degree in English

The minimum number of semester credit hours required for this degree is 120, including the hours of Core Curriculum requirements. Thirty-nine of the 120 total semester credit hours required for the degree must be at the upper-division level. Students seeking teacher certification should consult the Interdisciplinary Education Advising and Certification Center for information.

All candidates seeking this degree must complete ENG 2213 Literary Criticism and Analysis and ENG 4973 Seminar for English Majors with a grade of "C-" or better.

All candidates seeking this degree must fulfill the Core Curriculum requirements and the degree requirements, which are listed below.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the B.A. degree in English must fulfill University Core Curriculum requirements in the same manner as other students. The courses listed below will satisfy both degree requirements and Core Curriculum requirements; however, if these courses are taken to satisfy both requirements, then students may need to take additional courses in order to meet the minimum number of semester credit hours required for this degree.

ENG 2213 may be used to satisfy the core requirement in Language, Philosophy, and Culture as well as a major requirement. ENG 2413 may be used to satisfy the core requirement in Component Area Option as well as a major requirement for a B.A. in English with a Concentration in Professional Writing or for a minor in Professional Writing.

Core Curriculum Component Area Requirements (p. 7)

| | |
|-----------------------------------|-----------|
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |
| Life and Physical Sciences | 6 |
| Language, Philosophy and Culture | 3 |
| Creative Arts | 3 |
| American History | 6 |
| Government-Political Science | 6 |
| Social and Behavioral Sciences | 3 |
| Component Area Option | 3 |
| Total Credit Hours | 42 |

Gateway Course

Students pursuing the B.A. degree in English must successfully complete the following Gateway Course with a grade of "C-" or better in no more than two attempts. A student who is unable to successfully complete this course within two attempts, including dropping the course with a grade of "W" or taking an equivalent course at another institution, will be required to change his or her major.

ENG 2213 Literary Criticism and Analysis

Degree Requirements

A. English major courses

1. Required courses in English:

| | | |
|-------------|---------------------------------|---|
| ENG 2213 | Literary Criticism and Analysis | 3 |
| ENG 2223 | British Literature I | 3 |
| ENG 2233 | British Literature II | 3 |
| ENG 2263 | American Literature I | 3 |
| ENG 2293 | American Literature II | 3 |
| ENG 3223 | Shakespeare: The Early Plays | 3 |
| or ENG 3233 | Shakespeare: The Later Plays | |
| ENG 4973 | Seminar for English Majors | 3 |

2. Foundation courses, 6 hours chosen from two of the following three categories:

a. Composition

| | | |
|-------------|------------------------------------|--|
| ENG 3303 | Theory and Practice of Composition | |
| or ENG 3313 | Advanced Composition | |

b. English Language

| | | |
|----------|---------------------------------|--|
| ENG 3323 | History of the English Language | |
|----------|---------------------------------|--|

| | | |
|-------------|------------------------------------------|--|
| or ENG 3333 | Introduction to the Structure of English | |
| or ENG 3343 | Principles of English Linguistics | |

c. Critical Theory

| | | |
|-------------|-------------------------------|--|
| ENG 3393 | Literary Theories | |
| or ENG 4393 | Feminist Theory of Literature | |

3. Upper-division courses, 3 hours from each of the following categories. At least 6 of these hours must be in literature; of these 6 hours, at least 3 hours must include the study of American literature.

a. American, English, Historical 3

| | | |
|----------|-----------------------------------------------|--|
| ENG 3033 | American Literature, 1945 to Present | |
| ENG 3063 | American Literature, 1870–1945 | |
| ENG 4013 | Restoration and Eighteenth-Century Literature | |
| ENG 4023 | Romantic Literature | |
| ENG 4053 | Modern British and American Poetry | |
| ENG 4063 | Medieval English Literature | |
| ENG 4113 | Renaissance Literature | |
| ENG 4143 | Victorian Literature | |
| HUM 3023 | History of Cultures | |

b. Linguistics, Rhetoric, Theory 3

| | | |
|----------|---------------------------------------------|--|
| ENG 3303 | Theory and Practice of Composition | |
| ENG 3313 | Advanced Composition | |
| ENG 3323 | History of the English Language | |
| ENG 3333 | Introduction to the Structure of English | |
| ENG 3343 | Principles of English Linguistics | |
| ENG 3363 | Topics in Rhetoric and Composition | |
| ENG 3383 | Writing in Public and Professional Contexts | |
| ENG 3393 | Literary Theories | |
| ENG 3413 | Specialized Professional Writing | |
| ENG 3423 | Topics in Creative Writing | |
| ENG 4423 | Studies in Advanced Linguistics | |
| ENG 4433 | Advanced Professional Writing | |
| ENG 4523 | Writer's Workshop: Advanced Fiction Writing | |
| ENG 4533 | Writer's Workshop: Advanced Poetry Writing | |
| ENG 4933 | Internship | |
| HUM 3013 | History of Ideas | |

c. Cross-Cultural, Gender Studies, and Race & Ethnic Studies 3

| | | |
|----------|--------------------------------------------------------|--|
| ENG 3133 | Women and Literature | |
| ENG 3513 | Mexican American Literature | |
| ENG 3613 | African American Literature | |
| ENG 3713 | Topics in Multiethnic Literatures of the United States | |
| ENG 3813 | Topics in Native American Literature | |
| ENG 4393 | Feminist Theory of Literature | |
| ENG 4613 | Topics in Mexican American Literature | |
| ENG 4713 | Topics in African American Literature | |
| HUM 3623 | Topics in National Cultures and Civilizations | |
| HUM 3703 | Topics in Popular Culture | |

d. Authors and Genres 3

| | | |
|----------|--------------------------------|--|
| CLA 2023 | Introduction to Ancient Rome | |
| CLA 3053 | Topics in Classical Literature | |
| ENG 3073 | Young Adult Literature | |
| ENG 3113 | Studies in Individual Authors | |
| ENG 3123 | Modern Fiction | |

| | |
|----------|-------------------------------|
| ENG 3153 | Topics in Drama |
| ENG 3213 | Chaucer |
| ENG 3223 | Shakespeare: The Early Plays |
| ENG 3233 | Shakespeare: The Later Plays |
| ENG 3243 | Topics in the British Novel |
| ENG 3253 | The American Novel |
| ENG 4033 | Literary Modes and Genres |
| HUM 3103 | American Film |
| HUM 3203 | Film Genres |
| HUM 3213 | Classics of Religious Thought |
| HUM 3223 | Sacred Texts as Literature |
| HUM 3303 | Major Filmmaker |
| HUM 3403 | Literature into Film |

B. Single language other than English

Select 6 semester credit hours in a single language other than English 6

C. Electives

Select 33 semester credit hours of electives 33

Students are encouraged (but not required) to select electives in such complementary areas of study as:

1. Classical studies (CLA), Humanities (HUM), Philosophy (PHI)
2. Foreign languages, foreign literature (including foreign literatures in translation)
3. Linguistics (including linguistics courses designated ENG, provided that they have not been counted toward the required semester credit hours in English)
4. Communication (COM)
5. Creative writing or expository and technical writing (including courses designated ENG, provided that they have not been counted toward the required semester credit hours in English)
6. American Studies (AMS), Anthropology (ANT), History (HIS), Psychology (PSY), or Sociology (SOC)
7. Art (ART or AHC) or Music (MUS)
8. Mexican American Studies
9. African American Studies
10. Women's Studies
11. Multicultural Studies

Total Credit Hours 78

Course Sequence Guide for B.A. Degree in English

This course sequence guide is designed to assist students in completing their UTSA undergraduate English degree requirements. *This is merely a guide and students must satisfy other requirements of this catalog and meet with their academic advisor for individualized degree plans.* Progress within this guide depends upon such factors as course availability, individual student academic preparation, student time management, work obligations, and individual financial considerations. Students may choose to take courses during Summer terms to reduce course loads during long semesters.

B.A. in English – Four-Year Academic Plan

First Year

| Fall | | Credit Hours |
|----------|-----------------------------------------|--------------|
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| WRC 1013 | Freshman Composition I (core) | 3 |

| | |
|-------------------------------|----|
| Mathematics core | 3 |
| American History core | 3 |
| Life & Physical Sciences core | 3 |
| Credit Hours | 15 |

Spring

| | | |
|-----------------------------------|--------------------------------|----|
| WRC 1023 | Freshman Composition II (core) | 3 |
| Free elective | | 3 |
| American History core | | 3 |
| Life & Physical Sciences core | | 3 |
| Social & Behavioral Sciences core | | 3 |
| Credit Hours | | 15 |

Second Year

Fall

| | | |
|-----------------------------------|--------------------------------------------------|-------|
| ENG 2213 | Literary Criticism and Analysis (core and major) | 3 |
| Component Area Option core | | 3 |
| Foreign language (semester I) | | 3-4 |
| Free elective | | 3 |
| Government-Political Science core | | 3 |
| Credit Hours | | 15-16 |

Spring

| | | |
|-----------------------------------|-----------------------|-------|
| ENG 2223 | British Literature I | 3 |
| ENG 2263 | American Literature I | 3 |
| Foreign language (semester II) | | 3-4 |
| Creative Arts core | | 3 |
| Government-Political Science core | | 3 |
| Credit Hours | | 15-16 |

Third Year

Fall

| | | |
|--------------------------------------------------------|------------------------|----|
| ENG 2233 | British Literature II | 3 |
| ENG 2293 | American Literature II | 3 |
| Foundation Course (from A. 2. a, b, or c) ¹ | | 3 |
| Free elective | | 3 |
| Upper-division free elective | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|--------------------------------------------------------|--|----|
| Upper-division Literature category (a) ² | | 3 |
| Upper-division Literature category (b) ² | | 3 |
| Foundation Course (from A. 2. a, b, or c) ¹ | | 3 |
| Free elective | | 3 |
| Free elective | | 3 |
| Credit Hours | | 15 |

Fourth Year

Fall

| | | |
|-----------------------------------------------------|---------------------------------|----|
| ENG 3223 | Shakespeare: The Early Plays | 3 |
| or ENG 3233 | or Shakespeare: The Later Plays | |
| Free elective | | 3 |
| Free elective | | 3 |
| Upper-division free elective | | 3 |
| Upper-division Literature category (c) ² | | 3 |
| Credit Hours | | 15 |

| | | |
|-----------------------------------------------------|----------------------------|-------|
| Spring | | |
| ENG 4973 | Seminar for English Majors | 3 |
| Free elective | | 3 |
| Free elective (to meet 120 hour minimum) | | 1-3 |
| Upper-division Literature category (d) ² | | 3 |
| Free Elective | | 3 |
| | Credit Hours | 15-13 |
| | Total Credit Hours | 120 |

1

The two Foundation courses must be chosen from two different categories (a, b, or c) under item A. 2. of the degree requirements.

2

At least one of the courses from categories (a), (b), (c), or (d) (under item A. 3. of the degree requirements) must include the study of American literature.

Bachelor of Arts Degree in English with a Professional Writing Concentration

All candidates seeking this degree must fulfill the Core Curriculum requirements and the degree requirements, which are listed below.

All candidates for the B.A. degree in English with a Professional Writing concentration must complete:

A. Courses for the major

1. Required courses:

| | | |
|-------------|----------------------------------|---|
| ENG 2213 | Literary Criticism and Analysis | 3 |
| ENG 2223 | British Literature I | 3 |
| ENG 2233 | British Literature II | 3 |
| ENG 2263 | American Literature I | 3 |
| ENG 2293 | American Literature II | 3 |
| ENG 3223 | Shakespeare: The Early Plays | 3 |
| or ENG 3233 | Shakespeare: The Later Plays | |
| ENG 3313 | Advanced Composition | 3 |
| ENG 3413 | Specialized Professional Writing | 3 |
| ENG 4933 | Internship | 3 |
| ENG 4973 | Seminar for English Majors | 3 |

2. Upper-division courses:

Select one from each of the following categories, at least one must include the study of American literature: 9

(a) American, English, Historical

(c) Cross-Cultural, Gender Studies, and Race & Ethnic Studies

(d) Authors and Genres listed above under degree requirements for the B.A. in English

3. Upper-division Professional Writing courses, 12 hours total, which must include: 12

ENG 2413 Technical Writing (if not already taken to fulfill core requirement)

ENG 2433 Editing

ENG 4433 Advanced Professional Writing

B. Single language other than English

Select 6 semester credit hours in a single language other than English 6

C. Electives

| | |
|----------------------------------------------|----|
| Select 21 semester credit hours of electives | 21 |
| Total Credit Hours | 78 |

Course Sequence Guide for B.A. Degree in English with a Concentration in Professional Writing

This course sequence guide is designed to assist students in completing their UTSA undergraduate English degree requirements. *This is merely a guide and students must satisfy other requirements of this catalog and meet with their academic advisor for individualized degree plans.* Progress within this guide depends upon such factors as course availability, individual student academic preparation, student time management, work obligations, and individual financial considerations. Students may choose to take courses during Summer terms to reduce course loads during long semesters.

B.A. in English, Concentration in Professional Writing – Four-Year Academic Plan

First Year

| Fall | | Credit Hours |
|-------------------------------|-----------------------------------------|--------------|
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| Mathematics core | | 3 |
| American History core | | 3 |
| Life & Physical Sciences core | | 3 |
| | Credit Hours | 15 |

Spring

| | | |
|-----------------------------------|--------------------------------|----|
| WRC 1023 | Freshman Composition II (core) | 3 |
| Free elective | | 3 |
| American History core | | 3 |
| Life & Physical Sciences core | | 3 |
| Social & Behavioral Sciences core | | 3 |
| | Credit Hours | 15 |

Second Year

Fall

| | | |
|-----------------------------------|--------------------------------------------------|-------|
| ENG 2213 | Literary Criticism and Analysis (core and major) | 3 |
| ENG 2413 | Technical Writing (core and major) | 3 |
| Free elective | | 3 |
| Foreign language (semester I) | | 3-4 |
| Government-Political Science core | | 3 |
| | Credit Hours | 15-16 |

Spring

| | | |
|-----------------------------------|----------------------|-------|
| ENG 2223 | British Literature I | 3 |
| ENG 2433 | Editing | 3 |
| Creative Arts core | | 3 |
| Foreign language (semester II) | | 3-4 |
| Government-Political Science core | | 3 |
| | Credit Hours | 15-16 |

Third Year

Fall

| | | |
|----------|------------------------|---|
| ENG 2233 | British Literature II | 3 |
| ENG 2263 | American Literature I | 3 |
| ENG 2293 | American Literature II | 3 |

| | | |
|-----------------------------------------------------|-----------------------------------------------------------------|-------|
| ENG 3313 | Advanced Composition | 3 |
| Free elective | | 3 |
| Credit Hours | | 15 |
| Spring | | |
| ENG 3223 or ENG 3233 | Shakespeare: The Early Plays or Shakespeare: The Later Plays | 3 |
| ENG 3413 | Specialized Professional Writing | 3 |
| Upper-division free elective | | 3 |
| Upper-division free elective | | 3 |
| Upper-division Literature category (a) ¹ | | 3 |
| Credit Hours | | 15 |
| Fourth Year | | |
| Fall | | |
| ENG 4433 | Advanced Professional Writing | 3 |
| ENG 4933 | Internship | 3 |
| Free elective | | 3 |
| Free elective | | 3 |
| Upper-division Literature category (c) ¹ | | 3 |
| Credit Hours | | 15 |
| Spring | | |
| ENG 4973 | Seminar for English Majors | 3 |
| Free elective (to meet 120 hour minimum) | | 1-3 |
| Upper-division free elective | | 3 |
| Upper-division Literature category (d) ¹ | | 3 |
| Upper-division Professional Writing course | | 3 |
| Credit Hours | | 15-13 |
| Total Credit Hours | | 120 |

¹

At least one of the courses from categories (a), (c), or (d) (under item A. 2. of the degree requirements) must include the study of American literature.

Bachelor of Arts Degree in English with a Creative Writing Concentration

In order to declare a Creative Writing concentration, students must successfully demonstrate proficiency, professionalism, and commitment in their writing portfolios. Entrance into upper-division creative writing courses is not guaranteed and is also dependent upon course availability.

All candidates seeking this degree must fulfill the Core Curriculum requirements and the degree requirements, which are listed below.

All candidates for the B.A. degree in English with a Creative Writing concentration must complete:

A. English courses

1. Required courses:

| | | |
|-------------------------|--------------------------------------------------------------|---|
| ENG 2213 | Literary Criticism and Analysis | 3 |
| ENG 2223 | British Literature I | 3 |
| ENG 2233 | British Literature II | 3 |
| ENG 2263 | American Literature I | 3 |
| ENG 2293 | American Literature II | 3 |
| ENG 3223 or ENG 3233 | Shakespeare: The Early Plays Shakespeare: The Later Plays | 3 |

| | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|----|
| ENG 4973 | Seminar for English Majors | 3 |
| 2. Select two of the following: | | 6 |
| ENG 2323 | Creative Writing: Fiction | |
| ENG 2333 | Creative Writing: Poetry | |
| ENG 2343 | Creative Writing: Nonfiction | |
| 3. Upper-division courses | | |
| Select one from each of the following categories, at least one must include the study of American literature: | | 9 |
| (a) American, English, Historical | | |
| (c) Cross-Cultural, Gender Studies, and Race & Ethnic Studies | | |
| (d) Authors and Genres listed above under degree requirements for the B.A. in English | | |
| 4. Select 9 semester credit hours of the following, at least 6 hours of which must be at the 4000 level: | | 9 |
| ENG 3423 | Topics in Creative Writing | |
| ENG 4523 | Writer's Workshop: Advanced Fiction Writing | |
| ENG 4533 | Writer's Workshop: Advanced Poetry Writing | |
| B. Single language other than English | | |
| Select 6 semester credit hours in a single language other than English | | 6 |
| C. Electives | | |
| Select 27 semester credit hours of electives. Students are encouraged to repeat upper-level workshops, and to include ENG 2433 in their electives. | | 27 |
| Total Credit Hours | | 78 |

Course Sequence Guide for B.A. Degree in English with a Concentration in Creative Writing

This course sequence guide is designed to assist students in completing their UTSA undergraduate English degree requirements. *This is merely a guide and students must satisfy other requirements of this catalog and meet with their academic advisor for individualized degree plans.* Progress within this guide depends upon such factors as course availability, individual student academic preparation, student time management, work obligations, and individual financial considerations. Students may choose to take courses during Summer terms to reduce course loads during long semesters.

B.A. in English, Concentration in Creative Writing – Four-Year Academic Plan

First Year

| Fall | | Credit Hours |
|-------------------------------|-----------------------------------------|--------------|
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| American History core | | 3 |
| Life & Physical Sciences core | | 3 |
| Mathematics core | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|-------------------------------|--------------------------------|---|
| WRC 1023 | Freshman Composition II (core) | 3 |
| American History core | | 3 |
| Creative Arts core | | 3 |
| Life & Physical Sciences core | | 3 |

| | | |
|-----------------------------------------------------|--------------------------------------------------|-------|
| Social & Behavioral Sciences core | | 3 |
| Credit Hours | | 15 |
| Second Year | | |
| Fall | | |
| ENG 2213 | Literary Criticism and Analysis (core and major) | 3 |
| Foreign language (semester I) | | 3-4 |
| Free Elective | | 3 |
| Component Area Option core | | 3 |
| Government-Political Science core | | 3 |
| Credit Hours | | 15-16 |
| Spring | | |
| ENG 2223 | British Literature I | 3 |
| ENG 2263 | American Literature I | 3 |
| ENG 2323 | Creative Writing: Fiction | 3 |
| or ENG 2333 | or Creative Writing: Poetry | |
| or ENG 2343 | or Creative Writing: Nonfiction | |
| Foreign language (semester II) | | 3-4 |
| Government-Political Science core | | 3 |
| Credit Hours | | 15-16 |
| Third Year | | |
| Fall | | |
| ENG 2233 | British Literature II | 3 |
| ENG 2293 | American Literature II | 3 |
| ENG 2323 | Creative Writing: Fiction | 3 |
| or ENG 2333 | or Creative Writing: Poetry | |
| or ENG 2343 | or Creative Writing: Nonfiction | |
| Free elective | | 3 |
| Upper-division free elective | | 3 |
| Credit Hours | | 15 |
| Spring | | |
| ENG 3223 | Shakespeare: The Early Plays | 3 |
| or ENG 3233 | or Shakespeare: The Later Plays | |
| ENG 3423 | Topics in Creative Writing | 3 |
| Free elective | | 3 |
| Upper-division free elective | | 3 |
| Upper-division Literature category (a) ¹ | | 3 |
| Credit Hours | | 15 |
| Fourth Year | | |
| Fall | | |
| ENG 4523 | Writer's Workshop: Advanced | 3 |
| or ENG 4533 | Fiction Writing | |
| | or Writer's Workshop: Advanced Poetry Writing | |
| Free elective | | 3 |
| Upper-division free elective | | 3 |
| Upper-division free elective | | 3 |
| Upper-division Literature category (c) ¹ | | 3 |
| Credit Hours | | 15 |
| Spring | | |
| ENG 4523 | Writer's Workshop: Advanced | 3 |
| or ENG 4533 | Fiction Writing | |
| | or Writer's Workshop: Advanced Poetry Writing | |

| | | |
|-----------------------------------------------------|----------------------------|-------|
| ENG 4973 | Seminar for English Majors | 3 |
| Free elective (to meet 120 hour minimum) | | 1-3 |
| Upper-division free elective | | 3 |
| Upper-division Literature category (d) ¹ | | 3 |
| Credit Hours | | 15-13 |
| Total Credit Hours | | 120 |

1

At least one of the courses from categories (a), (c), or (d) (under item A. 3. of the degree requirements) must include the study of American literature.

Bachelor of Arts Degree in English with an English Language Arts and Reading Concentration

The B.A. degree in English with an English Language Arts and Reading concentration is designed for students intending to teach English at the secondary school level. It includes preparation for teaching populations who speak English as a Second Language.

All candidates for this degree must fulfill the Core Curriculum requirements and the degree requirements listed below.

Students seeking teacher certification should contact the Interdisciplinary Education Advising and Certification Center as early in their educational program as possible for information about teacher certification requirements.

Programs are subject to change without notice due to changes in the state's certification and/or program approval requirements. Teacher certification programs address standards of the State Board for Educator Certification. Standards can be found at <http://www.tea.state.tx.us/>.

Degree Requirements

A. Courses in English

1. Required courses in English:

| | | |
|---------------------------------|---------------------------------|---|
| ENG 2213 | Literary Criticism and Analysis | 3 |
| ENG 2223 | British Literature I | 3 |
| ENG 2233 | British Literature II | 3 |
| ENG 2263 | American Literature I | 3 |
| ENG 2293 | American Literature II | 3 |
| ENG 3223 | Shakespeare: The Early Plays | 3 |
| or ENG 3233 | Shakespeare: The Later Plays | |
| ENG 4973 | Seminar for English Majors | 3 |
| 2. Select one of the following: | | 3 |

| | | |
|----------------------------------------------------|--------------------------------------------------------|---|
| ENG 3513 | Mexican American Literature | |
| ENG 3613 | African American Literature | |
| ENG 3713 | Topics in Multiethnic Literatures of the United States | |
| ENG 3813 | Topics in Native American Literature | |
| 3. English Language Arts and Reading concentration | | |
| ENG 3303 | Theory and Practice of Composition | 3 |
| ENG 3333 | Introduction to the Structure of English | 3 |
| ENG 3323 | History of the English Language | 3 |
| or ENG 3313 | Advanced Composition | |
| or ENG 3343 | Principles of English Linguistics | |

| | | |
|------------------------------------------------------------------------|-----------------------------------------------------------------------|----|
| or ENG 4433 | Advanced Professional Writing | |
| B. Professional Education and Reading Coursework | | |
| BBL 3403 | Cultural and Linguistic Equity for Schooling | 3 |
| EDP 3203 | Learning and Development in the Secondary School Adolescent | 3 |
| EDP 4203 | Assessment and Evaluation | 3 |
| EDU 2103 | Social Foundations for Education in a Diverse U.S. Society | 3 |
| ESL 3033 | Foundations of English as a Second Language | 3 |
| ESL 3053 | Literacy in a Second Language | 3 |
| ESL 3083 | Second Language Teaching and Learning for Grades 7-12 | 3 |
| ESL 4003 | Approaches to Second Language Teaching | 3 |
| IDS 2013 | Introduction to Learning and Teaching in a Culturally Diverse Society | 3 |
| LTED 3673 | Reading for Secondary Teachers-Grades 7–12 | 3 |
| LTED 3683 | Writing Development, Processes, and Instruction-Grades 7–12 | 3 |
| SPE 3603 | Introduction to Special Education | 3 |
| C. Student Teaching | | |
| CI 4646 | Clinical Teaching: Grades 7–12 | 6 |
| D. Single language other than English | | |
| Select 6 semester credit hours in a single language other than English | | 6 |
| Total Credit Hours | | 81 |

Course Sequence Guide for B.A. Degree in English with a Concentration in English Language Arts and Reading

This course sequence guide is designed to assist students in completing their UTSA undergraduate English degree requirements. *This is merely a guide and students must satisfy other requirements of this catalog and meet with their academic advisor for individualized degree plans.* Progress within this guide depends upon such factors as course availability, individual student academic preparation, student time management, work obligations, and individual financial considerations. Students may choose to take courses during Summer terms to reduce course loads during long semesters.

B.A. in English, Concentration in English Language Arts and Reading – Four-Year Academic Plan

| | | |
|--------------------------------|-----------------------------------------|---------------------|
| First Year | | |
| Fall | | Credit Hours |
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| Foreign language (semester I) | | 3-4 |
| Life & Physical Sciences core | | 3 |
| Mathematics core | | 3 |
| Credit Hours | | 15 |
| Spring | | |
| WRC 1023 | Freshman Composition II (core) | 3 |
| Foreign language (semester II) | | 3-4 |
| American History core | | 3 |
| Life & Physical Sciences core | | 3 |

| | | |
|-----------------------------------|-----------------------------------------------------------------------|----|
| Social & Behavioral Sciences core | | 3 |
| Credit Hours | | 15 |
| Second Year | | |
| Fall | | |
| ENG 2213 | Literary Criticism and Analysis (core and major) | 3 |
| ENG 3333 | Introduction to the Structure of English | 3 |
| American History core | | 3 |
| Creative Arts core | | 3 |
| Government-Political Science core | | 3 |
| Credit Hours | | 15 |
| Spring | | |
| ENG 2223 | British Literature I | 3 |
| ENG 2263 | American Literature I | 3 |
| ENG 3303 | Theory and Practice of Composition | 3 |
| IDS 2013 | Introduction to Learning and Teaching in a Culturally Diverse Society | 3 |
| Government-Political Science core | | 3 |
| Component Area Option core | | 3 |
| Credit Hours | | 18 |
| Third Year | | |
| Fall | | |
| BBL 3403 | Cultural and Linguistic Equity for Schooling | 3 |
| EDU 2103 | Social Foundations for Education in a Diverse U.S. Society | 3 |
| ENG 2233 | British Literature II | 3 |
| ENG 2293 | American Literature II | 3 |
| ENG 3323 | History of the English Language | 3 |
| or ENG 3313 | or Advanced Composition | |
| or ENG 3343 | or Principles of English Linguistics | |
| or ENG 4433 | or Advanced Professional Writing | |
| SPE 3603 | Introduction to Special Education | 3 |
| Credit Hours | | 18 |
| Spring | | |
| EDP 3203 | Learning and Development in the Secondary School Adolescent | 3 |
| ENG 3223 | Shakespeare: The Early Plays | 3 |
| or ENG 3233 | or Shakespeare: The Later Plays | |
| ESL 3033 | Foundations of English as a Second Language | 3 |
| ESL 3083 | Second Language Teaching and Learning for Grades 7-12 | 3 |
| LTED 3673 | Reading for Secondary Teachers-Grades 7–12 | 3 |
| Select one of the following: | | 3 |
| ENG 3513 | Mexican American Literature | |
| ENG 3613 | African American Literature | |
| ENG 3713 | Topics in Multiethnic Literatures of the United States | |

| | | |
|--------------------|-------------------------------------------------------------|-----|
| ENG 3813 | Topics in Native American Literature | |
| | Credit Hours | 18 |
| Fourth Year | | |
| Fall | | |
| CI 4643 | Clinical Teaching: Grades 7-12 | 3 |
| EDP 4203 | Assessment and Evaluation | 3 |
| ENG 4973 | Seminar for English Majors | 3 |
| ESL 3053 | Literacy in a Second Language | 3 |
| LTED 3683 | Writing Development, Processes, and Instruction-Grades 7–12 | 3 |
| | Credit Hours | 15 |
| Spring | | |
| ESL 4003 | Approaches to Second Language Teaching | 3 |
| CI 4643 | Clinical Teaching: Grades 7-12 | 3 |
| | Credit Hours | 6 |
| | Total Credit Hours | 120 |

1

At least one of the courses from categories (a) or (d) (under item A. 2. of the degree requirements) must include the study of American literature.

- Minor in English Literature (p. 191)
- Minor in Professional Writing (p. 191)

Minor in English Literature

All students pursuing the Minor in English Literature must complete 21 semester credit hours of English and American literature.

A. Required course

| | | |
|----------|---------------------------------|---|
| ENG 2213 | Literary Criticism and Analysis | 3 |
|----------|---------------------------------|---|

B. Select three from the following: 9

| | | |
|----------|------------------------|--|
| ENG 2223 | British Literature I | |
| ENG 2233 | British Literature II | |
| ENG 2263 | American Literature I | |
| ENG 2293 | American Literature II | |

C. Select one of the following: 3

| | | |
|----------|------------------------------|--|
| ENG 3223 | Shakespeare: The Early Plays | |
| ENG 3233 | Shakespeare: The Later Plays | |

D. Select two upper-division courses in literature in English, one course must include the study of American Literature 6

| | | |
|--------------------|--|----|
| Total Credit Hours | | 21 |
|--------------------|--|----|

Minor in Professional Writing

All students pursuing the Minor in Professional Writing must complete 18 semester credit hours of professional writing.

A. Required courses

| | | |
|----------|-------------------------------|---|
| ENG 2413 | Technical Writing | 3 |
| ENG 2433 | Editing | 3 |
| ENG 4433 | Advanced Professional Writing | 3 |

B. Select three from the following: 9

| | | |
|----------|----------------------------------|--|
| ENG 2033 | Science, Technology, and Society | |
| ENG 2443 | Persuasion and Rhetoric | |

| | | |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------|----|
| ENG 3303 | Theory and Practice of Composition | |
| ENG 3313 | Advanced Composition | |
| ENG 3323 | History of the English Language or ENG 3333 Introduction to the Structure of English or ENG 3343 Principles of English Linguistics | |
| ENG 3363 | Topics in Rhetoric and Composition ¹ | |
| ENG 3383 | Writing in Public and Professional Contexts ¹ | |
| ENG 3413 | Specialized Professional Writing | |
| ENG 4933 | Internship | |
| Total Credit Hours | | 18 |

1

These courses are topics courses and may be repeated when topics vary; each may be used to fulfill up to 6 semester credit hours for the minor in professional writing.

Certificate in Professional Writing and Rhetoric

The undergraduate Certificate in Professional Writing and Rhetoric (PWR) is designed to provide students with systematic preparation in professional writing for academic, workplace, and public contexts. It enables undergraduates from across the university to pursue a coursework program that concentrates on the expansion of skills and techniques for effective communication—written, oral, and visual competencies—in and across professional settings.

Students pursuing the Certificate in Professional Writing and Rhetoric must complete 15 semester credit hours:

A. 6 semester credit hours of required courses: 6

| | | |
|----------|-------------------------------|--|
| ENG 2413 | Technical Writing | |
| ENG 4433 | Advanced Professional Writing | |

B. 9 additional semester credit hours from the following courses, at least 6 of which must be upper division: 9

| | | |
|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| ENG 2033 | Science, Technology, and Society or BBL 2003 Language, Culture, and Society or COM 1053 Business and Professional Speech or COM 3243 Persuasion or EGR 1403 Technical Communication or ES 1013 Introduction to Environmental Science I or ES 2023 Introduction to Environmental Science II or HTH 2413 Introduction to Community and Public Health or HUM 2033 Introduction to the Humanities II or PHI 1043 Critical Thinking or SOC 2013 Social Problems | |
| ENG 2433 | Editing | |
| ENG 2443 | Persuasion and Rhetoric | |
| ENG 3303 | Theory and Practice of Composition | |
| ENG 3323 | History of the English Language or ENG 3333 Introduction to the Structure of English or ENG 3343 Principles of English Linguistics | |
| ENG 3363 | Topics in Rhetoric and Composition | |
| ENG 3383 | Writing in Public and Professional Contexts | |

Department of History

The Department of History offers Bachelor of Arts (B.A.) degrees in American Studies and History. Students majoring in History may also select a concentration in Social Studies. The department also offers minors in American Studies and History.

Department Honors

Students whose grade point average in the History or American Studies majors before the beginning of their final year at UTSA is 3.5 or above, and whose overall grade point average is 3.2, may earn Department Honors. To do so, students must enroll in the honors thesis course (HIS 4993 or AMS 4993) during their final two semesters and must complete a substantial original research project approved by the faculty supervisor and two other faculty members. Students must maintain a 3.5 grade point average in the major to be eligible for the award. Students who enroll in an Honor's Thesis course (HIS 4993 or AMS 4993) and complete this work satisfactorily **do not** need to enroll in HIS 4973 Seminar in History or AMS 4973 Advanced Seminar in American Studies.

- B.A. degree in American Studies (p. 192)
- B.A. degree in History (p. 194)
- B.A. degree in History with a Concentration in Social Studies (p. 196)

Bachelor of Arts Degree in American Studies

American Studies combines the study of history, literature, the arts, and social sciences to understand the diverse perspectives on cultural traditions and material practices shaping regional, ethnic, class, gender, and political diversity in the United States. American Studies students will conduct interdisciplinary study of topics such as race and ethnicity, gender and sexuality, transnationalism and border studies, urban experience, social justice, cultural studies, and religion. American Studies provides excellent preparation for careers in many fields, including law, journalism, government, foreign service, social work, international business, education, nonprofit, and public administration.

The minimum number of semester credit hours required for this degree, including the Core Curriculum requirements, is 120. Thirty-nine of the total semester credit hours required for the degree must be at the upper-division level.

All candidates for this degree must fulfill the Core Curriculum requirements and the degree requirements, which are listed below.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the B.A. degree in American Studies must fulfill University Core Curriculum requirements in the same manner as other students. The course listed below will satisfy both a degree requirement and a Core Curriculum requirement; however, if this course is taken to satisfy both requirements, then students may need to take an additional course in order to meet the minimum number of semester credit hours required for this degree.

AMS 2043 may be used to satisfy the core requirement in Social and Behavioral Sciences as well as a major requirement.

Core Curriculum Component Area Requirements (p. 7)

| | |
|-----------------------------------|-----------|
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |
| Life and Physical Sciences | 6 |
| Language, Philosophy and Culture | 3 |
| Creative Arts | 3 |
| American History | 6 |
| Government-Political Science | 6 |
| Social and Behavioral Sciences | 3 |
| Component Area Option | 3 |
| Total Credit Hours | 42 |

Degree Requirements

A. American Studies major courses

33 semester credit hours in courses approved by the American Studies advisor. At least 21 semester credit hours must be at the upper-division level.

| | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| 1. 6 semester credit hours of required courses: | 6 |
| AMS 2043 Approaches to American Culture | |
| AMS 3123 Applications of American Studies | |
| 2. 18 semester credit hours of courses focused in the interdisciplinary topics: Transnationalism, Gender and Sexuality, and Race and Ethnicity. A minimum of 3 credit hours in each area is required. | 18 |
| AMS 3243 Studies in Transnationalism (may be repeated) | |
| AMS 3343 Studies in Race and Ethnicity (may be repeated) | |
| AMS 3443 Studies in Gender and Sexuality (may be repeated) | |
| 3. 6 semester credit hours of American culture is required: | 6 |
| AMS 4823 Topics in American Culture (May be repeated for credit as long as the topics differ. Students may also take AMS 4983 Senior Thesis in their last semester in partial fulfillment of this requirement.) | |
| and 3 credit hours from one of the following: | |
| AMS 3013 Early American Culture | |
| AMS 3023 Modern American Culture | |
| 4. 3 semester credit hours of an advanced seminar course is required: | 3 |
| AMS 4973 Advanced Seminar in American Studies | |
| B. Electives | |
| Select 45 semester credit hours of electives | 45 |
| Total Credit Hours | 78 |

Students majoring in American Studies are encouraged to make an advising appointment with their academic advisor early in their course of study.

Course Sequence Guide for B.A. Degree in American Studies

This course sequence guide is designed to assist students in completing their UTSA undergraduate American Studies degree requirements. *This is merely a guide and students must satisfy other requirements of this catalog and meet with their academic advisor for individualized degree plans.* Progress within this guide depends upon such factors as course availability, individual student academic preparation, student time management, work obligations, and individual financial considerations.

Students may choose to take courses during Summer terms to reduce course loads during long semesters.

B.A. in American Studies – Four-Year Academic Plan

First Year

| Fall | | Credit Hours |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|--------------|
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| HIS 1043 or HIS 1053 or HIS 2053 | United States History: Pre-Columbus to Civil War Era (core) or United States History: Civil War Era to Present or Texas History | 3 |
| POL 1013 | Introduction to American Politics (core) | 3 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| Mathematics core | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|----|
| HIS 1043 or HIS 1053 or HIS 2053 | United States History: Pre-Columbus to Civil War Era (core) or United States History: Civil War Era to Present or Texas History | 3 |
| POL 1133 or POL 1213 | Texas Politics and Society (core) or Civil Rights in Texas and America | 3 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| Free elective | | 3 |
| Life & Physical Sciences core | | 3 |
| Credit Hours | | 15 |

Second Year

Fall

| | | |
|-------------------------------------|-------------------------------------------------|----|
| AMS 2043 | Approaches to American Culture (core and major) | 3 |
| Free elective | | 3 |
| Free elective | | 3 |
| Component Area Option core | | 3 |
| Language, Philosophy & Culture core | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|-------------------------------|--|----|
| Free elective | | 3 |
| Free elective | | 3 |
| Free elective | | 3 |
| Upper-division free elective | | 3 |
| Life & Physical Sciences core | | 3 |
| Credit Hours | | 15 |

Third Year

Fall

| | | |
|------------------------------|----------------------------------|----|
| AMS 3123 | Applications of American Studies | 3 |
| AMS 3243 | Studies in Transnationalism | 3 |
| Free elective | | 3 |
| Free elective | | 3 |
| Upper-division free elective | | 3 |
| Credit Hours | | 15 |

| Spring | | |
|------------------------------------------|--------------------------------------|-----|
| AMS 3343 | Studies in Race and Ethnicity | 3 |
| AMS 3443 | Studies in Gender and Sexuality | 3 |
| Free elective | | 3 |
| Upper-division free elective | | 3 |
| Upper-division free elective | | 3 |
| Credit Hours | | 15 |
| Fourth Year | | |
| Fall | | |
| AMS 4823 | Topics in American Culture | 3 |
| AMS 4973 | Advanced Seminar in American Studies | 3 |
| Free elective | | 3 |
| Upper-division free elective | | 3 |
| Creative Arts core | | 3 |
| Credit Hours | | 15 |
| Spring | | |
| AMS 3013 | Early American Culture | 3 |
| or AMS 3023 | or Modern American Culture | |
| or AMS 4823 | or Topics in American Culture | |
| Free elective | | 3 |
| Free elective | | 3 |
| Upper-division free elective | | 3 |
| Free elective (to meet 120 hour minimum) | | 3 |
| Credit Hours | | 15 |
| Total Credit Hours | | 120 |

Bachelor of Arts Degree in History

The degree program in History combines the development of informed perspectives, cultivation of analytical skills, and mastery of content areas that cover the United States and different regions in the world. A major in History teaches a student to write effectively and expressively, to think critically, to analyze arguments, and to communicate ideas. These skills will all aid in the pursuit of a career in a variety of fields.

The minimum number of semester credit hours required for this degree, including the Core Curriculum requirements, is 120. Thirty-nine of the total semester credit hours required for the degree must be at the upper-division level.

All candidates for this degree must fulfill the Core Curriculum requirements and the degree requirements, which are listed below.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the Bachelor of Arts degree in History must fulfill University Core Curriculum requirements in the same manner as other students. The courses listed below satisfy both degree requirements and Core Curriculum requirements; however, if these courses are taken to satisfy both requirements, then students may need to take additional courses in order to meet the minimum number of semester credit hours required for this degree.

Courses taken to satisfy the core requirement in American History may not be used to satisfy degree requirements. One of the following courses should be used to satisfy the core requirement in Language,

Philosophy and Culture (one of these courses may also be used to satisfy the Component Area Option core requirement):

| | | |
|----------|----------------------------------------------------------------|---|
| HIS 2123 | Introduction to World Civilization to the Fifteenth Century | 3 |
| HIS 2133 | Introduction to World Civilization since the Fifteenth Century | 3 |
| HIS 2533 | Introduction to Latin American Civilization | 3 |
| HIS 2543 | Introduction to Islamic Civilization | 3 |
| HIS 2553 | Introduction to East Asian Civilization | 3 |
| HIS 2573 | Introduction to African Civilization | 3 |
| HIS 2583 | Introduction to South Asian Civilization | 3 |

Core Curriculum Component Area Requirements (p. 7)

| | |
|-----------------------------------|----|
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |
| Life and Physical Sciences | 6 |
| Language, Philosophy and Culture | 3 |
| Creative Arts | 3 |
| American History | 6 |
| Government-Political Science | 6 |
| Social and Behavioral Sciences | 3 |
| Component Area Option | 3 |
| Total Credit Hours | 42 |

Gateway Course

Students pursuing the Bachelor of Arts degree in History must successfully complete the following Gateway Course with a grade of "C-" or better in no more than two attempts. A student who is unable to successfully complete this course within two attempts, including dropping the course with a grade of "W" or taking an equivalent course at another institution, will be required to change his or her major.

| | |
|----------|--------------------|
| HIS 3013 | Historical Methods |
|----------|--------------------|

Degree Requirements

A. History major courses

39 semester credit hours in the major, of which 27 hours must be at the upper-division level.

1. Foundation course for the major. Students must take it as early as possible in their program.

| | | |
|----------|--------------------|---|
| HIS 3013 | Historical Methods | 3 |
|----------|--------------------|---|

2. Select three courses from the sophomore-level civilization courses, including the following:

| | | |
|----------|----------------------------------------------------------------|---|
| HIS 2123 | Introduction to World Civilization to the Fifteenth Century | 3 |
| HIS 2133 | Introduction to World Civilization since the Fifteenth Century | 3 |
| HIS 2533 | Introduction to Latin American Civilization | 3 |
| HIS 2543 | Introduction to Islamic Civilization | 3 |
| HIS 2553 | Introduction to East Asian Civilization | 3 |
| HIS 2563 | Introduction to European Civilization | 3 |
| HIS 2573 | Introduction to African Civilization | 3 |
| HIS 2583 | Introduction to South Asian Civilization | 3 |

3. Select 24 upper-division credit hours of history courses, including at least one U.S., one European, one Latin American, and one African or Asian studies course. Students must complete one Research Intensive upper-division course as part of their degree program. 24

4. Seminar or Honors Thesis
 HIS 4973 Seminar in History (HIS 3013 Historical Methods is a prerequisite for enrollment in this course.) 3

Students who complete an Honor's Thesis may substitute HIS 4993 for HIS 4973.

B. Single language other than English

Select 6 semester credit hours of a single language other than English. For languages other than Sign Language, courses must include a written component. Conversational language training does not fulfill this requirement. 6

C. Electives

Select 33 semester credit hours of electives. In fulfillment of this requirement, History majors are encouraged to take at least 9 semester credit hours of upper-division coursework in disciplines that support the study of History. 33

Total Credit Hours 78

Course Sequence Guide for B.A. Degree in History

This course sequence guide is designed to assist students in completing their UTSA undergraduate History degree requirements. *This is merely a guide and students must satisfy other requirements of this catalog and meet with their academic advisor for individualized degree plans.* Progress within this guide depends upon such factors as course availability, individual student academic preparation, student time management, work obligations, and individual financial considerations. Students may choose to take courses during Summer terms to reduce course loads during long semesters.

B.A. in History – Four-Year Academic Plan

First Year

| | | Credit Hours |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|--------------|
| Fall | | |
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| HIS 1043 or HIS 1053 or HIS 2053 | United States History: Pre-Columbus to Civil War Era (core) or United States History: Civil War Era to Present or Texas History | 3 |
| POL 1013 | Introduction to American Politics (core) | 3 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| Mathematics core | | 3 |
| | Credit Hours | 15 |

Spring

| | | |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|---|
| HIS 1043 or HIS 1053 or HIS 2053 | United States History: Pre-Columbus to Civil War Era (core) or United States History: Civil War Era to Present or Texas History | 3 |
| POL 1133 or POL 1213 | Texas Politics and Society (core) or Civil Rights in Texas and America | 3 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| Free elective | | 3 |

| | |
|-------------------------------|----|
| Life & Physical Sciences core | 3 |
| Credit Hours | 15 |

Second Year

Fall

| | | |
|-------------------------------------|--------------------|-------|
| HIS 3013 | Historical Methods | 3 |
| Foreign language (semester I) | | 3-4 |
| Language, Philosophy & Culture core | | 3 |
| Social and Behavioral Sciences core | | 3 |
| Component Area Option core | | 3 |
| Credit Hours | | 15-16 |

Spring

| | | |
|--------------------------------|--|-------|
| Civilization course | | 3 |
| Foreign language (semester II) | | 3-4 |
| Free elective | | 3 |
| Free elective | | 3 |
| Life & Physical Sciences core | | 3 |
| Credit Hours | | 15-16 |

Third Year

Fall

| | | |
|------------------------------|--|----|
| Civilization course | | 3 |
| Free elective | | 3 |
| Upper-division HIS elective | | 3 |
| Upper-division U.S. HIS | | 3 |
| Upper-division free elective | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|------------------------------|--|----|
| Civilization course | | 3 |
| Free elective | | 3 |
| Upper-division European HIS | | 3 |
| Upper-division HIS elective | | 3 |
| Upper-division free elective | | 3 |
| Credit Hours | | 15 |

Fourth Year

Fall

| | | |
|-----------------------------------|--|----|
| Free elective | | 3 |
| Upper-division African/Asian HIS | | 3 |
| Upper-division Latin American HIS | | 3 |
| Upper-division free elective | | 3 |
| Creative Arts core | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|------------------------------------------|--------------------|-------|
| HIS 4973 | Seminar in History | 3 |
| Free elective (to meet 120 hour minimum) | | 1-3 |
| Upper-division HIS elective | | 3 |
| Upper-division HIS elective | | 3 |
| Upper-division free elective | | 3 |
| Credit Hours | | 15-13 |
| Total Credit Hours | | 120 |

Bachelor of Arts Degree in History with a Concentration in Social Studies

The Bachelor of Arts (B.A.) degree in History with a concentration in Social Studies is designed for students intending to teach history, geography, government and economics at the secondary school level. The signature experience is encapsulated in HIS 4143 History Standards and Their Public Reception. This course reviews the ongoing debates over the content of history curriculum in the schools among historians, educators and the public.

The minimum number of semester credit hours for this degree is 123, including required coursework for teacher certification. Students seeking teacher certification should also refer to the requirements listed in the College of Education and Human Development section of this catalog.

All candidates for this degree must fulfill the Core Curriculum requirements and the degree requirements, which are listed below.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the B.A. degree in History with a concentration in Social Studies must fulfill University Core Curriculum requirements in the same manner as other students. The courses listed below satisfy both degree requirements and Core Curriculum requirements.

GES 2613 may be used to satisfy 3 hours of the Life and Physical Sciences core requirement as well as a major requirement. HIS 1043 and HIS 1053 may be used to satisfy the American History core requirement as well as a major requirement. GES 1013 may be used to satisfy the Social and Behavioral Sciences core requirement as well as a major requirement. ECO 2003 may be used to satisfy the Component Area Option core requirement as well as a major requirement. HIS 2123 may be used to satisfy the Language, Philosophy and Culture core requirement as well as a major requirement.

Core Curriculum Component Area Requirements (p. 7)

| | |
|-----------------------------------|-----------|
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |
| Life and Physical Sciences | 6 |
| Language, Philosophy and Culture | 3 |
| Creative Arts | 3 |
| American History | 6 |
| Government-Political Science | 6 |
| Social and Behavioral Sciences | 3 |
| Component Area Option | 3 |
| Total Credit Hours | 42 |

Gateway Course

Students pursuing the B.A. degree in History must successfully complete the following Gateway Course with a grade of "C-" or better in no more than two attempts. A student who is unable to successfully complete this course within two attempts, including dropping the course with a grade of "W" or taking an equivalent course at another institution, will be required to change his or her major.

| | |
|----------|--------------------|
| HIS 3013 | Historical Methods |
|----------|--------------------|

Degree Requirements

A. Required courses

| | | |
|----------|----------------------------------------------------------------|---|
| ECO 2003 | Economic Principles and Issues | 3 |
| GES 1013 | Fundamentals of Geography | 3 |
| GES 1023 | World Regional Geography | 3 |
| GES 2613 | Physical Geography | 3 |
| HIS 1043 | United States History: Pre-Columbus to Civil War Era | 3 |
| HIS 1053 | United States History: Civil War Era to Present | 3 |
| HIS 2053 | Texas History | 3 |
| HIS 2123 | Introduction to World Civilization to the Fifteenth Century | 3 |
| HIS 2133 | Introduction to World Civilization since the Fifteenth Century | 3 |
| HIS 3013 | Historical Methods | 3 |
| HIS 4143 | History Standards and Their Public Reception | 3 |
| HIS 4973 | Seminar in History | 3 |

B. Civilization courses

| | |
|------------------------------|---------------------------------------------|
| Select two of the following: | 6 |
| ANT 3273 | Civilizations of Mexico |
| HIS 2533 | Introduction to Latin American Civilization |
| HIS 2543 | Introduction to Islamic Civilization |
| HIS 2553 | Introduction to East Asian Civilization |
| HIS 2573 | Introduction to African Civilization |
| HIS 2583 | Introduction to South Asian Civilization |

C. Upper-division history courses

Specifically two in U.S. history, one in European history, and two in either Latin American, Asian or African history 15

D. Additional courses

| | |
|------------------------------|--------------------------------------------|
| Select two of the following: | 6 |
| POL 3013 | The American Legal Process |
| POL 3113 | American Political Thought |
| POL 3283 | The American Presidency |
| POL 3313 | The Supreme Court |
| POL 3323 | Constitutional Law I |
| POL 3363 | Political Parties and Interest Groups |
| POL 3373 | The Legislative Process |
| POL 3503 | American Foreign Policy since World War II |

E. Geography course

| | |
|------------------------------|-------------------------------------------|
| Select one of the following: | 3 |
| GES 3113 | Geography of the United States and Canada |
| GES 3123 | Geography of Latin America |
| GES 3133 | Geography of Europe |
| GES 3213 | Cultural Geography |
| GES 3513 | Urban Geography |
| GES 3533 | Geography of Local Economic Activity |
| GES 3643 | Political Geography |
| GES 3723 | Physiography |

F. Communication, reading and education courses

| | | |
|----------|-----------------------------------------------------------------|---|
| BBL 3403 | Cultural and Linguistic Equity for Schooling | 3 |
| CI 4203 | Models of Teaching in the Content Areas of the Secondary School | 3 |
| CI 4646 | Clinical Teaching: Grades 7–12 | 6 |

| | | |
|--------------------|-----------------------------------------------------------------------|----|
| EDP 3203 | Learning and Development in the Secondary School Adolescent | 3 |
| EDP 4203 | Assessment and Evaluation | 3 |
| EDU 2103 | Social Foundations for Education in a Diverse U.S. Society | 3 |
| ESL 3083 | Second Language Teaching and Learning for Grades 7-12 | 3 |
| IDS 2013 | Introduction to Learning and Teaching in a Culturally Diverse Society | 3 |
| LTED 3773 | Reading and Writing Across the Disciplines-Grades 7-12 | 3 |
| SPE 3603 | Introduction to Special Education | 3 |
| Total Credit Hours | | 99 |

Course Sequence Guide for B.A. Degree in History with a Concentration in Social Studies

This course sequence guide is designed to assist students in completing their UTSA undergraduate History degree requirements. *This is merely a guide and students must satisfy other requirements of this catalog and meet with their academic advisor for individualized degree plans.* Progress within this guide depends upon such factors as course availability, individual student academic preparation, student time management, work obligations, and individual financial considerations. Students may choose to take courses during Summer terms to reduce course loads during long semesters.

B.A. in History, Concentration in Social Studies – Four-Year Academic Plan

First Year

| | | Credit Hours |
|------------------|-----------------------------------------------------------------------|--------------|
| ECO 2003 | Economic Principles and Issues (core and major) | 3 |
| HIS 1043 | United States History: Pre-Columbus to Civil War Era (core and major) | 3 |
| POL 1013 | Introduction to American Politics (core) | 3 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| Mathematics core | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|-------------------------------|---------------------------------------------------------------------------|----|
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| HIS 1053 | United States History: Civil War Era to Present (core and major) | 3 |
| POL 1133 or POL 1213 | Texas Politics and Society (core) or Civil Rights in Texas and America | 3 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| Life & Physical Sciences core | | 3 |
| Credit Hours | | 15 |

Second Year

| | | Credit Hours |
|----------|--------------------------------------------|--------------|
| GES 1013 | Fundamentals of Geography (core and major) | 3 |
| HIS 2053 | Texas History | 3 |

| | | |
|--------------|-------------------------------------------------------------------------------------------|----|
| HIS 2123 | Introduction to World Civilization to the Fifteenth Century (core and major) ¹ | 3 |
| HIS 3013 | Historical Methods | 3 |
| IDS 2013 | Introduction to Learning and Teaching in a Culturally Diverse Society | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|------------------------------------|-----------------------------------------------------------------------------|----|
| EDU 2103 | Social Foundations for Education in a Diverse U.S. Society | 3 |
| GES 2613 | Physical Geography (core and major) | 3 |
| HIS 2133 | Introduction to World Civilization since the Fifteenth Century ¹ | 3 |
| Civilization course from Section B | | 3 |
| Upper-division U.S. HIS | | 3 |
| Creative Arts core | | 3 |
| Credit Hours | | 18 |

Third Year

Fall

| | | |
|-------------------------------------------------|-------------------------------------------------------------|----|
| BBL 3403 | Cultural and Linguistic Equity for Schooling | 3 |
| EDP 3203 | Learning and Development in the Secondary School Adolescent | 3 |
| ESL 3083 | Second Language Teaching and Learning for Grades 7-12 | 3 |
| SPE 3603 | Introduction to Special Education | 3 |
| POL or HIS course from Section D | | 3 |
| Upper-division African/Asian/Latin American HIS | | 3 |
| Credit Hours | | 18 |

Spring

| | | |
|----------------------------------|--------------------------------------------------------|----|
| EDP 4203 | Assessment and Evaluation | 3 |
| GES 1023 | World Regional Geography | 3 |
| LTED 3773 | Reading and Writing Across the Disciplines-Grades 7-12 | 3 |
| POL or HIS course from Section D | | 3 |
| Upper-division European HIS | | 3 |
| Upper-division U.S. HIS | | 3 |
| Credit Hours | | 18 |

Fourth Year

Fall

| | | |
|-------------------------------------------------|-----------------------------------------------------------------|----|
| CI 4203 | Models of Teaching in the Content Areas of the Secondary School | 3 |
| HIS 4143 | History Standards and Their Public Reception | 3 |
| HIS 4973 | Seminar in History | 3 |
| Civilization course from Section B | | 3 |
| GES course from Section E | | 3 |
| Upper-division African/Asian/Latin American HIS | | 3 |
| Credit Hours | | 18 |

Spring

| | | |
|---------|--------------------------------|-----|
| CI 4646 | Clinical Teaching: Grades 7–12 | 6 |
| | Credit Hours | 6 |
| | Total Credit Hours | 123 |

1

HIS 2123 Introduction to World Civilization to the Fifteenth Century and HIS 2133 Introduction to World Civilization since the Fifteenth Century may be taken in either order.

- Minor in American Studies (p. 198)
- Minor in History (p. 198)

Minor in American Studies

All students pursuing a Minor in American Studies must complete 21 semester credit hours.

A. Required courses

| | | |
|----------|----------------------------------|---|
| AMS 2043 | Approaches to American Culture | 3 |
| AMS 3123 | Applications of American Studies | 3 |
| AMS 3243 | Studies in Transnationalism | 3 |
| AMS 3343 | Studies in Race and Ethnicity | 3 |
| AMS 3443 | Studies in Gender and Sexuality | 3 |

B. Select two of the following: 6

| | | |
|----------|----------------------------|--|
| AMS 3013 | Early American Culture | |
| AMS 3023 | Modern American Culture | |
| AMS 4823 | Topics in American Culture | |

Total Credit Hours 21

To declare a Minor in American Studies, or seek approval of substitutions for course requirements, students should consult their academic advisor.

Minor in History

All students pursuing a Minor in History must complete 18 semester credit hours.

A. Required courses

| | | |
|-------------|----------------------------------------------------------------|---|
| HIS 2123 | Introduction to World Civilization to the Fifteenth Century | 3 |
| or HIS 2133 | Introduction to World Civilization since the Fifteenth Century | |
| HIS 3013 | Historical Methods | 3 |

Select one of the following: 3

| | | |
|----------|---------------------------------------------|--|
| HIS 2533 | Introduction to Latin American Civilization | |
| HIS 2543 | Introduction to Islamic Civilization | |
| HIS 2553 | Introduction to East Asian Civilization | |
| HIS 2563 | Introduction to European Civilization | |
| HIS 2573 | Introduction to African Civilization | |
| HIS 2583 | Introduction to South Asian Civilization | |

B. Upper-division history electives

| | | |
|--------------------|--|----|
| Electives | | 9 |
| Total Credit Hours | | 18 |

To declare a Minor in History, obtain advice, or seek approval for substitutions for course requirements, students should consult their academic advisor.

Department of Modern Languages and Literatures

The Department of Modern Languages and Literatures offers a major in Spanish designed to develop the student’s specialized knowledge of culture, literature, and language. The department also offers a major in Modern Language Studies, which gives students the opportunity to study various cultural aspects of a language area. Minors in French, German, Russian, Spanish, Comparative Literature, East Asian Studies, Foreign Languages (Chinese, Italian, Korean), and Linguistics give students the opportunity to refine language skills, develop linguistic awareness, and acquire knowledge of a foreign culture and/or literature. Skills-development courses, which facilitate speaking, reading, writing, and understanding of a foreign language, are offered in these languages as well as in Arabic, Chinese, Italian and Korean. Courses in comparative studies in the humanities relate literatures to the other arts and general currents of culture and humanistic thought, while coursework in linguistics focuses on general concepts of linguistic structure and meaning and relates language development to other areas of human understanding. Additional study abroad is strongly encouraged. The department also offers courses in Media Studies, which allow students to put into practice their theoretical studies in the humanities.

Department Honors

A student whose grade point average in courses taken at UTSA is at least 3.0, whose grade point average in upper-division courses in one of the fields offered as a major in the department is at least 3.5, and who has completed 18 semester credit hours at the upper-division level in the major (24 hours for Spanish) may petition the undergraduate faculty advisor to enroll in the appropriate honors course (FL 4993 Honors Research, FRN 4993 Honors Research, GER 4993 Honors Research, or SPN 4993 Honors Research). If the student maintains the minimum grade point averages upon completion of the course, the Department Honors Committee will evaluate the project the student completed in the honors course and determine whether he or she will be awarded Department Honors.

- B.A. degree in Spanish (p. 198)
- B.A. degree in Modern Language Studies (p. 200)

Bachelor of Arts Degree in Spanish

The minimum number of semester credit hours required for this degree, including the hours in the Core Curriculum requirements, is 120. Thirty-nine of the total semester credit hours required for the degree must be at the upper-division level.

The Signature Experience, included in the required forty-five hours, serves as a peak in the student’s educational program by providing various opportunities in which to display or practice knowledge gained at UTSA. The Signature Experience can be realized as one of a number of study or practical options, such as an independent study, internship, and study abroad.

Students seeking teacher certification should consult the Interdisciplinary Education Advising and Certification Center for information.

All candidates seeking this degree must fulfill the Core Curriculum requirements and the degree requirements, which are listed below.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the B.A. degree in Spanish must fulfill University Core Curriculum requirements in the same manner as other students. If courses are taken to satisfy both a degree requirement and a Core Curriculum requirement, then students may need to take additional courses in order to meet the minimum number of semester credit hours required for this degree.

SPN 1014 or SPN 2333 may be used to satisfy the Language, Philosophy and Culture core requirement.

Core Curriculum Component Area Requirements (p. 7)

| | |
|-----------------------------------|-----------|
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |
| Life and Physical Sciences | 6 |
| Language, Philosophy and Culture | 3 |
| Creative Arts | 3 |
| American History | 6 |
| Government-Political Science | 6 |
| Social and Behavioral Sciences | 3 |
| Component Area Option | 3 |
| Total Credit Hours | 42 |

Degree Requirements

A. Courses within the major

| | |
|--------------------------------------------------------------------------------------------------------------------------|----|
| 1. 12 semester credit hours of required courses | 12 |
| SPN 2013 Intermediate Spanish I | |
| SPN 2023 Intermediate Spanish II | |
| SPN 3043 Introduction to Literature | |
| SPN 3063 Grammar and Composition | |
| 2. 9 semester credit hours of required content areas, of which 3 semester credit hours must be taken from each category: | 9 |
| a. Spanish Linguistics | |
| SPN 3013 Spanish Phonetics and Phonology | |
| SPN 3113 Linguistic Structures of Spanish | |
| SPN 4113 Topics in Spanish Linguistics | |
| b. Spanish Translation and Interpreting | |
| TIS 3003 Introduction to Translation and Interpreting | |
| TIS 3013 Translation and Interpreting for the Language Specialist | |
| TIS 3023 Interpreting in Legal Settings | |
| TIS 3033 Interpreting in Medical Settings | |
| TIS 3043 Advanced Practice in Healthcare Interpreting | |
| TIS 4013 Topics in Translation and Interpreting Studies | |
| c. Hispanic Cultures and Literatures | |
| SPN 3413 The Literature of Spain from the Middle Ages to 1700 | |
| SPN 3423 The Literature of Spain from 1700 to the Present | |
| SPN 3463 Latin American Literature to Modernism | |
| SPN 3473 Latin American Literature since Modernism | |
| SPN 3613 Spanish Culture and Civilization | |
| SPN 3623 Latin American Culture and Civilization | |

| | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| 3. 24 additional semester credit hours of upper-division Spanish coursework, of which 9 hours must be at the 4000 level (a maximum of 3 credit hours may be taken in English (e.g. LNG) | 24 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|

B. Free Electives 33

Students are encouraged to take courses that support their study of Spanish.

| | |
|---------------------------|-----------|
| Total Credit Hours | 78 |
|---------------------------|-----------|

Course Sequence Guide for B.A. Degree in Spanish

This course sequence guide is designed to assist students in completing their UTSA undergraduate Spanish degree requirements. *This is merely a guide and students must satisfy other requirements of this catalog and meet with their academic advisor for individualized degree plans.* Progress within this guide depends upon such factors as course availability, individual student academic preparation, student time management, work obligations, and individual financial considerations. Students may choose to take courses during Summer terms to reduce course loads during long semesters.

B.A. in Spanish – Four-Year Academic Plan

First Year

| | | Credit Hours |
|-------------------------------|----------------------------------------------------------|--------------|
| Fall | | |
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| SPN 1014 | Elementary Spanish I (core and major (or free elective)) | 3-4 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| Mathematics core | | 3 |
| Life & Physical Sciences core | | 3 |
| | Credit Hours | 15-16 |

Spring

| | | |
|-------------------------------|-------------------------------------------------------------|--------------|
| HIS 1043 | United States History: Pre-Columbus to Civil War Era (core) | 3 |
| or HIS 1053 | or United States History: Civil War Era to Present | |
| or HIS 2053 | or Texas History | |
| POL 1013 | Introduction to American Politics (core) | 3 |
| SPN 1024 | Elementary Spanish II (or free elective) | 3-4 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| Life & Physical Sciences core | | 3 |
| | Credit Hours | 15-16 |

Second Year

Fall

| | | |
|------------------------------------------------------|-------------------------------------------------------------|-----------|
| HIS 1043 | United States History: Pre-Columbus to Civil War Era (core) | 3 |
| or HIS 1053 | or United States History: Civil War Era to Present | |
| or HIS 2053 | or Texas History | |
| SPN 2013 | Intermediate Spanish I (or free elective) | 3 |
| Free elective | | 3 |
| Language, Philosophy & Culture core or free elective | | 3 |
| Social and Behavioral Sciences core | | 3 |
| | Credit Hours | 15 |

| | | |
|----------------------------|------------------------------------------------------------------------------|----|
| Spring | | |
| POL 1133 or POL 1213 | Texas Politics and Society (core) or Civil Rights in Texas and America | 3 |
| SPN 2023 | Intermediate Spanish II | 3 |
| Free elective | | 3 |
| Creative Arts core | | 3 |
| Component Area Option core | | 3 |
| Credit Hours | | 15 |

Third Year

| | | |
|---------------|----------------------------|----|
| Fall | | |
| SPN 3043 | Introduction to Literature | 3 |
| SPN 3063 | Grammar and Composition | 3 |
| Free elective | | 3 |
| Free elective | | 3 |
| Free elective | | 3 |
| Credit Hours | | 15 |

| | | |
|---------------------------------------------|--|----|
| Spring | | |
| Spanish Linguistics course | | 3 |
| Spanish Translation and Interpreting course | | 3 |
| Hispanic Literatures and Cultures course | | 3 |
| Free elective | | 3 |
| Free elective | | 3 |
| Credit Hours | | 15 |

Fourth Year

| | | |
|-----------------------------|--|----|
| Fall | | |
| Upper-division SPN elective | | 3 |
| Upper-division SPN elective | | 3 |
| Upper-division SPN elective | | 3 |
| 4000-level SPN elective | | 3 |
| Free elective | | 3 |
| Credit Hours | | 15 |

| | | |
|----------------------------------------------|--|-------|
| Spring | | |
| Upper-division SPN elective | | 3 |
| Upper-division SPN elective | | 3 |
| 4000-level SPN elective | | 3 |
| 4000-level SPN elective | | 3 |
| Free elective (to meet the 120 hour minimum) | | 1-3 |
| Credit Hours | | 15-13 |

Total Credit Hours 120

Bachelor of Arts Degree in Modern Language Studies

The major in Modern Language Studies addresses the growing need for students to prepare for the demands brought about by globalization and the increased national focus on international security. It provides the opportunity for UTSA students to graduate with an emphasis in a single language area according to their individual career interests. It is designed to give students the opportunity to structure their program in a variety of concentrations, including double majors. By selecting the Modern Language Studies major, students receive a well-rounded humanistic education and prepare themselves for jobs requiring a flexible liberal arts degree, among them careers in government, national security,

public service, teaching, international business, banking, international media, communications, tourism, foreign relations, and publishing. The Modern Language Studies major also develops skills, knowledge, and cultural awareness which provide a solid foundation for successful work in graduate studies in the humanities and social sciences, as well as in law and medicine. The Bachelor of Arts (B.A.) in Modern Language Studies is available to students of languages which offer upper-division courses at UTSA. For students of Spanish, these needs are met by the Bachelor of Arts degree in Spanish.

The following optional components are strongly recommended:

1. Study Abroad
Study abroad in the target language environment will give students the opportunity to further enhance their language and culture skills. Students are encouraged to include a semester or at least a summer abroad in their degree plan.
2. Languages Across the Curriculum
1-semester-credit-hour language courses offered online (FL 3101 Languages Across the Curriculum) will complement the student's elective courses in other disciplines, such as history and political science. These add-on components will mirror the topics taught in the regular courses.

The minimum number of semester credit hours required for the B.A. degree in Modern Language Studies, including the hours in the Core Curriculum requirements, is 120. Thirty-nine of the total semester credit hours required for the degree must be at the upper-division level. Students seeking teacher certification should consult the Interdisciplinary Education Advising and Certification Center for information.

All candidates seeking this degree must fulfill the Core Curriculum requirements and the degree requirements, which are listed below.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the B.A. degree in Modern Language Studies must fulfill University Core Curriculum requirements in the same manner as other students. If courses are taken to satisfy both a degree requirement and a Core Curriculum requirement, then students may need to take additional courses in order to meet the minimum number of semester credit hours required for this degree.

Elementary Language I course number 1014, CSH 1103, CSH 1113, CSH 1213, or CSH 2113 should be used to satisfy the core requirement in Language, Philosophy and Culture.

Core Curriculum Component Area Requirements (p. 7)

| | |
|-----------------------------------|----|
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |
| Life and Physical Sciences | 6 |
| Language, Philosophy and Culture | 3 |
| Creative Arts | 3 |
| American History | 6 |
| Government-Political Science | 6 |
| Social and Behavioral Sciences | 3 |
| Component Area Option | 3 |
| Total Credit Hours | 42 |

Degree Requirements

A. Courses within the major

| | |
|------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| 1. 10 semester credit hours of required language courses in a single discipline (other than SPN) | 10 |
| Elementary Language II course number 1024 | |
| Intermediate Language I course number 2013 | |
| Intermediate Language II course number 2023 | |
| 2. Linguistics course | 3 |
| LNG 3813 Introduction to Linguistics | |
| 3. 24 credit hours of area-specific courses in language, literature, and culture in the department, 18 of which must be at the upper-division level. | 24 |

B. Electives

| | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| Select 41 semester credit hours of free electives | 41 |
| Students are encouraged to consider a double major in areas such as global studies, or take courses in additional foreign languages or other internationally focused topics. Study Abroad and Languages Across the Curriculum courses are strongly recommended. | |
| Total Credit Hours | 78 |

Course Sequence Guide for B.A. Degree in Modern Language Studies

This course sequence guide is designed to assist students in completing their UTSA undergraduate Modern Language Studies degree requirements. *This is merely a guide and students must satisfy other requirements of this catalog and meet with their academic advisor for individualized degree plans.* Progress within this guide depends upon such factors as course availability, individual student academic preparation, student time management, work obligations, and individual financial considerations. Students may choose to take courses during Summer terms to reduce course loads during long semesters. Study Abroad courses are strongly encouraged. Contact the department for advising.

B.A. in Modern Language Studies – Four-Year Academic Plan

First Year

| Fall | | Credit Hours |
|------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|--------------|
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| HIS 1043 or HIS 1053 or HIS 2053 | United States History: Pre-Columbus to Civil War Era (core) or United States History: Civil War Era to Present or Texas History | 3 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| Elementary Language I course number 1014 | | 4 |
| Life & Physical Sciences core | | 3 |
| Credit Hours | | 16 |

Spring

| | | |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|---|
| HIS 1043 or HIS 1053 or HIS 2053 | United States History: Pre-Columbus to Civil War Era (core) or United States History: Civil War Era to Present or Texas History | 3 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| Language 1024 | | 4 |
| Life & Physical Sciences core | | 3 |

| | |
|------------------|----|
| Mathematics core | 3 |
| Credit Hours | 16 |

Second Year

Fall

| | | |
|--------------------------------------------|------------------------------------------|----|
| POL 1013 | Introduction to American Politics (core) | 3 |
| Free elective | | 3 |
| Intermediate Language I course number 2013 | | 3 |
| Lower-division area studies course | | 3 |
| Social and Behavioral Sciences core | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|----------------------------------------------------------|---------------------------------------------------------------------------|----|
| POL 1133 or POL 1213 | Texas Politics and Society (core) or Civil Rights in Texas and America | 3 |
| Free elective | | 3 |
| Intermediate Language II course number 2023 | | 3 |
| Creative Arts core | | 3 |
| Lower-division area studies (Component Area Option core) | | 3 |
| Credit Hours | | 15 |

Third Year

Fall

| | | |
|----------------------------------------------|-----------------------------|----|
| LNG 3813 | Introduction to Linguistics | 3 |
| Upper-division language, literature, culture | | 3 |
| Upper-division language, literature, culture | | 3 |
| Free elective | | 3 |
| Free elective | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|----------------------------------------------|--|----|
| Upper-division language, literature, culture | | 3 |
| Upper-division language, literature, culture | | 3 |
| Free upper-division elective | | 3 |
| Free elective | | 3 |
| Free elective | | 3 |
| Credit Hours | | 15 |

Fourth Year

Fall

| | | |
|----------------------------------------------|--|----|
| Upper-division language, literature, culture | | 3 |
| Free upper-division elective | | 3 |
| Free upper-division elective | | 3 |
| Free upper-division elective | | 3 |
| Free upper-division elective | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|----------------------------------------------|--|-----|
| Upper-division language, literature, culture | | 3 |
| Free elective (to meet 120 hour minimum) | | 1 |
| Free upper-division elective | | 3 |
| Free upper-division elective | | 3 |
| Free elective | | 3 |
| Credit Hours | | 13 |
| Total Credit Hours | | 120 |

- Minor in Comparative Literature (p. 202)
- Minor in East Asian Studies (p. 202)
- Minor in Foreign Languages (p. 202)
- Minor in French (p. 202)
- Minor in German (p. 202)
- Minor in Linguistics (p. 202)
- Minor in Russian (p. 203)
- Minor in Spanish (p. 203)
- Minor in Translation and Interpreting Studies (p. 203)

Minor in Comparative Literature

The Minor in Comparative Literature offers an opportunity to study texts in a manner that transcends national and linguistic boundaries. It enables students to develop, through their majors, a solid grounding in one particular tradition (e.g., English, Spanish, French) or one discipline (e.g., history, music) while also embracing a broader perspective through the minor. A student minoring in comparative literature may wish to pursue graduate work in comparative literature or in a specific national literary tradition or to pursue a career in translation, teaching, publishing, or writing. The Minor in Comparative Literature fosters the sophistication appropriate to a liberal arts degree.

All students pursuing the Minor in Comparative Literature must complete 18 semester credit hours.

A. Upper-division literature courses

| | |
|-------------------------------------------------------------------------------------------------------------------------------------------------|----|
| Select 12 semester credit hours from at least two of the following disciplines: Classics, English, French, German, Italian, Russian, or Spanish | 12 |
|-------------------------------------------------------------------------------------------------------------------------------------------------|----|

B. Upper-division in comparative studies in the humanities

| | |
|----------------------------------------------------------|-----------|
| 1. Comparative Literature | |
| CSH 3023 | 3 |
| 2. One course of an additional upper-division CSH course | 3 |
| Total Credit Hours | 18 |

Minor in East Asian Studies

All students pursuing the Minor in East Asian Studies must complete 19 semester credit hours.

A. Required Courses

| | | |
|-------------|----------------------------------|---|
| CHN 1024 | Elementary Chinese II | 4 |
| or JPN 1024 | Elementary Japanese II | |
| or KOR 1024 | Elementary Korean II | |
| CSH 4003 | Colloquium in East Asian Culture | 3 |

B. 12 semester credit hours of elective courses

| | | |
|----------|---------------------------------------------|--|
| CSH 1213 | Topics in World Cultures | |
| CSH 3823 | Advanced Topics in World Cultures | |
| CSH 4153 | Special Projects in East Asian Studies | |
| GES 3433 | The Geography and Politics of the Asian Rim | |
| HIS 2553 | Introduction to East Asian Civilization | |
| HIS 3903 | Modern Japan | |
| HIS 3913 | Late Imperial China | |
| HIS 3923 | China in Revolution | |
| PHI 3073 | Asian Philosophy | |
| POL 3443 | Governments and Politics of East Asia | |

Free Electives Any East Asia focused courses, including additional language courses at the 2000-level or above, or a Study Abroad, chosen in consultation with the student's advisor.

| | |
|---------------------------|-----------|
| Total Credit Hours | 19 |
|---------------------------|-----------|

Minor in Foreign Languages

The Minor in Foreign Languages offers an opportunity to increase proficiency in reading, writing, speaking, and listening skills in a foreign language. The minor will lead to the acquisition of metalinguistic skills and an enhanced understanding of the target culture and its orientation to world communication.

All students pursuing the Minor in Foreign Languages must complete 18 semester credit hours at the 2000 level and above.

A. Language skill courses in the same language at the 2000 level or above

| | |
|------------------------|---|
| Language skill courses | 6 |
|------------------------|---|

B. Language and Linguistics courses, including FL

| | |
|---------------------------------------------------------------------------------------------------------|----|
| Select 12 semester credit hours in the department, 9 hours of which must be at the upper-division level | 12 |
|---------------------------------------------------------------------------------------------------------|----|

| | |
|---------------------------|-----------|
| Total Credit Hours | 18 |
|---------------------------|-----------|

Minor in French

All students pursuing the Minor in French must complete 18 semester credit hours at the 2000 level and above.

A. Required language skill courses

| | | |
|----------|--------------------------|---|
| FRN 2013 | Intermediate French I | 3 |
| FRN 2023 | Intermediate French II | 3 |
| FRN 3023 | Advanced Language Skills | 3 |

B. Additional courses in French or French-related topics, including CSH and FL

| | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| Select 9 semester credit hours, 6 hours of which must be at the upper-division level, chosen in consultation with the advisor for the Minor in French | 9 |
|-------------------------------------------------------------------------------------------------------------------------------------------------------|---|

| | |
|---------------------------|-----------|
| Total Credit Hours | 18 |
|---------------------------|-----------|

Minor in German

All students pursuing the Minor in German must complete 18 semester credit hours at the 2000 level and above.

A. Required language skill course

| | | |
|----------|--------------------------|---|
| GER 2013 | Intermediate German I | 3 |
| GER 2023 | Intermediate German II | 3 |
| GER 3023 | Advanced Language Skills | 3 |

B. Additional German or German-related courses, including CSH and FL

| | |
|-------------------------------------------------------------------------------------------------------------------------------------------------|---|
| Select 9 semester credit hours, 6 of which must be at the upper-division level, chosen in consultation with the advisor for the Minor in German | 9 |
|-------------------------------------------------------------------------------------------------------------------------------------------------|---|

| | |
|---------------------------|-----------|
| Total Credit Hours | 18 |
|---------------------------|-----------|

Minor in Linguistics

The Minor in Linguistics offers an enhanced awareness of the components, functions, and interfaces of human language. It prepares

students for careers and advanced study for which such awareness is essential through coursework aligned with a student's own professional goals and intellectual interests.

All students pursuing the Minor in Linguistics must complete 18 semester credit hours, at least 9 of which must be drawn from outside the major.

A. Minor courses

| | | |
|-------------|-----------------------------------|---|
| ENG 3343 | Principles of English Linguistics | 3 |
| or LNG 3813 | Introduction to Linguistics | |

B. Linguistics of a particular language

Select one of the following: 3

| | | |
|----------|------------------------------------------|--|
| ENG 3323 | History of the English Language | |
| ENG 3333 | Introduction to the Structure of English | |
| SPN 3013 | Spanish Phonetics and Phonology | |
| SPN 3113 | Linguistic Structures of Spanish | |
| SPN 4113 | Topics in Spanish Linguistics | |
| SPN 4123 | The Spanish of the United States | |

C. Additional courses

Select two of the following in psycholinguistics, anthropological linguistics, sociolinguistics, or historical linguistics: 6

| | | |
|----------|----------------------------------------------|--|
| ANT 2053 | Introduction to Cultural Anthropology | |
| BBL 3013 | Language Analysis and Bilingualism | |
| BBL 3133 | Language Development in Bilinguals | |
| BBL 3403 | Cultural and Linguistic Equity for Schooling | |
| LNG 3833 | Sociolinguistics | |
| LNG 3873 | Forensic Linguistics | |
| LNG 4013 | Topics in Linguistics | |

D. Two additional courses chosen in consultation with an advisor

Select two courses in one or more of the following approved areas: anthropology, bicultural-bilingual studies, English, foreign languages, and linguistics 6

Total Credit Hours 18

Minor in Russian

All students pursuing the Minor in Russian must complete 18 semester credit hours at the 2000 level and above.

A. Required Language skill courses

| | | |
|----------|-------------------------|---|
| RUS 2013 | Intermediate Russian I | 3 |
| RUS 2023 | Intermediate Russian II | 3 |

B. Additional Russian or Russian-related courses, including CSH and FL

Select 12 additional semester credit hours, 9 hours must be at the upper-division level 12

Total Credit Hours 18

Minor in Spanish

All students pursuing the Minor in Spanish must complete 18 semester credit hours.

A. Required courses

| | | |
|----------|----------------------------|---|
| SPN 3043 | Introduction to Literature | 3 |
| SPN 3063 | Grammar and Composition | 3 |

B. Upper-division Spanish courses

Select 12 semester credit hours of other upper-division Spanish courses chosen in consultation with the advisor 12

Total Credit Hours 18

Minor in Translation and Interpreting Studies

The minor in Translation and Interpreting Studies (TIS) is intended for students with an interest in translation and interpreting between English and Spanish. The minor provides students with an opportunity to develop awareness of both the theory and the practice of language mediation in various settings, including healthcare and legal settings. The minor will provide a coherent program of study for students with intermediate-high to advanced proficiency in Spanish who are attracted to learning how to leverage their language skills in professional settings, and it will be of special interest to students interested in working in the fields of education, medicine, social work, criminal justice, and law. Coursework in the minor is supported and enhanced by existing coursework in advanced-level Spanish language as well as linguistics.

All students pursuing the Minor in Translation and Interpreting Studies must complete 18 semester credit hours.

A. Spanish courses

Select two from the following: 6

| | | |
|----------|--------------------------------------|--|
| SPN 3003 | Oral and Written Expression | |
| SPN 3033 | Oral Communication Skills | |
| SPN 3053 | Spanish for Healthcare Professionals | |
| SPN 3063 | Grammar and Composition | |
| SPN 4003 | Advanced Language Skills | |

B. Translation and Interpreting Studies courses

Select three from the following: 9

| | | |
|----------|----------------------------------------------------------|--|
| TIS 3003 | Introduction to Translation and Interpreting | |
| TIS 3013 | Translation and Interpreting for the Language Specialist | |
| TIS 3023 | Interpreting in Legal Settings | |
| TIS 3033 | Interpreting in Medical Settings | |
| TIS 3043 | Advanced Practice in Healthcare Interpreting | |
| TIS 4013 | Topics in Translation and Interpreting Studies | |

C. Linguistics courses

Select one from the following: 3

| | | |
|----------|----------------------------------|--|
| LNG 3813 | Introduction to Linguistics | |
| LNG 3873 | Forensic Linguistics | |
| SPN 3113 | Linguistic Structures of Spanish | |
| SPN 4113 | Topics in Spanish Linguistics | |
| SPN 4123 | The Spanish of the United States | |

Total Credit Hours 18

Certificate in Healthcare Interpreting

The Certificate in Healthcare Interpreting designed to leverage the bilingual skills of Spanish- and English-speaking students who are pursuing undergraduate degrees in the biological sciences, social work, Medical Humanities, public health, or other health professions. The Certificate focuses specifically on basic concepts in translation and interpreting studies, Spanish-language training for healthcare contexts, and the theory and practice of medical interpreting. It will constitute a value-added, formal recognition of students' abilities to function

accurately, compassionately and effectively in professional clinical environments in both Spanish and English.

All students pursuing the Certificate in Healthcare Interpreting (Spanish/English) must complete 15 credit hours of 3000-level of coursework in SPN (Spanish for the Professions) and TIS (Translation and Interpreting Studies).

| | | |
|------------------------------------------------------------------------------------|----------------------------------------------------------|----------|
| A. Spanish for the Professions (SPN) required courses | | 3 |
| SPN 3053 | Spanish for Healthcare Professionals | |
| B. Translation and Interpreting Studies (TIS) required introductory courses | | 6 |
| TIS 3003 | Introduction to Translation and Interpreting | |
| TIS 3013 | Translation and Interpreting for the Language Specialist | |
| C. Translation and Interpreting (TIS) required healthcare courses | | 6 |
| TIS 3033 | Interpreting in Medical Settings | |
| TIS 3043 | Advanced Practice in Healthcare Interpreting | |
| Total Credit Hours | | 15 |

Department of Music

The Department of Music offers the Bachelor of Music degree and the Bachelor of Arts in Music degree. Within the Bachelor of Music degree, students may select a concentration in Music Education (with all-level teacher certification) or an emphasis in either music performance, composition, or music marketing. The department also offers minors in Dance, Music, Jazz Studies, Music Marketing, and Music Technology. The Department of Music is currently accredited by the National Association of Schools of Music.

Admission to the Department of Music

In order to declare music as a major, students must successfully audition for UTSA music faculty on their principal instrument. Ideally, that audition should take place prior to the student's first semester at UTSA. If that does not occur, students must audition within two semesters of starting at UTSA. Students may audition to be a music major a maximum of three times. Information on auditions can be found at <http://music.utsa.edu/index.php/prospective-students/audition-process> (<http://music.utsa.edu/index.php/prospective-students/audition-process/>).

Once admitted, music majors are expected to make consistent, satisfactory progress toward their degree. A student who fails to meet this expectation will meet with a program area advisor and may be required to change his or her major to a field outside the Department of Music.

If a student is not enrolled in Private Instruction for two consecutive long semesters (Fall and Spring), the student must re-audition for admission as a UTSA music major.

Transfer students who have completed four semesters of music theory, ear training, and class piano at another institution must complete any necessary review/proficiency requirements and be eligible for all upper-level music courses within two years of entering the UTSA Department of Music and declaring the music major. A transfer student who fails to meet this expectation will be required to change his or her major to a field outside the Department of Music.

COLFA Signature Experience

The Department of Music supports the COLFA Signature Experience through the following capstone experiences:

Music Education: Student Teaching (CI 4716 Clinical Teaching: All Level EC-12). The student applies knowledge from his or her undergraduate music and education training and leads music learning in the public school music classroom under the supervision and guidance of a cooperating music teacher and a university supervisor.

Music Performance: Senior Recital (MUS 4561). The student performs a one-hour recital under the guidance and supervision of his or her music professor. This performance is adjudicated by a panel of a minimum of three music faculty and includes representative solo and chamber works from a broad repertoire.

Composition: Senior Recital (MUS 4561). The student organizes a recital of his or her own compositions. Under the guidance and supervision of a music professor, works are presented in a variety of musical genres and are adjudicated by the composition faculty.

Music Marketing: Music Marketing Internship (MUS 4933). The student coordinates and establishes his or her own internship in a professional

setting. Under the guidance and supervision of a music business leader and university professor, the student applies knowledge and skills from their university coursework.

- Bachelor of Music degree (p. 205)
 - Music Education Concentration (p. 205)
 - Composition Emphasis (p. 209)
 - Music Performance Emphasis (p. 211)
 - Music Marketing Emphasis (p. 217)
- B.A. degree in Music (p. 218)

Bachelor of Music Degree

The minimum number of semester credit hours required for the Bachelor of Music (B.M.) degree is 133 in the Music Education concentration, 130 in the Composition emphasis, 130 in the Music Performance emphasis, and 130 in the Music Marketing emphasis.

All candidates for this degree must fulfill the Core Curriculum requirements (42 semester credit hours), the Music Core requirements (31 semester credit hours), and the course requirements for the chosen concentration or emphasis (60 semester credit hours for Music Education and 57 credit hours for Composition, Music Performance, and Music Marketing).

All Bachelor of Music students must complete the Concert Attendance requirement. That requirement is fulfilled by earning credit for 7 semesters of MUS 2000: Music Convocation. See the Department of Music Student Handbook for details.

All candidates seeking this degree must fulfill the Core Curriculum requirements and the degree requirements, which are listed below.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the Bachelor of Music degree must fulfill University Core Curriculum requirements in the same manner as other students.

All students should select MUS 2243 to satisfy the core requirement in Creative Arts, as well as a Music Core requirement.

Students in the Music Marketing emphasis should select ECO 2003 to satisfy the core requirement in Social and Behavioral Sciences.

Students in the Music Performance emphasis whose principal instrument is voice should select two of the following courses to satisfy the core requirements in Language, Philosophy and Culture and in Component Area Option: FRN 1014, GER 1014, or ITL 1014

Core Curriculum Component Area Requirements (p. 7)

| | |
|-----------------------------------|-----------|
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |
| Life and Physical Sciences | 6 |
| Language, Philosophy and Culture | 3 |
| Creative Arts | 3 |
| American History | 6 |
| Government-Political Science | 6 |
| Social and Behavioral Sciences | 3 |
| Component Area Option | 3 |
| Total Credit Hours | 42 |

Gateway Courses

Students pursuing the Bachelor of Music degree must successfully complete the following Gateway Courses with a grade of "D-" or better in no more than two attempts. A student who is unable to successfully complete these courses within two attempts, including dropping a course with a grade of "W" or taking an equivalent course at another institution, will be required to change his or her major to a field outside the Department of Music.

| | |
|----------|-------------------------|
| MUS 1102 | Aural Skills I |
| MUS 1112 | Basic Skills of Music I |

Music Core Requirements

All candidates for the Bachelor of Music degree, regardless of concentration or emphasis, must complete the following 31 semester credit hours of required music courses.

| | | |
|---------------------------|-------------------------------------|-----------|
| MUS 1102 | Aural Skills I | 2 |
| MUS 1112 | Basic Skills of Music I | 2 |
| MUS 1122 | Aural Skills II | 2 |
| MUS 1132 | Basic Skills of Music II | 2 |
| MUS 1521 | Class Piano 1 ¹ | 1 |
| MUS 1621 | Class Piano 2 ¹ | 1 |
| MUS 2102 | Aural Skills III | 2 |
| MUS 2112 | Aural Skills IV | 2 |
| MUS 2152 | Basic Skills of Music III | 2 |
| MUS 2162 | Basic Skills of Music IV | 2 |
| MUS 2243 | World Music in Society ² | 3 |
| MUS 2402 | Conducting I | 2 |
| MUS 2421 | Class Piano 3 ¹ | 1 |
| MUS 2521 | Class Piano 4 ¹ | 1 |
| MUS 3213 | Music in Civilization I | 3 |
| MUS 3223 | Music in Civilization II | 3 |
| MUS 3413 | Psychology of Music | 3 |
| Total Credit Hours | | 31 |

1

Keyboard principals must replace Class Piano 1-4 with MUS 1552 Functional Piano for Keyboard Principals and 2 credits of MUS 1511 Secondary Private Instruction. Non-keyboard principals who test out of 1-4 semesters of Class Piano must replace those credits with an equivalent number of credits from MUS 1511 Secondary Private Instruction.

2

MUS 2243 World Music in Society should also be used to satisfy the Core Curriculum requirement in Creative Arts. The credit hours will count in that category of the degree.

Music Education Concentration (with all-level teacher certification)

All candidates for the Music Education concentration must fulfill the Music Core Requirements as outlined above (31 semester credit hours), as well as the following course requirements necessary for this concentration (60 semester credit hours).

The principal instrument for those whose student teaching will be in band must be a woodwind, brass, or percussion instrument (timpani, mallet instruments, multi-percussion, but not drum set).

The principal instrument for those whose student teaching will be in string classes or orchestra must be violin, viola, cello, string bass (not electric bass), classical guitar, or piano.

The principal instrument for those whose student teaching will be in choral or elementary general music must be voice, classical guitar, or piano.

A. Principal Instrument Private Lessons 12

| | |
|----------|--------------------------------------------------------------|
| MUS 1512 | Private Instruction |
| MUS 1542 | Private Instruction |
| MUS 2542 | Private Instruction (repeated for a total of 4 credit hours) |
| MUS 3532 | Private Instruction (repeated for a total of 4 credit hours) |

All students must perform and successfully pass a 30-minute recital during their last semester of enrollment in MUS 3532 Private Instruction.

B. Performance Ensembles 6

As a special degree requirement, all students in the Music Education concentration are required to enroll in an assigned ensemble every semester except the semester of CI 4716 Clinical Teaching: All Level EC–12. Wind and percussion students are also required to enroll in MUS 3801 UTSA Athletic Band during their first two Fall semesters. Guitar and keyboard students must also enroll in at least two semesters of MUS 4581 Chamber Music.

1. Students pursuing the All-Level Instrumental track

| | |
|--------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
| MUS 3831 | Principal Ensemble |
| String principals must enroll in UTSA Orchestra. | |
| Wind and percussion principals must enroll in Wind Ensemble, Symphonic Band, or University Band (as assigned by audition). | |
| Guitar and keyboard principals must enroll in UTSA Orchestra, Wind Ensemble, Symphonic Band, or University Band (as assigned by audition). | |

2. Students pursuing the All-Level Choral Track

| | |
|----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
| MUS 3831 | Principal Ensemble |
| Voice, guitar, and keyboard principals must enroll in Chamber Singers, Concert Choir, Women’s Choir, or Men’s Glee Club (as assigned by audition). | |

C. Concert Attendance 0

| | |
|----------|----------------------------------------------|
| MUS 2000 | Music Convocation (repeated for 7 semesters) |
|----------|----------------------------------------------|

D. Music Education Requirements 18

1. Students pursuing the All-Level Instrumental track

| | |
|----------|----------------------------------------------------------------------------------------------------|
| MUS 1511 | Secondary Private Instruction (two semesters) ¹ or MUS 4452 Marching Band Techniques |
| MUS 3153 | Conducting II (Instrumental) |
| MUS 3232 | Wind and Percussion Literature ² or MUS 3242 String Literature |
| MUS 3311 | Music Technology for Music Educators |
| MUS 3401 | Brass Instruments |
| MUS 3421 | Vocal Techniques for Instrumental Majors |
| MUS 3431 | Woodwind Instruments |
| MUS 3453 | Teaching Elementary Music |

| | |
|-------------------------------------------------|------------------------------------------|
| MUS 3471 | String Instruments |
| MUS 3481 | Percussion Instruments |
| MUS 4532 | Music Pedagogy ² |
| 2. Students pursuing the All-Level Choral track | |
| MUS 2601 | Diction Survey |
| MUS 3153 | Conducting II (Choral) |
| MUS 3272 | Choral Literature |
| MUS 3311 | Music Technology for Music Educators |
| MUS 3372 | Choral Arranging ³ |
| MUS 3453 | Teaching Elementary Music |
| MUS 3463 | Teaching Secondary Vocal Music |
| MUS 3491 | Instrumental Techniques for Voice Majors |
| MUS 4531 | Vocal Pedagogy I |
| MUS 4541 | Vocal Pedagogy II |

E. Professional Education Requirements 24

| | |
|-----------|-----------------------------------------------------------------------|
| IDS 2013 | Introduction to Learning and Teaching in a Culturally Diverse Society |
| EDU 2103 | Social Foundations for Education in a Diverse U.S. Society |
| EDP 3203 | Learning and Development in the Secondary School Adolescent |
| CI 4213 | Approaches to Teaching Music ⁴ |
| CI 4263 | Models of Teaching in the Content Areas of the Secondary School-Music |
| CI 4716 | Clinical Teaching: All Level EC–12 |
| LTED 3773 | Reading and Writing Across the Disciplines-Grades 7–12 |

F. In order to continue in the Music Education concentration at the upper-level, students must successfully complete a pre-certification interview with members of the Music Education Committee.

G. Students pursuing the Music Education concentration must successfully complete competency tests to receive certification as specified by the Texas State Board for Educator Certification.

Total Credit Hours 60

1

String principals should enroll in two semesters of MUS 1511 Secondary Private Instruction (one semester of an upper-string instrument and one semester of a lower-string instrument, neither of which is the same as the principal instrument). Guitar and keyboard principals must also enroll in two semesters of MUS 1511 Secondary Private Instruction, both on a single secondary instrument (within strings, winds, or percussion). Wind and percussion principals are required to enroll in MUS 4452 Marching Band Techniques.

2

Guitar and keyboard principals should select the literature and pedagogy courses that correspond with their desired public school teaching position.

3

Guitar principals should substitute two semesters of MUS 1511 Secondary Private Instruction (voice).

4

With music advisor approval, string, wind, and percussion students who are interested in teaching elementary general music may take CI 4213 Approaches to Teaching Music (choral) instead of CI 4213 Approaches to Teaching Music (instrumental). These students will complete half of their student teaching in an elementary general music placement and half in a middle school band/orchestra placement.

Course Sequence Guide for B.M. with a Music Education Concentration

This course sequence guide is designed to assist students in completing their UTSA undergraduate degree requirements. *This is merely a guide and students must satisfy other requirements of this catalog and meet with advisors in the Department of Music and their academic advisor for individualized degree plans.* Progress within this guide depends upon such factors as course availability, individual student academic preparation, student time management, work obligations, and individual financial considerations. Students may choose to take courses during Summer terms to reduce course loads during long semesters.

Bachelor of Music in Music Education (Instrumental) – Five-Year Academic Plan

First Year

| | | Credit Hours |
|-------------|-----------------------------------------------------------------------------------|--------------|
| Fall | | |
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| MUS 1102 | Aural Skills I | 2 |
| MUS 1112 | Basic Skills of Music I | 2 |
| MUS 1512 | Private Instruction | 2 |
| MUS 1521 | Class Piano 1 ¹ | 1 |
| MUS 2000 | Music Convocation | 0 |
| MUS 3831 | Principal Ensemble | 1 |
| MUS 3801 | UTSA Athletic Band (only required of wind and percussion principals) ² | 1 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| | | 14 |

Spring

| | | |
|-----------------------------|-----------------------------------------------------------------------|----|
| IDS 2013 | Introduction to Learning and Teaching in a Culturally Diverse Society | 3 |
| MUS 1122 | Aural Skills II | 2 |
| MUS 1132 | Basic Skills of Music II | 2 |
| MUS 1542 | Private Instruction | 2 |
| MUS 1621 | Class Piano 2 ¹ | 1 |
| MUS 2000 | Music Convocation | 0 |
| MUS 3831 | Principal Ensemble | 1 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| University core math course | | 3 |
| | | 17 |

Summer

| | | |
|------------------------|--|---|
| University core course | | 3 |
| University core course | | 3 |
| | | 6 |

Second Year

| | | |
|-------------|-------------------|---|
| Fall | | |
| MUS 2000 | Music Convocation | 0 |

| | | |
|------------------------|-----------------------------------------------------------------------------------|----|
| MUS 2102 | Aural Skills III | 2 |
| MUS 2152 | Basic Skills of Music III | 2 |
| MUS 2421 | Class Piano 3 | 1 |
| MUS 2542 | Private Instruction | 2 |
| MUS 3431 | Woodwind Instruments | 1 |
| MUS 3453 | Teaching Elementary Music | 3 |
| MUS 3831 | Principal Ensemble | 1 |
| MUS 3801 | UTSA Athletic Band (only required of wind and percussion principals) ² | 1 |
| University core course | | 3 |
| | | 15 |

Spring

| | | |
|----------|------------------------------------------------------------|----|
| EDU 2103 | Social Foundations for Education in a Diverse U.S. Society | 3 |
| MUS 1511 | Secondary Private Instruction ³ | 1 |
| MUS 2000 | Music Convocation | 0 |
| MUS 2112 | Aural Skills IV | 2 |
| MUS 2162 | Basic Skills of Music IV | 2 |
| MUS 2243 | World Music in Society (core and major) | 3 |
| MUS 2521 | Class Piano 4 | 1 |
| MUS 2542 | Private Instruction | 2 |
| MUS 3471 | String Instruments | 1 |
| MUS 3831 | Principal Ensemble | 1 |
| | | 15 |

Summer

| | | |
|------------------------|--|---|
| University core course | | 3 |
| | | 3 |

Third Year

Fall

| | | |
|------------------------|-------------------------------------------------------------|----|
| EDP 3203 | Learning and Development in the Secondary School Adolescent | 3 |
| MUS 2000 | Music Convocation | 0 |
| MUS 2402 | Conducting I | 2 |
| MUS 2542 | Private Instruction ⁵ | 2 |
| MUS 3481 | Percussion Instruments | 1 |
| MUS 3831 | Principal Ensemble | 1 |
| MUS 4452 | Marching Band Techniques ⁴ | 2 |
| University core course | | 3 |
| | | 12 |

Spring

| | | |
|------------------------|-----------------------------------------------------|----|
| MUS 2000 | Music Convocation | 0 |
| MUS 3153 | Conducting II | 3 |
| MUS 3232 | Wind and Percussion Literature or String Literature | 2 |
| MUS 3401 | Brass Instruments | 1 |
| MUS 3421 | Vocal Techniques for Instrumental Majors | 1 |
| MUS 3532 | Private Instruction | 2 |
| MUS 3831 | Principal Ensemble | 1 |
| University core course | | 3 |
| | | 13 |

Summer

| | |
|------------------------|----------|
| University core course | 3 |
| University core course | 3 |
| University core course | 3 |
| Credit Hours | 9 |

Fourth Year

| | | |
|---------------------|--------------------------------------------|-----------|
| Fall | | |
| CI 4213 | Approaches to Teaching Music | 3 |
| MUS 1511 | Secondary Private Instruction ³ | 1 |
| MUS 2000 | Music Convocation | 0 |
| MUS 3223 | Music in Civilization II | 3 |
| MUS 3413 | Psychology of Music | 3 |
| MUS 3532 | Private Instruction | 2 |
| MUS 3831 | Principal Ensemble | 1 |
| MUS 4532 | Music Pedagogy | 2 |
| Credit Hours | | 13 |

Spring

| | | |
|---------------------|-----------------------------------------------------------------------|-----------|
| CI 4263 | Models of Teaching in the Content Areas of the Secondary School-Music | 3 |
| LTED 3773 | Reading and Writing Across the Disciplines-Grades 7–12 | 3 |
| MUS 3213 | Music in Civilization I | 3 |
| MUS 3311 | Music Technology for Music Educators | 1 |
| MUS 3532 | Private Instruction ⁵ | 2 |
| MUS 3831 | Principal Ensemble | 1 |
| Credit Hours | | 10 |

Fifth Year

| | | |
|---------------------------|------------------------------------|------------|
| Fall | | |
| CI 4716 | Clinical Teaching: All Level EC–12 | 6 |
| Credit Hours | | 6 |
| Total Credit Hours | | 133 |

1

Keyboard principals must replace Class Piano 1-4 with MUS 1552 Functional Piano for Keyboard Principals and 2 credits of MUS 1511 Secondary Private Instruction. Non-keyboard principals who test out of 1-4 semesters of Class Piano must replace those credits with an equivalent number of credits of MUS 1511 Secondary Private Instruction.

2

Special degree requirement. Not counted in total degree hours.

3

Only required of string, guitar, and keyboard principals.

4

Only required of wind and percussion principals.

5

Permitted additional semester of private instruction. Optional for students and not included in total degree hours.

Bachelor of Music in Music Education (Choral) – Five-Year Academic Plan

First Year

| | | |
|---------------------|-----------------------------------------|-----------|
| Fall | | |
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| MUS 1102 | Aural Skills I | 2 |
| MUS 1112 | Basic Skills of Music I | 2 |
| MUS 1512 | Private Instruction | 2 |
| MUS 1521 | Class Piano 1 ¹ | 1 |
| MUS 2000 | Music Convocation | 0 |
| MUS 2601 | Diction Survey | 1 |
| MUS 3831 | Principal Ensemble | 1 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|---------------------|-----------------------------------------------------------------------|-----------|
| IDS 2013 | Introduction to Learning and Teaching in a Culturally Diverse Society | 3 |
| MUS 1122 | Aural Skills II | 2 |
| MUS 1132 | Basic Skills of Music II | 2 |
| MUS 1542 | Private Instruction | 2 |
| MUS 1621 | Class Piano 2 ¹ | 1 |
| MUS 2000 | Music Convocation | 0 |
| MUS 3831 | Principal Ensemble | 1 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| Credit Hours | | 14 |

Summer

| | |
|------------------------|----------|
| University core course | 3 |
| University core course | 3 |
| Credit Hours | 6 |

Second Year

| | | |
|------------------------|------------------------------------------------------------|-----------|
| Fall | | |
| EDU 2103 | Social Foundations for Education in a Diverse U.S. Society | 3 |
| MUS 2000 | Music Convocation | 0 |
| MUS 2102 | Aural Skills III | 2 |
| MUS 2152 | Basic Skills of Music III | 2 |
| MUS 2421 | Class Piano 3 ¹ | 1 |
| MUS 2542 | Private Instruction | 2 |
| MUS 3831 | Principal Ensemble | 1 |
| University core course | 3 | |
| Credit Hours | | 14 |

Spring

| | | |
|----------|-----------------------------------------|---|
| MUS 2000 | Music Convocation | 0 |
| MUS 2112 | Aural Skills IV | 2 |
| MUS 2162 | Basic Skills of Music IV | 2 |
| MUS 2243 | World Music in Society (core and major) | 3 |
| MUS 2402 | Conducting I | 2 |
| MUS 2521 | Class Piano 4 ¹ | 1 |
| MUS 2542 | Private Instruction | 2 |
| MUS 3831 | Principal Ensemble | 1 |

| | | |
|------------------------|-----------------------------------------------------------------------|----|
| University core course | | 3 |
| Credit Hours | | 16 |
| Summer | | |
| University core course | | 3 |
| University core course | | 3 |
| Credit Hours | | 6 |
| Third Year | | |
| Fall | | |
| EDP 3203 | Learning and Development in the Secondary School Adolescent | 3 |
| MUS 2000 | Music Convocation | 0 |
| MUS 2542 | Private Instruction ⁴ | 2 |
| MUS 3272 | Choral Literature | 2 |
| MUS 3453 | Teaching Elementary Music | 3 |
| MUS 3831 | Principal Ensemble | 1 |
| University core course | | 3 |
| Credit Hours | | 12 |
| Spring | | |
| MUS 2000 | Music Convocation | 0 |
| MUS 3153 | Conducting II | 3 |
| MUS 3413 | Psychology of Music | 3 |
| MUS 3463 | Teaching Secondary Vocal Music | 3 |
| MUS 3491 | Instrumental Techniques for Voice Majors | 1 |
| MUS 3532 | Private Instruction | 2 |
| MUS 3831 | Principal Ensemble | 1 |
| University core course | | 3 |
| Credit Hours | | 16 |
| Summer | | |
| University core course | | 3 |
| University core course | | 3 |
| Credit Hours | | 6 |
| Fourth Year | | |
| Fall | | |
| CI 4213 | Approaches to Teaching Music | 3 |
| MUS 2000 | Music Convocation | 0 |
| MUS 3213 | Music in Civilization I | 3 |
| MUS 3372 | Choral Arranging ³ | 2 |
| MUS 3831 | Principal Ensemble ² | 1 |
| MUS 3532 | Private Instruction | 2 |
| MUS 4531 | Vocal Pedagogy I | 1 |
| LTED 3773 | Reading and Writing Across the Disciplines-Grades 7–12 | 3 |
| Credit Hours | | 14 |
| Spring | | |
| CI 4263 | Models of Teaching in the Content Areas of the Secondary School-Music | 3 |
| MUS 3223 | Music in Civilization II | 3 |
| MUS 3311 | Music Technology for Music Educators | 1 |
| MUS 3831 | Principal Ensemble ² | 1 |
| MUS 4541 | Vocal Pedagogy II | 1 |

| | | |
|--------------|----------------------------------|---|
| MUS 3532 | Private Instruction ⁴ | 2 |
| Credit Hours | | 8 |

Fifth Year**Fall**

| | | |
|--------------|------------------------------------|---|
| CI 4716 | Clinical Teaching: All Level EC–12 | 6 |
| Credit Hours | | 6 |

| | |
|--------------------|-----|
| Total Credit Hours | 133 |
|--------------------|-----|

¹

Keyboard principals must replace Class Piano 1-4 with MUS 1552 Functional Piano for Keyboard Principals and 2 credits of MUS 1511 Secondary Private Instruction. Non-keyboard principals who test out of 1-4 semesters of Class Piano must replace those credits with an equivalent number of credits of MUS 1511 Secondary Private Instruction.

²

Special degree requirement. Not counted in total degree hours.

³

Guitar principals should substitute two semesters of MUS 1511 Secondary Private Instruction (voice).

⁴

Permitted additional semester of private instruction. Optional for students and not included in total degree hours.

Composition Emphasis

All candidates for the Composition emphasis must fulfill the Music Core Requirements (31 semester credit hours), as well as the following course requirements for this emphasis (57 semester credit hours).

Students are accepted to the Composition emphasis by audition at the end of the first year of study. For this audition, students will submit a portfolio of works composed while enrolled in MUS 1141 Beginning Composition.

A. Principal Instrument Private Lessons 12

| | |
|----------|--------------------------------------------------------------|
| MUS 1512 | Private Instruction |
| MUS 1542 | Private Instruction |
| MUS 2542 | Private Instruction (repeated for a total of 4 credit hours) |
| MUS 3532 | Private Instruction (repeated for a total of 4 credit hours) |

All students must pass an extended jury at the end of their last semester of enrollment in MUS 3532 Private Instruction.

B. Performance Ensembles 8

As a special degree requirement, students pursuing the Composition emphasis are required to enroll in an ensemble every semester except the semester of the Senior Recital.

MUS 3831 Principal Ensemble (repeated for 6 semesters)

String principals must enroll in UTSA Orchestra.

Wind and percussion principals must enroll in Wind Ensemble, Symphonic Band, or University Band (as assigned by audition).

Voice, guitar, and keyboard principals must enroll in Chamber Singers, Concert Choir, Women's Choir, or Men's Glee club (as assigned by audition).

MUS 4581 Chamber Music (New Music Lab; repeated for a total of 2 semesters)

C. Concert Attendance 0

| | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|-----------|
| MUS 2000 | Music Convocation (repeated for 7 semesters) | |
| D. Composition Lessons and Recital | | 12 |
| MUS 1141 | Beginning Composition | |
| MUS 2141 | Composition II (repeated for a total of 2 credit hours) | |
| MUS 3162 | Composition III (repeated for a total of 4 credit hours) | |
| MUS 4142 | Composition IV (repeated for a total of 4 credit hours) | |
| MUS 4561 | Senior Recital | |
| E. Upper-level Music Theory, History, and Technology | | 15 |
| Select 15 semester credit hours from the following: | | |
| MUS 3013 | Digital Music Production | |
| MUS 3123 | Introduction to Electronic and Computer Music | |
| MUS 3133 | Analysis of Twentieth-Century Music | |
| MUS 3143 | Orchestration | |
| MUS 3263 | Music Since 1900 | |
| MUS 4113 | Counterpoint | |
| MUS 4163 | Topics in Music Theory | |
| F. Music Industry | | 3 |
| MUS 2263 | Introduction to the Music Industry | |
| G. Electives | | 7 |
| 7 semester credit hours of electives. Students intending to pursue graduate studies in Composition or Theory are strongly encouraged to take at least two semesters of a foreign language as electives; preferred languages are German, French, or Italian. | | |
| Total Credit Hours | | 57 |

Course Sequence Guide for B.M. with a Composition Emphasis

This course sequence guide is designed to assist students in completing their UTSA undergraduate degree requirements. *This is merely a guide and students must satisfy other requirements of this catalog and meet with advisors in the Department of Music and their academic advisor for individualized degree plans.* Progress within this guide depends upon such factors as course availability, individual student academic preparation, student time management, work obligations, and individual financial considerations. Students may choose to take courses during Summer terms to reduce course loads during long semesters.

Bachelor of Music in Composition – Four-Year Academic Plan

First Year

| Fall | | Credit Hours |
|--------------|-----------------------------------------|--------------|
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| MUS 1102 | Aural Skills I | 2 |
| MUS 1112 | Basic Skills of Music I | 2 |
| MUS 1512 | Private Instruction | 2 |
| MUS 1521 | Class Piano 1 ¹ | 1 |
| MUS 2000 | Music Convocation | 0 |
| MUS 3831 | Principal Ensemble | 1 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| Credit Hours | | 14 |

Spring

| | | |
|----------|-----------------|---|
| MUS 1122 | Aural Skills II | 2 |
|----------|-----------------|---|

| | | |
|-----------------------------|--------------------------------|----|
| MUS 1132 | Basic Skills of Music II | 2 |
| MUS 1141 | Beginning Composition | 1 |
| MUS 1542 | Private Instruction | 2 |
| MUS 1621 | Class Piano 2 ¹ | 1 |
| MUS 2000 | Music Convocation | 0 |
| MUS 3831 | Principal Ensemble | 1 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| University core math course | | 3 |
| Credit Hours | | 15 |

Summer

| | | |
|------------------------|--|---|
| University core course | | 3 |
| Credit Hours | | 3 |

Second Year

Fall

| | | |
|------------------------|----------------------------|----|
| MUS 2000 | Music Convocation | 0 |
| MUS 2102 | Aural Skills III | 2 |
| MUS 2141 | Composition II | 1 |
| MUS 2152 | Basic Skills of Music III | 2 |
| MUS 2402 | Conducting I | 2 |
| MUS 2421 | Class Piano 3 ¹ | 1 |
| MUS 2542 | Private Instruction | 2 |
| MUS 3831 | Principal Ensemble | 1 |
| University core course | | 3 |
| Credit Hours | | 14 |

Spring

| | | |
|------------------------|-----------------------------------------|----|
| MUS 2000 | Music Convocation | 0 |
| MUS 2112 | Aural Skills IV | 2 |
| MUS 2141 | Composition II | 1 |
| MUS 2162 | Basic Skills of Music IV | 2 |
| MUS 2243 | World Music in Society (core and major) | 3 |
| MUS 2521 | Class Piano 4 ¹ | 1 |
| MUS 2542 | Private Instruction | 2 |
| MUS 3831 | Principal Ensemble | 1 |
| University core course | | 3 |
| Credit Hours | | 15 |

Summer

| | | |
|------------------------|--|---|
| University core course | | 3 |
| Credit Hours | | 3 |

Third Year

Fall

| | | |
|-------------------------------------------------------|--------------------------------------------------------|----|
| MUS 2000 | Music Convocation | 0 |
| MUS 2263 | Introduction to the Music Industry | 3 |
| MUS 2542 | Private Instruction ² | 2 |
| MUS 3162 | Composition III | 2 |
| MUS 3213 or MUS 3223 | Music in Civilization I or Music in Civilization II | 3 |
| MUS 3831 | Principal Ensemble | 1 |
| Upper-division music theory/history/technology course | | 3 |
| Elective | | 1 |
| University core course | | 3 |
| Credit Hours | | 16 |

Spring

| | | |
|-------------------------------------------------------|--------------------------------------------------------|----|
| MUS 2000 | Music Convocation | 0 |
| MUS 3162 | Composition III | 2 |
| MUS 3223 or MUS 3213 | Music in Civilization II or Music in Civilization I | 3 |
| MUS 3532 | Private Instruction | 2 |
| MUS 3831 | Principal Ensemble | 1 |
| MUS 4581 | Chamber Music | 1 |
| Upper-division music theory/history/technology course | | 3 |
| University core course | | 3 |
| Credit Hours | | 15 |

Summer

| | | |
|------------------------|--|---|
| University core course | | 3 |
| Credit Hours | | 3 |

Fourth Year**Fall**

| | | |
|-------------------------------------------------------|---------------------|----|
| MUS 2000 | Music Convocation | 0 |
| MUS 3413 | Psychology of Music | 3 |
| MUS 3532 | Private Instruction | 2 |
| MUS 4142 | Composition IV | 2 |
| MUS 4581 | Chamber Music | 1 |
| Elective | | 3 |
| Upper-division music theory/history/technology course | | 3 |
| University core course | | 3 |
| Credit Hours | | 17 |

Spring

| | | |
|-------------------------------------------------------|----------------------------------|-----|
| MUS 3532 | Private Instruction ² | 2 |
| MUS 4142 | Composition IV | 2 |
| MUS 4561 | Senior Recital | 1 |
| Elective | | 3 |
| Upper-division music theory/history/technology course | | 3 |
| Upper-division music theory/history/technology course | | 3 |
| University core course | | 3 |
| Credit Hours | | 15 |
| Total Credit Hours | | 130 |

1

Keyboard principals must replace Class Piano 1-4 with MUS 1552 Functional Piano for Keyboard Principals and 2 credits of MUS 1511 Secondary Private Instruction. Non-keyboard principals who test out of 1-4 semesters of Class Piano must replace those credits with an equivalent number of credits of MUS 1511 Secondary Private Instruction.

2

Permitted additional semester of private instruction. Optional for students and not included in total degree hours.

Music Performance Emphasis

All candidates for the Music Performance emphasis must fulfill the Music Core Requirements (31 semester credit hours), as well as the following course requirements for this emphasis (57 semester credit hours).

A. Principal Instrument Private Lessons and Recital 21

| | | |
|----------|---------------------|--|
| MUS 1512 | Private Instruction | |
| MUS 1542 | Private Instruction | |

| | | |
|----------|--------------------------------------------------------------|--|
| MUS 2542 | Private Instruction (repeated for a total of 4 credit hours) | |
| MUS 3543 | Private Instruction (repeated for a total of 6 credit hours) | |
| MUS 4543 | Private Instruction (repeated for a total of 6 credit hours) | |
| MUS 4561 | Senior Recital | |

All students must perform and successfully pass a 30-minute qualifying recital prior to being admitted into the Music Performance emphasis and enrolling in MUS 3543 Private Instruction.

B. Performance Ensembles 8

As a special degree requirement, students pursuing the Music Performance emphasis are required to enroll in an ensemble every semester. Guitar, piano, and organ principals are exempt from ensemble enrollment during the semester of MUS 4561 Senior Recital. See Department of Music Student Handbook for additional details.

1. Voice Principals

| | | |
|------------------------------------------------------------------------------------------------------|-----------------------------------------------|--|
| MUS 3831 | Principal Ensemble (repeated for 8 semesters) | |
| Possible assigned ensembles are: Chamber Singers, Concert Choir, Women's Choir, and Men's Glee Club. | | |

2. String Principals

| | | |
|--------------------------------------|-----------------------------------------------|--|
| MUS 3831 | Principal Ensemble (repeated for 8 semesters) | |
| Assigned ensemble is UTSA Orchestra. | | |

3. Wind and Percussion Principals

| | | |
|-------------------------------------------------------------------------------------|-----------------------------------------------|--|
| MUS 3831 | Principal Ensemble (repeated for 8 semesters) | |
| Possible assigned ensembles are: Wind Ensemble, Symphonic Band, and University Band | | |

4. Guitar Principals

| | | |
|-----------------------------------------------------------------------------------------------------|-----------------------------------------------------------|--|
| MUS 3831 | Principal Ensemble (repeated for 4 semesters) | |
| Possible assigned ensembles are: Chamber Singers, Concert Choir, Women's Choir, and Men's Glee Club | | |
| MUS 4581 | Chamber Music (Guitar Ensemble; repeated for 4 semesters) | |

5. Piano Principals

| | | |
|----------|-----------------------------------------------|--|
| MUS 3831 | Principal Ensemble (repeated for 2 semesters) | |
| MUS 2501 | Accompanying (repeated for 4 semesters) | |
| MUS 4581 | Chamber Music (repeated for 2 semesters) | |

6. Organ Principals

| | | |
|----------|-----------------------------------------------|--|
| MUS 3831 | Principal Ensemble (repeated for 4 semesters) | |
| MUS 4581 | Chamber Music (repeated for 4 semesters) | |

C. Concert Attendance

| | | |
|----------|----------------------------------------------|--|
| MUS 2000 | Music Convocation (repeated for 7 semesters) | |
|----------|----------------------------------------------|--|

D. Music Technology and Industry 3

Select 3 semester credit hours from the following:

| | | |
|----------|---------------------------|--|
| MUS 3013 | Digital Music Production | |
| MUS 3103 | Audio Technology I | |
| MUS 3613 | Entrepreneurship in Music | |

E. Music Pedagogy 2

Select the appropriate 2 semester credit hours, based on principal instrument:

| | | |
|----------|---------------------------------------------------------------------|--|
| MUS 4522 | Music Pedagogy for Performance Majors (strings or winds/percussion) | |
| MUS 4531 | Vocal Pedagogy I | |

| | |
|----------|---------------------------|
| MUS 4532 | Music Pedagogy (keyboard) |
| MUS 4541 | Vocal Pedagogy II |

F. Music Literature 4

Select the appropriate 4 semester credit hours, based on principal instrument:

| | |
|----------|----------------------------------------------------------------------|
| MUS 2232 | Introduction to Guitar Literature |
| MUS 3332 | Advanced Guitar Literature |
| MUS 3282 | Vocal Literature |
| MUS 3292 | Operatic Literature |
| MUS 3322 | Keyboard Literature (repeated for a total of 4 credit hours) |
| MUS 3342 | Wind and Percussion Literature for Performance Majors (Solo/Chamber) |
| MUS 3342 | Wind and Percussion Literature for Performance Majors (Orchestral) |
| MUS 3352 | String Literature for Performance Majors (Solo/Chamber) |
| MUS 3352 | String Literature for Performance Majors (Orchestral) |

G. Upper-level Music Theory 6

Select 6 semester credit hours from the following:

| | |
|----------|-------------------------------------|
| MUS 3133 | Analysis of Twentieth-Century Music |
| MUS 3143 | Orchestration ¹ |
| MUS 4113 | Counterpoint |
| MUS 4163 | Topics in Music Theory |

G. Additional Major Requirements and Electives 13

1. Voice Principals

| | |
|----------|---------------------------------------------------------|
| MUS 3511 | Diction for Singers (English) |
| MUS 3511 | Diction for Singers (French) |
| MUS 3511 | Diction for Singers (German) |
| MUS 3511 | Diction for Singers (Italian) |
| MUS 4581 | Chamber Music (Lyric Theatre; repeated for 2 semesters) |
| FRN 1024 | Elementary French II ² |
| | or GER 1024 Elementary German II |
| | or ITL 1024 Elementary Italian II |

Free electives (3 credits)

2. String, Wind, and Percussion Principals

Select 2 semesters from the following small ensembles:

| | |
|----------|-------------------|
| MUS 3711 | Mariachi Ensemble |
| MUS 3771 | Jazz Ensemble |
| MUS 4581 | Chamber Music |

Free electives (11 credits)

3. Keyboard Principals (pedagogy focus)

| | |
|----------|---------------------------------------------|
| MUS 4532 | Music Pedagogy (Piano; 2nd semester) |
| MUS 4931 | Music Internship (repeated for 2 semesters) |

Free electives (9 credits)

4. Keyboard Principals (service music focus)

| | |
|----------|----------------------------------------------------------|
| MUS 1511 | Secondary Private Instruction (repeated for 4 semesters) |
| MUS 4931 | Music Internship (repeated for 2 semesters) |

Free electives (7 credits)

5. Guitar Principals

Free electives (13 credits)

Total Credit Hours 57

1

String, wind, and percussion principals must select MUS 3143 Orchestration.

2

The language selected here at the 1024 level must be the second semester of one of the two previously chosen languages that were used to fulfill the Core Curriculum requirements in Language, Philosophy, and Culture and Component Area Option.

Course Sequence Guide for a B.M. with Performance Emphasis

This course sequence guide is designed to assist students in completing their UTSA undergraduate degree requirements. *This is merely a guide and students must satisfy other requirements of this catalog and meet with advisors in the Department of Music and their academic advisor for individualized degree plans.* Progress within this guide depends upon such factors as course availability, individual student academic preparation, student time management, work obligations, and individual financial considerations. Students may choose to take courses during Summer terms to reduce course loads during long semesters.

Bachelor of Music in Performance (Orchestral Instrument) – Four-Year Academic Plan

First Year

| Fall | | Credit Hours |
|--------------|-----------------------------------------|--------------|
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| MUS 1102 | Aural Skills I | 2 |
| MUS 1112 | Basic Skills of Music I | 2 |
| MUS 1512 | Private Instruction | 2 |
| MUS 1521 | Class Piano 1 ¹ | 1 |
| MUS 2000 | Music Convocation | 0 |
| MUS 3831 | Principal Ensemble | 1 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| Credit Hours | | 14 |

Spring

| | | |
|-----------------------------|--------------------------------|----|
| MUS 1122 | Aural Skills II | 2 |
| MUS 1132 | Basic Skills of Music II | 2 |
| MUS 1542 | Private Instruction | 2 |
| MUS 1621 | Class Piano 2 ¹ | 1 |
| MUS 2000 | Music Convocation | 0 |
| MUS 3831 | Principal Ensemble | 1 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| University core math course | | 3 |
| Credit Hours | | 14 |

Summer

| | | |
|------------------------|--|---|
| University core course | | 3 |
| Credit Hours | | 3 |

Second Year

| Fall | | |
|----------|---------------------------|---|
| MUS 2000 | Music Convocation | 0 |
| MUS 2102 | Aural Skills III | 2 |
| MUS 2152 | Basic Skills of Music III | 2 |

| | | |
|------------------------|----------------------------|----|
| MUS 2402 | Conducting I | 2 |
| MUS 2421 | Class Piano 3 ¹ | 1 |
| MUS 2542 | Private Instruction | 2 |
| MUS 3831 | Principal Ensemble | 1 |
| MUS 4581 | Chamber Music | 1 |
| University core course | | 3 |
| | Credit Hours | 14 |

Spring

| | | |
|------------------------|-----------------------------------------|----|
| MUS 2000 | Music Convocation | 0 |
| MUS 2112 | Aural Skills IV | 2 |
| MUS 2162 | Basic Skills of Music IV | 2 |
| MUS 2243 | World Music in Society (core and major) | 3 |
| MUS 2521 | Class Piano 4 ¹ | 1 |
| MUS 2542 | Private Instruction | 2 |
| MUS 3831 | Principal Ensemble | 1 |
| University core course | | 3 |
| | Credit Hours | 14 |

Summer

| | | |
|------------------------|--------------|---|
| University core course | | 3 |
| University core course | | 3 |
| | Credit Hours | 6 |

Third Year**Fall**

| | | |
|------------------------|------------------------------|----|
| MUS 2000 | Music Convocation | 0 |
| MUS 3013 | Digital Music Production | 3 |
| or MUS 3103 | or Audio Technology I | |
| or MUS 3613 | or Entrepreneurship in Music | |
| MUS 3213 | Music in Civilization I | 3 |
| or MUS 3223 | or Music in Civilization II | |
| MUS 3543 | Private Instruction | 3 |
| MUS 3831 | Principal Ensemble | 1 |
| Elective | | 3 |
| University core course | | 3 |
| | Credit Hours | 16 |

Spring

| | | |
|------------------------|----------------------------|----|
| MUS 2000 | Music Convocation | 0 |
| MUS 3143 | Orchestration | 3 |
| MUS 3223 | Music in Civilization II | 3 |
| or MUS 3213 | or Music in Civilization I | |
| MUS 3543 | Private Instruction | 3 |
| MUS 3831 | Principal Ensemble | 1 |
| Elective | | 3 |
| University core course | | 3 |
| | Credit Hours | 16 |

Summer

| | | |
|------------------------|--------------|---|
| University core course | | 3 |
| | Credit Hours | 3 |

Fourth Year**Fall**

| | | |
|----------|-------------------|---|
| MUS 2000 | Music Convocation | 0 |
|----------|-------------------|---|

| | | |
|-------------|-------------------------------------------------|----|
| MUS 3342 | Wind and Percussion Literature for | 2 |
| or MUS 3352 | Performance Majors | |
| | or String Literature for | |
| | Performance Majors | |
| MUS 3413 | Psychology of Music | 3 |
| MUS 3831 | Principal Ensemble | 1 |
| MUS 4532 | Music Pedagogy (Strings or Wind/ Percussion) | 2 |
| MUS 4543 | Private Instruction | 3 |
| MUS 4581 | Chamber Music | 1 |
| Elective | | 3 |
| | Credit Hours | 15 |

Spring

| | | |
|------------------------------------|------------------------------------|-----|
| MUS 3342 | Wind and Percussion Literature for | 2 |
| or MUS 3352 | Performance Majors | |
| | or String Literature for | |
| | Performance Majors | |
| MUS 3831 | Principal Ensemble | 1 |
| MUS 4543 | Private Instruction | 3 |
| MUS 4561 | Senior Recital | 1 |
| Elective | | 2 |
| University core course | | 3 |
| Upper-division music theory course | | 3 |
| | Credit Hours | 15 |
| | Total Credit Hours | 130 |

1

Students who test out of 1-4 semesters of Class Piano must replace those credits with an equivalent number of credits of MUS 1511 Secondary Private Instruction.

Bachelor of Music in Performance (Keyboard) – Four-Year Academic Plan**First Year**

| | | Credit Hours |
|-------------|-----------------------------------------|--------------|
| Fall | | |
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| MUS 1102 | Aural Skills I | 2 |
| MUS 1112 | Basic Skills of Music I | 2 |
| MUS 1511 | Secondary Private Instruction | 1 |
| MUS 1512 | Private Instruction | 2 |
| MUS 2000 | Music Convocation | 0 |
| MUS 3831 | Principal Ensemble | 1 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| | Credit Hours | 14 |

Spring

| | | |
|----------|------------------------------------------|---|
| MUS 1122 | Aural Skills II | 2 |
| MUS 1132 | Basic Skills of Music II | 2 |
| MUS 1542 | Private Instruction | 2 |
| MUS 1552 | Functional Piano for Keyboard Principals | 2 |
| MUS 2000 | Music Convocation | 0 |
| MUS 3831 | Principal Ensemble | 1 |
| WRC 1023 | Freshman Composition II (core) | 3 |

Department of Music

| | |
|-----------------------------|----|
| University core math course | 3 |
| Credit Hours | 15 |

Summer

| | |
|------------------------|---|
| University core course | 3 |
| Credit Hours | 3 |

Second Year

Fall

| | | |
|------------------------|-------------------------------|----|
| MUS 1511 | Secondary Private Instruction | 1 |
| MUS 2000 | Music Convocation | 0 |
| MUS 2102 | Aural Skills III | 2 |
| MUS 2152 | Basic Skills of Music III | 2 |
| MUS 2402 | Conducting I | 2 |
| MUS 2501 | Accompanying | 1 |
| MUS 2542 | Private Instruction | 2 |
| University core course | | 3 |
| Credit Hours | | 13 |

Spring

| | | |
|------------------------|-----------------------------------------|----|
| MUS 2000 | Music Convocation | 0 |
| MUS 2112 | Aural Skills IV | 2 |
| MUS 2162 | Basic Skills of Music IV | 2 |
| MUS 2243 | World Music in Society (core and major) | 3 |
| MUS 2501 | Accompanying | 1 |
| MUS 2542 | Private Instruction | 2 |
| University core course | | 3 |
| University core course | | 3 |
| Credit Hours | | 16 |

Summer

| | |
|------------------------|---|
| University core course | 3 |
| Credit Hours | 3 |

Third Year

Fall

| | | |
|------------------------|------------------------------|----|
| MUS 2000 | Music Convocation | 0 |
| MUS 2501 | Accompanying | 1 |
| MUS 3013 | Digital Music Production | 3 |
| or MUS 3103 | or Audio Technology I | |
| or MUS 3613 | or Entrepreneurship in Music | |
| MUS 3213 | Music in Civilization I | 3 |
| or MUS 3223 | or Music in Civilization II | |
| MUS 3322 | Keyboard Literature | 2 |
| MUS 3543 | Private Instruction | 3 |
| University core course | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|-------------|----------------------------|---|
| MUS 2000 | Music Convocation | 0 |
| MUS 2501 | Accompanying | 1 |
| MUS 3223 | Music in Civilization II | 3 |
| or MUS 3213 | or Music in Civilization I | |
| MUS 3322 | Keyboard Literature | 2 |
| MUS 3543 | Private Instruction | 3 |
| MUS 4581 | Chamber Music | 1 |
| Elective | | 3 |

| | |
|------------------------------|----|
| Upper-division theory course | 3 |
| Credit Hours | 16 |

Summer

| | |
|------------------------|---|
| University core course | 3 |
| Credit Hours | 3 |

Fourth Year

Fall

| | | |
|------------------------|---------------------|----|
| MUS 2000 | Music Convocation | 0 |
| MUS 3413 | Psychology of Music | 3 |
| MUS 4532 | Music Pedagogy | 2 |
| MUS 4543 | Private Instruction | 3 |
| MUS 4581 | Chamber Music | 1 |
| MUS 4931 | Music Internship | 1 |
| Elective | | 3 |
| University core course | | 3 |
| Credit Hours | | 16 |

Spring

| | | |
|------------------------------|----------------------------------|-----|
| MUS 4543 | Private Instruction | 3 |
| MUS 4561 | Senior Recital | 1 |
| MUS 4931 | Music Internship | 1 |
| Elective | | 3 |
| University core course | | 3 |
| Upper-division theory course | | 3 |
| MUS 4532 | Music Pedagogy (second semester) | 2 |
| Credit Hours | | 16 |
| Total Credit Hours | | 130 |

Bachelor of Music in Performance (Voice) – Four-Year Academic Plan

First Year

Fall

| | | Credit Hours |
|--------------|-----------------------------------------|--------------|
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| MUS 1102 | Aural Skills I | 2 |
| MUS 1112 | Basic Skills of Music I | 2 |
| MUS 1512 | Private Instruction | 2 |
| MUS 1521 | Class Piano 1 ¹ | 1 |
| MUS 2000 | Music Convocation | 0 |
| MUS 3831 | Principal Ensemble | 1 |
| MUS 3511 | Diction for Singers | 1 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|-----------------------------|--------------------------------|----|
| MUS 1122 | Aural Skills II | 2 |
| MUS 1132 | Basic Skills of Music II | 2 |
| MUS 1542 | Private Instruction | 2 |
| MUS 1621 | Class Piano 2 ¹ | 1 |
| MUS 2000 | Music Convocation | 0 |
| MUS 3511 | Diction for Singers | 1 |
| MUS 3831 | Principal Ensemble | 1 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| University core math course | | 3 |
| Credit Hours | | 15 |

| | | |
|------------------------|--------------|---|
| Summer | | |
| University core course | | 3 |
| | Credit Hours | 3 |

Second Year

| | | |
|------------------------|-----------------------------------------|----|
| Fall | | |
| MUS 2000 | Music Convocation | 0 |
| MUS 2102 | Aural Skills III | 2 |
| MUS 2152 | Basic Skills of Music III | 2 |
| MUS 2243 | World Music in Society (core and major) | 3 |
| MUS 2421 | Class Piano 3 ¹ | 1 |
| MUS 2542 | Private Instruction | 2 |
| MUS 3831 | Principal Ensemble | 1 |
| MUS 3511 | Diction for Singers | 1 |
| University core course | | 3 |
| | Credit Hours | 15 |

Spring

| | | |
|------------------------|----------------------------|----|
| MUS 2000 | Music Convocation | 0 |
| MUS 2112 | Aural Skills IV | 2 |
| MUS 2162 | Basic Skills of Music IV | 2 |
| MUS 2402 | Conducting I | 2 |
| MUS 2521 | Class Piano 4 ¹ | 1 |
| MUS 2542 | Private Instruction | 2 |
| MUS 3511 | Diction for Singers | 1 |
| MUS 3831 | Principal Ensemble | 1 |
| University core course | | 3 |
| | Credit Hours | 14 |

Summer

| | | |
|------------------------|--------------|---|
| University core course | | 3 |
| University core course | | 3 |
| | Credit Hours | 6 |

Third Year

| | | |
|----------------------------------------|-----------------------------------------------------------------------------------------------|----|
| Fall | | |
| ITL 1014 or FRN 1014 or GER 1014 | Elementary Italian I (core) ² or Elementary French I or Elementary German I | 4 |
| MUS 2000 | Music Convocation | 0 |
| MUS 3213 or MUS 3223 | Music in Civilization I or Music in Civilization II | 3 |
| MUS 3543 | Private Instruction | 3 |
| MUS 3831 | Principal Ensemble | 1 |
| MUS 4531 | Vocal Pedagogy I | 1 |
| University core course | | 3 |
| | Credit Hours | 15 |

Spring

| | | |
|-------------------------|--------------------------------------------------------|---|
| MUS 2000 | Music Convocation | 0 |
| MUS 3223 or MUS 3213 | Music in Civilization II or Music in Civilization I | 3 |
| MUS 3413 | Psychology of Music | 3 |
| MUS 3543 | Private Instruction | 3 |
| MUS 3831 | Principal Ensemble | 1 |
| MUS 3791 | Lyric Theatre | 1 |
| MUS 4541 | Vocal Pedagogy II | 1 |

| | |
|-------------------------------------|-----|
| Elective (to meet 130 hour minimum) | 1-3 |
| Credit Hours | 13 |

Summer

| | |
|------------------------|---|
| University core course | 3 |
| Credit Hours | 3 |

Fourth Year

| | | |
|----------------------------------------|----------------------------------------------------------------------------------------------|----|
| Fall | | |
| FRN 1014 or ITL 1014 or GER 1014 | Elementary French I (core) ³ or Elementary Italian I or Elementary German I | 4 |
| MUS 2000 | Music Convocation | 0 |
| MUS 3013 or MUS 3103 or MUS 3613 | Digital Music Production or Audio Technology I or Entrepreneurship in Music | 3 |
| MUS 3292 | Operatic Literature | 2 |
| MUS 3831 | Principal Ensemble | 1 |
| MUS 4543 | Private Instruction | 3 |
| Upper-division music theory course | | 3 |
| | Credit Hours | 16 |

Spring

| | | |
|----------------------------------------|------------------------------------------------------------------------------------------|-----|
| FRN 1024 or GER 1024 or ITL 1024 | Elementary French II ⁴ or Elementary German II or Elementary Italian II | 4 |
| MUS 3282 | Vocal Literature | 2 |
| MUS 3831 | Principal Ensemble | 1 |
| MUS 3791 | Lyric Theatre | 1 |
| MUS 4543 | Private Instruction | 3 |
| MUS 4561 | Senior Recital | 1 |
| Upper-division theory course | | 3 |
| | Credit Hours | 15 |
| | Total Credit Hours | 130 |

1

Students who test out of 1-4 semesters of Class Piano must replace those credits with an equivalent number of credits from MUS 1511 Secondary Private Instruction.

2

Students should select one of these courses to fulfill the Core Curriculum requirement in Language, Philosophy, and Culture and part of the foreign language requirement within the Performance emphasis for voice principals. Credit hours will be counted in the Core Curriculum requirement.

3

Students should select one of these courses to fulfill the Core Curriculum requirement in Component Area Option and part of the foreign language requirement within the Performance emphasis for voice principals. Credit hours will be counted in the Core Curriculum requirement.

4

Students should select a second semester of one of the foreign languages that was chosen to fulfill the core curriculum requirements in Language, Philosophy, and Culture and Component Area Option.

Bachelor of Music in Performance (Guitar) – Four-Year Academic Plan

First Year

| Fall | | Credit Hours |
|---------------------|-----------------------------------------|---------------------|
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| MUS 1102 | Aural Skills I | 2 |
| MUS 1112 | Basic Skills of Music I | 2 |
| MUS 1512 | Private Instruction | 2 |
| MUS 1521 | Class Piano 1 ¹ | 1 |
| MUS 2000 | Music Convocation | 0 |
| MUS 3831 | Principal Ensemble | 1 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| Credit Hours | | 14 |

Spring

| | | |
|-----------------------------|--------------------------------|-----------|
| MUS 1122 | Aural Skills II | 2 |
| MUS 1132 | Basic Skills of Music II | 2 |
| MUS 1542 | Private Instruction | 2 |
| MUS 1621 | Class Piano 2 ¹ | 1 |
| MUS 2000 | Music Convocation | 0 |
| MUS 3831 | Principal Ensemble | 1 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| University core math course | | 3 |
| Credit Hours | | 14 |

Summer

| | | |
|------------------------|--|----------|
| University core course | | 3 |
| Credit Hours | | 3 |

Second Year

| Fall | | |
|------------------------|-----------------------------------|-----------|
| MUS 2000 | Music Convocation | 0 |
| MUS 2102 | Aural Skills III | 2 |
| MUS 2152 | Basic Skills of Music III | 2 |
| MUS 2232 | Introduction to Guitar Literature | 2 |
| MUS 2421 | Class Piano 3 ¹ | 1 |
| MUS 2542 | Private Instruction | 2 |
| MUS 3831 | Principal Ensemble | 1 |
| University core course | | 3 |
| University core course | | 3 |
| Credit Hours | | 16 |

Spring

| | | |
|------------------------|-----------------------------------------|-----------|
| MUS 2000 | Music Convocation | 0 |
| MUS 2112 | Aural Skills IV | 2 |
| MUS 2162 | Basic Skills of Music IV | 2 |
| MUS 2243 | World Music in Society (core and major) | 3 |
| MUS 2521 | Class Piano 4 ¹ | 1 |
| MUS 2542 | Private Instruction | 2 |
| MUS 3831 | Principal Ensemble | 1 |
| University core course | | 3 |
| Credit Hours | | 14 |

Summer

| | | |
|------------------------|--|---|
| University core course | | 3 |
|------------------------|--|---|

| | | |
|------------------------|--|----------|
| University core course | | 3 |
| Credit Hours | | 6 |

Third Year

| Fall | | |
|------------------------|---------------------------------|-----------|
| MUS 2000 | Music Convocation | 0 |
| MUS 2402 | Conducting I | 2 |
| MUS 3213 | Music in Civilization I | 3 |
| or MUS 3223 | or Music in Civilization II | |
| MUS 3332 | Advanced Guitar Literature | 2 |
| MUS 3543 | Private Instruction | 3 |
| MUS 4581 | Chamber Music (Guitar Ensemble) | 1 |
| University core course | | 3 |
| Credit Hours | | 14 |

Spring

| | | |
|------------------------------|---------------------------------|-----------|
| MUS 2000 | Music Convocation | 0 |
| MUS 3223 | Music in Civilization II | 3 |
| or MUS 3213 | or Music in Civilization I | |
| MUS 3543 | Private Instruction | 3 |
| MUS 4581 | Chamber Music (Guitar Ensemble) | 1 |
| Elective | | 3 |
| University core course | | 3 |
| Upper-division theory course | | 3 |
| Credit Hours | | 16 |

Summer

| | | |
|------------------------|--|----------|
| University core course | | 3 |
| Credit Hours | | 3 |

Fourth Year

| Fall | | |
|------------------------------|---------------------------------|-----------|
| MUS 2000 | Music Convocation | 0 |
| MUS 3013 | Digital Music Production | 3 |
| or MUS 3103 | or Audio Technology I | |
| or MUS 3613 | or Entrepreneurship in Music | |
| MUS 4532 | Music Pedagogy | 2 |
| MUS 4543 | Private Instruction | 3 |
| MUS 4581 | Chamber Music (Guitar Ensemble) | 1 |
| Electives | | 4 |
| Upper-division theory course | | 3 |
| Credit Hours | | 16 |

Spring

| | | |
|---------------------------|---------------------------------|------------|
| MUS 3413 | Psychology of Music | 3 |
| MUS 4543 | Private Instruction | 3 |
| MUS 4561 | Senior Recital | 1 |
| MUS 4581 | Chamber Music (Guitar Ensemble) | 1 |
| Elective | | 3 |
| Elective | | 3 |
| Credit Hours | | 14 |
| Total Credit Hours | | 130 |

¹

Students who test out of 1-4 semesters of Class Piano must replace those credits with an equivalent number of credits of MUS 1511 Secondary Private Instruction.

Music Marketing Emphasis

All candidates for the Music Marketing emphasis must fulfill the Music Core Requirements (31 semester credit hours), as well as the following course requirements for this emphasis (57 semester credit hours).

A. Principal Instrument Private Lessons 12

| | |
|----------|--------------------------------------------------------------|
| MUS 1512 | Private Instruction |
| MUS 1542 | Private Instruction |
| MUS 2542 | Private Instruction (repeated for a total of 4 credit hours) |
| MUS 3532 | Private Instruction (repeated for a total of 4 credit hours) |

All students must pass an extended jury at the end of their last semester of enrollment in MUS 3532 Private Instruction.

B. Performance Ensembles 8

As a special degree requirement, students pursuing the Music Marketing emphasis are required to enroll in an ensemble every semester except the semester of the Music Marketing Internship. See Department of Music Student Handbook for details.

MUS 3831 Principal Ensemble (repeated for 6 semesters)

String principals must enroll in UTSA Orchestra.

Wind and percussion principals must enroll in Wind Ensemble, Symphonic Band, or University Band (as assigned by audition).

Voice, guitar, and keyboard principals must enroll in Chamber Singers, Concert Choir, Women's Choir, or Men's Glee Club (as assigned by audition).

MUS 4581 Chamber Music (repeated for a total of 2 semesters)

C. Concert Attendance 0

MUS 2000 Music Convocation (repeated for 7 semesters)

D. Required Music, Accounting, and Marketing Courses 19

| | |
|----------|----------------------------------------------------|
| ACC 2013 | Principles of Accounting I |
| MKT 3013 | Principles of Marketing |
| MUS 2263 | Introduction to the Music Industry |
| MUS 3613 | Entrepreneurship in Music |
| MUS 4803 | Seminar in Music Marketing |
| MUS 4933 | Music Marketing Internship |
| MUS 4951 | Special Studies in Music (Music Marketing Project) |

E. Additional Approved Courses 18

Select 18 semester credit hours from the following (of the selected 18 hours, 9 must be upper-division and 6 must be non-music):

| | |
|----------|---------------------------------------------------------------|
| BLW 3013 | Business Law |
| COM 2113 | Public Speaking |
| COM 2343 | Introduction to Mass Communication |
| CS 1063 | Introduction to Computer Programming I |
| ECO 2023 | Introductory Microeconomics |
| ENT 4123 | Commercialization and Enterprise Planning |
| FIN 3003 | Survey of Finance |
| GBA 2013 | Legal, Social and Ethical Issues in Business |
| MGT 3003 | Business Communication and Professional Development |
| MGT 3013 | Introduction to Organization Theory, Behavior, and Management |
| MKT 3043 | Advertising |

| | | |
|--------------------|-------------------------------------------------------|----|
| MKT 3063 | Personal Selling | |
| MKT 3113 | Retailing | |
| MUS 2273 | Introduction to Music and Art Nonprofit Organizations | |
| MUS 3013 | Digital Music Production | |
| MUS 3103 | Audio Technology I | |
| MUS 3163 | Audio Technology II | |
| MUS 4433 | Multimedia Production | |
| Total Credit Hours | | 57 |

Course Sequence Guide for B.M. with a Music Marketing Emphasis

This course sequence guide is designed to assist students in completing their UTSA undergraduate degree requirements. *This is merely a guide and students must satisfy other requirements of this catalog and meet with advisors in the Department of Music and their academic advisor for individualized degree plans.* Progress within this guide depends upon such factors as course availability, individual student academic preparation, student time management, work obligations, and individual financial considerations. Students may choose to take courses during Summer terms to reduce course loads during long semesters.

Bachelor of Music in Music Marketing – Four-Year Academic Plan

First Year

| | | Credit Hours |
|--------------|-----------------------------------------|--------------|
| Fall | | |
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| MUS 1102 | Aural Skills I | 2 |
| MUS 1112 | Basic Skills of Music I | 2 |
| MUS 1512 | Private Instruction | 2 |
| MUS 1521 | Class Piano 1 ¹ | 1 |
| MUS 2000 | Music Convocation | 0 |
| MUS 3831 | Principal Ensemble | 1 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| Credit Hours | | 14 |

Spring

| | | |
|-----------------------------|--------------------------------|----|
| MUS 1122 | Aural Skills II | 2 |
| MUS 1132 | Basic Skills of Music II | 2 |
| MUS 1542 | Private Instruction | 2 |
| MUS 1621 | Class Piano 2 ¹ | 1 |
| MUS 2000 | Music Convocation | 0 |
| MUS 3831 | Principal Ensemble | 1 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| University core math course | | 3 |
| Credit Hours | | 14 |

Summer

| | | |
|------------------------|--|---|
| University core course | | 3 |
| Credit Hours | | 3 |

Second Year

| | | |
|----------|-----------------------------------------|---|
| Fall | | |
| MUS 2000 | Music Convocation | 0 |
| MUS 2102 | Aural Skills III | 2 |
| MUS 2152 | Basic Skills of Music III | 2 |
| MUS 2243 | World Music in Society (core and major) | 3 |

Department of Music

| | | |
|-------------------------|---------------------------------------------------------------------------------------------------|----|
| MUS 2263 or MUS 2273 | Introduction to the Music Industry or Introduction to Music and Art Nonprofit Organizations | 3 |
| MUS 2421 | Class Piano 3 ¹ | 1 |
| MUS 2542 | Private Instruction | 2 |
| MUS 3831 | Principal Ensemble | 1 |
| Credit Hours | | 14 |
| Spring | | |
| MUS 2000 | Music Convocation | 0 |
| MUS 2112 | Aural Skills IV | 2 |
| MUS 2162 | Basic Skills of Music IV | 2 |
| MUS 2402 | Conducting I | 2 |
| MUS 2521 | Class Piano 4 ¹ | 1 |
| MUS 2542 | Private Instruction | 2 |
| MUS 3831 | Principal Ensemble | 1 |
| University core course | | 3 |
| University core course | | 3 |
| Credit Hours | | 16 |

| | | |
|------------------------|--|---|
| Summer | | |
| University core course | | 3 |
| Credit Hours | | 3 |

Third Year

| | | |
|--------------------------------------------|--------------------------------------------------------|----|
| Fall | | |
| ACC 2013 | Principles of Accounting I | 3 |
| MUS 2000 | Music Convocation | 0 |
| MUS 3213 or MUS 3223 | Music in Civilization I or Music in Civilization II | 3 |
| MUS 3532 | Private Instruction | 2 |
| MUS 3831 | Principal Ensemble | 1 |
| Selection from Additional Approved Courses | | 3 |
| University core course | | 3 |
| Credit Hours | | 15 |
| Spring | | |
| MKT 3013 | Principles of Marketing | 3 |
| MUS 2000 | Music Convocation | 0 |
| MUS 3223 or MUS 3213 | Music in Civilization II or Music in Civilization I | 3 |
| MUS 3532 | Private Instruction | 2 |
| MUS 3613 | Entrepreneurship in Music | 3 |
| Selection from Additional Approved Courses | | 3 |
| MUS 3831 | Principal Ensemble | 1 |
| Credit Hours | | 15 |
| Summer | | |
| University core course | | 3 |
| Credit Hours | | 3 |

| | | |
|--------------------------------------------|---------------------|---|
| Fourth Year | | |
| Fall | | |
| MUS 2000 | Music Convocation | 0 |
| MUS 3413 | Psychology of Music | 3 |
| MUS 4581 | Chamber Music | 1 |
| Selection from Additional Approved Courses | | 3 |
| Selection from Additional Approved Courses | | 3 |
| University core course | | 3 |

| | | |
|------------------------|--|---|
| Spring | | |
| University core course | | 3 |
| Credit Hours | | 3 |

| | | |
|------------------------|--|---|
| Summer | | |
| University core course | | 3 |
| Credit Hours | | 3 |

| | | |
|------------------------|--|----|
| University core course | | 3 |
| Credit Hours | | 16 |

| | | |
|--------------------------------------------|----------------------------------------------------|----|
| Spring | | |
| MUS 4581 | Chamber Music (or major ensemble) | 1 |
| MUS 4803 | Seminar in Music Marketing | 3 |
| MUS 4951 | Special Studies in Music (Music Marketing Project) | 1 |
| Selection from Additional Approved Courses | | 3 |
| Selection from Additional Approved Courses | | 3 |
| University core course | | 3 |
| Credit Hours | | 14 |

| | | |
|--------------------|----------------------------|-----|
| Summer | | |
| MUS 4933 | Music Marketing Internship | 3 |
| Credit Hours | | 3 |
| Total Credit Hours | | 130 |

¹ Keyboard principals must replace Class Piano 1-4 with MUS 1552 Functional Piano for Keyboard Principals and 2 credits of MUS 1511 Secondary Private Instruction. Non-keyboard principals who test out of 1-4 semesters of Class Piano must replace those credits with an equivalent number of credits of MUS 1511 Secondary Private Instruction.

Bachelor of Arts Degree in Music

The minimum number of semester credit hours required for this degree, including the Core Curriculum requirements, is 120. Thirty-nine of the total semester credit hours required for the degree must be at the upper-division level.

All Bachelor of Arts in Music students must complete the Concert Attendance requirement. That requirement is fulfilled by earning credit for 4 semesters of MUS 2000: Music Convocation. See the Department of Music Student Handbook for details.

All candidates for this degree must fulfill the Core Curriculum requirements and the music degree requirements, which are listed below.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the B.A. degree in Music must fulfill University Core Curriculum requirements in the same manner as other students.

All students should select MUS 2243 World Music in Society to satisfy the core requirement in Creative Arts, as well as a Music Core requirement.

Core Curriculum Component Area Requirements (p. 7)

| | |
|-----------------------------------|---|
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |
| Life and Physical Sciences | 6 |
| Language, Philosophy and Culture | 3 |
| Creative Arts | 3 |
| American History | 6 |
| Government-Political Science | 6 |
| Social and Behavioral Sciences | 3 |

| | |
|-----------------------|----|
| Component Area Option | 3 |
| Total Credit Hours | 42 |

Gateway Courses

Students pursuing the B.A. degree in Music must successfully complete the following Gateway Courses with a grade of "D-" or better in no more than two attempts. A student who is unable to successfully complete these courses within two attempts, including dropping a course with a grade of "W" or taking an equivalent course at another institution, will be required to change his or her major to a field outside the Department of Music.

| | |
|----------|-------------------------|
| MUS 1102 | Aural Skills I |
| MUS 1112 | Basic Skills of Music I |

Music Degree Requirements

All candidates for the B.A. degree in Music must complete the following 78 semester credit hours of required music courses.

A. Required Music Core 27

| | |
|----------|-------------------------------------|
| MUS 1102 | Aural Skills I |
| MUS 1112 | Basic Skills of Music I |
| MUS 1122 | Aural Skills II |
| MUS 1132 | Basic Skills of Music II |
| MUS 1521 | Class Piano 1 ¹ |
| MUS 1621 | Class Piano 2 ¹ |
| MUS 2102 | Aural Skills III |
| MUS 2112 | Aural Skills IV |
| MUS 2152 | Basic Skills of Music III |
| MUS 2162 | Basic Skills of Music IV |
| MUS 2243 | World Music in Society ² |
| MUS 3013 | Digital Music Production |
| MUS 3213 | Music in Civilization I |
| MUS 3223 | Music in Civilization II |

B. Principal Instrument Private Lessons 4

| | |
|----------|---------------------|
| MUS 1512 | Private Instruction |
| MUS 1542 | Private Instruction |

C. Performance Ensembles 6

| | |
|----------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|
| MUS 3831 | Principal Ensemble (repeated for 4 semesters) |
| String principals must enroll in UTSA Orchestra. | |
| Wind and percussion principals must enroll in Wind Ensemble, Symphonic Band, or University Band (as assigned by audition). | |
| Voice, guitar, and keyboard principals must enroll in Chamber Singers, Concert Choir, Women's Choir, or Men's Glee Club (as assigned by audition). | |
| Two semesters of a small ensemble selected from: | |
| MUS 3711 | Mariachi Ensemble |
| MUS 3771 | Jazz Ensemble |
| MUS 3791 | Lyric Theatre |
| MUS 4581 | Chamber Music |

D. Concert Attendance 0

| | |
|----------|----------------------------------------------|
| MUS 2000 | Music Convocation (repeated for 4 semesters) |
|----------|----------------------------------------------|

E. Additional Music Requirements

1. Lower-level music courses. Select 8 semester credit hours from the following courses: 8

| | |
|----------|-------------------------------------------------------|
| MUS 2132 | Introduction to Improvisation |
| MUS 2183 | Jazz Skills |
| MUS 2263 | Introduction to the Music Industry |
| MUS 2273 | Introduction to Music and Art Nonprofit Organizations |
| MUS 2402 | Conducting I |
| MUS 2633 | American Roots Music |
| MUS 2653 | Music in Culture |
| MUS 2663 | History and Styles of Jazz |
| MUS 2673 | History and Styles of Rock |
| MUS 2713 | History of Recorded Music |
| MUS 2743 | Music and Film |

2. Upper-level music courses. Select 9 semester credit hours from the following courses: 9

| | |
|----------|-----------------------------------------------|
| MUS 3103 | Audio Technology I |
| MUS 3123 | Introduction to Electronic and Computer Music |
| MUS 3133 | Analysis of Twentieth-Century Music |
| MUS 3143 | Orchestration |
| MUS 3153 | Conducting II |
| MUS 3163 | Audio Technology II |
| MUS 3263 | Music Since 1900 |
| MUS 3413 | Psychology of Music |
| MUS 3583 | Advanced Improvisation |
| MUS 3613 | Entrepreneurship in Music |
| MUS 4113 | Counterpoint |
| MUS 4153 | Audio Technology III |
| MUS 4163 | Topics in Music Theory |
| MUS 4183 | Jazz Composition and Arranging |
| MUS 4263 | Topics in Music History |
| MUS 4433 | Multimedia Production |
| MUS 4803 | Seminar in Music Marketing |

F. Non-Music Electives 24

Select 24 semester credit hours of non-music electives. At least 15 of these credit hours must be at the upper-division level.

Total Credit Hours 78

1

Keyboard principals should replace MUS 1521 Class Piano 1 and MUS 1621 Class Piano 2 with MUS 1552 Functional Piano for Keyboard Principals. Non-keyboard principals who test out of 1-2 semesters of Class Piano must replace those credits with an equivalent number of credits of MUS 1511 Secondary Private Instruction.

2

MUS 2243 World Music in Society should also be used to satisfy the Core Curriculum requirement in Creative Arts. The credit hours are counted in that section of the degree.

Course Sequence Guide for B.A. in Music

This course sequence guide is designed to assist students in completing their UTSA undergraduate degree requirements. *This is merely a guide and students must satisfy other requirements of this catalog and meet with advisors in the Department of Music and their academic advisor for individualized degree plans.* Progress within this guide depends upon such factors as course availability, individual student academic preparation, student time management, work obligations, and individual financial

considerations. Students may choose to take courses during Summer terms to reduce course loads during long semesters.

Bachelor of Arts in Music – Four-Year Academic Plan

First Year

| Fall | | Credit Hours |
|--------------|-----------------------------------------|--------------|
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| MUS 1102 | Aural Skills I | 2 |
| MUS 1112 | Basic Skills of Music I | 2 |
| MUS 1512 | Private Instruction | 2 |
| MUS 1521 | Class Piano 1 ¹ | 1 |
| MUS 2000 | Music Convocation | 0 |
| MUS 3831 | Principal Ensemble | 1 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| Credit Hours | | 14 |

Spring

| | | |
|-----------------------------|--------------------------------|----|
| MUS 1122 | Aural Skills II | 2 |
| MUS 1132 | Basic Skills of Music II | 2 |
| MUS 1542 | Private Instruction | 2 |
| MUS 1621 | Class Piano 2 ¹ | 1 |
| MUS 2000 | Music Convocation | 0 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| MUS 3831 | Principal Ensemble | 1 |
| University core math course | | 3 |
| Credit Hours | | 14 |

Second Year

| Fall | | Credit Hours |
|------------------------|-----------------------------------------|--------------|
| MUS 2000 | Music Convocation | 0 |
| MUS 2102 | Aural Skills III | 2 |
| MUS 2152 | Basic Skills of Music III | 2 |
| MUS 2243 | World Music in Society (core and major) | 3 |
| MUS 3831 | Principal Ensemble | 1 |
| University core course | | 3 |
| University core course | | 3 |
| Credit Hours | | 14 |

Spring

| | | |
|------------------------------------------|--------------------------|----|
| MUS 2000 | Music Convocation | 0 |
| MUS 2112 | Aural Skills IV | 2 |
| MUS 2162 | Basic Skills of Music IV | 2 |
| MUS 3013 | Digital Music Production | 3 |
| MUS 3831 | Principal Ensemble | 1 |
| Selection from lower-level music courses | | 2 |
| Non-music elective | | 3 |
| University core course | | 3 |
| Credit Hours | | 16 |

Third Year

| Fall | | Credit Hours |
|------------------------------------------|--------------------------------------------------------|--------------|
| MUS 3213 or MUS 3223 | Music in Civilization I or Music in Civilization II | 3 |
| Selection from lower-level music courses | | 3 |
| Student choice of ensemble | | 1 |

| | | |
|------------------------|---|----|
| Non-music elective | 3 | |
| Non-music elective | 3 | |
| University core course | 3 | |
| Credit Hours | | 16 |

Spring

| | | |
|------------------------------------------|--------------------------------------------------------|----|
| MUS 3223 or MUS 3213 | Music in Civilization II or Music in Civilization I | 3 |
| Selection from lower-level music courses | | 3 |
| Selection from upper-level music courses | | 3 |
| Non-music elective | | 3 |
| Student choice of ensemble | | 1 |
| University core course | | 3 |
| Credit Hours | | 16 |

Fourth Year

| Fall | | Credit Hours |
|------------------------------------------|--|--------------|
| Selection from upper-level music courses | | 3 |
| Non-music elective | | 3 |
| Non-music elective | | 3 |
| University core course | | 3 |
| University core course | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|------------------------------------------|--|-----|
| Selection from upper-level music courses | | 3 |
| Non-music elective | | 3 |
| Non-music elective | | 3 |
| University core course | | 3 |
| University core course | | 3 |
| Credit Hours | | 15 |
| Total Credit Hours | | 120 |

¹

Keyboard principals must substitute one semester of MUS 1552 Functional Piano for Keyboard Principals.

- Minor in Dance (p. 220)
- Minor in Jazz Studies (p. 221)
- Minor in Music (p. 221)
- Minor in Music Marketing (p. 221)
- Minor in Music Technology (p. 221)

Minor in Dance

All students pursuing the Minor in Dance must complete 21 semester credit hours of dance courses:

A. Required courses:

| | | |
|-------------|--------------------------------|---|
| DAN 1013 | Ballet I | 3 |
| DAN 1113 | Introduction to Modern Dance | 3 |
| DAN 2003 | Introduction to Dance | 3 |
| DAN 2013 | Ballet II | 3 |
| or DAN 2113 | Modern Dance II | |
| DAN 2213 | Jazz and Musical Theater Dance | 3 |

B. Select two of the following courses: 6

| | | |
|-------------|------------------|--|
| DAN 3013 | Ballet III | |
| or DAN 3113 | Modern Dance III | |

| | | |
|--------------------|------------------|----|
| DAN 3103 | History of Dance | |
| Total Credit Hours | | 21 |

DAN 2783 Topics in Dance may be used as an approved substitution to DAN 2013, DAN 2213 or DAN 2113.

Minor in Jazz Studies

To declare the Minor in Jazz Studies, students must interview with a Music Department advisor and submit the Declaration of Music Minor form.

All students pursuing the Minor in Jazz Studies must complete 18 semester credit hours of required courses.

| | | |
|--------------------|----------------------------------------------------------------------------------|----|
| MUS 2132 | Introduction to Improvisation | 2 |
| MUS 2183 | Jazz Skills | 3 |
| MUS 2663 | History and Styles of Jazz | 3 |
| MUS 3583 | Advanced Improvisation | 3 |
| MUS 3771 | Jazz Ensemble (repeated for a total of 2 credit hours) ¹ | 2 |
| MUS 4183 | Jazz Composition and Arranging | 3 |
| MUS 4581 | Chamber Music (Jazz Combos; repeated for a total of 2 credit hours) ² | 2 |
| Total Credit Hours | | 18 |

1

Students should enroll in MUS 3771 Jazz Ensemble in two different semesters. Requires an audition prior to each semester of enrollment.

2

Students should enroll in MUS 4581 Chamber Music (Jazz Combos) in two different semesters. Requires an audition prior to each semester of enrollment.

Minor in Music

To declare the Minor in Music, students must interview with a Music Department advisor and submit the Declaration of Music Minor form.

All students pursuing the Minor in Music must complete 20 semester credit hours.

A. Music Theory and Aural Skills 8

| | | |
|----------|--------------------------|--|
| MUS 1102 | Aural Skills I | |
| MUS 1112 | Basic Skills of Music I | |
| MUS 1122 | Aural Skills II | |
| MUS 1132 | Basic Skills of Music II | |

B. Music History, Literature, and Industry 6

Select 6 semester credit hours from the following courses:

| | | |
|----------|-------------------------------------------------------|--|
| MUS 2243 | World Music in Society | |
| MUS 2263 | Introduction to the Music Industry | |
| MUS 2273 | Introduction to Music and Art Nonprofit Organizations | |
| MUS 2633 | American Roots Music | |
| MUS 2653 | Music in Culture | |
| MUS 2663 | History and Styles of Jazz | |
| MUS 2673 | History and Styles of Rock | |
| MUS 2683 | History and Styles of Western Art Music | |
| MUS 2713 | History of Recorded Music | |

| | | |
|----------|----------------|--|
| MUS 2743 | Music and Film | |
|----------|----------------|--|

C. Music Technology 3

Select 3 semester credit hours from the following courses:

| | | |
|----------|-----------------------------------------------|--|
| MUS 3013 | Digital Music Production | |
| MUS 3103 | Audio Technology I | |
| MUS 3123 | Introduction to Electronic and Computer Music | |

D. Music Performance¹ 3

Select 3 semester credit hours from the following courses. Those 3 credits must be earned through participation in three ensembles across multiple semesters. Some ensembles require an audition.

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|--|
| MUS 3831 | Principal Ensemble | |
| Possible ensembles under this course number are: Wind Ensemble, Symphonic Band, University Band, Orchestra, Chamber Singers, Concert Choir, Women's Choir, and Men's Glee Club. | | |
| MUS 3711 | Mariachi Ensemble | |
| MUS 3771 | Jazz Ensemble | |
| MUS 3791 | Lyric Theatre | |
| MUS 3801 | UTSA Athletic Band | |
| MUS 4581 | Chamber Music | |

| | | |
|--------------------|--|----|
| Total Credit Hours | | 20 |
|--------------------|--|----|

1

All ensembles may be repeated for credit.

Minor in Music Marketing

To declare the Minor in Music Marketing, students must interview with a Music Department advisor and submit the Declaration of Music Minor form.

All students pursuing the Minor in Music Marketing must complete 18 semester credit hours of required courses.

| | | |
|----------|-------------------------------------------------------|---|
| MUS 2263 | Introduction to the Music Industry | 3 |
| MUS 2273 | Introduction to Music and Art Nonprofit Organizations | 3 |
| MUS 3613 | Entrepreneurship in Music | 3 |
| MUS 4433 | Multimedia Production | 3 |
| MUS 4803 | Seminar in Music Marketing | 3 |
| MUS 4953 | Special Studies in Music (Music Marketing Project) | 3 |

| | | |
|--------------------|--|----|
| Total Credit Hours | | 18 |
|--------------------|--|----|

Minor in Music Technology

To declare the Minor in Music Technology, students must interview with a Music Department advisor and submit the Declaration of Music Minor Form.

All students pursuing the Minor in Music Technology must complete 19 semester credit hours.

A. Required Courses 15

| | | |
|----------|-----------------------------------------------|--|
| MUS 3013 | Digital Music Production | |
| MUS 3103 | Audio Technology I | |
| MUS 3123 | Introduction to Electronic and Computer Music | |
| MUS 3163 | Audio Technology II | |
| MUS 4433 | Multimedia Production | |

B. Elective Courses

4

| | |
|-----------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| Select 4 semester credit hour from the following courses: | |
| MUS 3623 | Composition with the Digital Audio Workstation (Composition with the Digital Audio Workstation) |
| MUS 3633 | Seminar in Object-Oriented Sound Design (Seminar in Object-Oriented Sound Design) |
| MUS 4153 | Audio Technology III |
| MUS 4581 | Chamber Music (New Music Lab) ¹ |
| MUS 4961 | Music Technology Project |
| <hr/> | |
| Total Credit Hours | 19 |

1

Participation may require an audition.

Department of Philosophy and Classics

The Department of Philosophy and Classics offers Bachelor of Arts degrees in Classical Studies and Humanities, Medical Humanities, and Philosophy. Students majoring in Medical Humanities may select a concentration in Pre-Medicine or Health Careers. Minors are offered in Classical Studies, Humanities, Philosophy, and Religious Studies. Honors may be earned in Classical Studies and Humanities, and Philosophy.

Honors in Classical Studies and Humanities

Students whose grade point average in the Classical Studies and Humanities major before the beginning of their final year at UTSA is 3.25 or above, and whose overall grade point average is 3.0, may earn Honors in Classical Studies and Humanities. To do so, a student must complete a substantial paper approved by the Department Scholarship and Honors Committee and maintain a 3.25 grade point average in the major. The grade point average requirements apply to all transfer work as well as all courses taken at UTSA.

Honors in Philosophy

Students whose grade point average in the philosophy major before the beginning of their final year at UTSA is 3.25 or above, and whose overall grade point average is 3.0, may earn Honors in Philosophy. To do so, a student must complete a substantial paper approved by the Department Scholarship and Honors Committee and maintain a 3.25 grade point average in the major. The grade point average requirements apply to all transfer work as well as all courses taken at UTSA.

- B.A. degree in Classical Studies and Humanities (p. 222)
- B.A. degree in Medical Humanities (p. 225)
- B.A. degree in Philosophy (p. 232)

Bachelor of Arts Degree in Classical Studies and Humanities

The Bachelor of Arts (B.A.) degree in Classical Studies and Humanities is an interdisciplinary degree program that provides students with a foundation in the history of humanistic disciplines and also affords the opportunity to focus on particular periods and intellectual trends. In completing the degree, students must declare either a Classical Studies emphasis, which focuses on the language, literature and culture of ancient Greece and Rome as foundational to humanistic studies, or a general Humanities emphasis, which offers a synoptic view of the history of ideas and the opportunity to study the reception of these traditions within a broader range of historical periods. The minimum number of semester credit hours required for this degree is 120, including the hours of the Core Curriculum requirements. For either emphasis, 39 of the total semester credit hours required for the degree must be at the upper-division level (3000- and 4000-level), 18 of which must be earned in upper-division UTSA courses.

All candidates seeking this degree must fulfill the Core Curriculum requirements and the degree requirements, which are listed below.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the B.A. degree in Classical Studies and Humanities must fulfill University Core Curriculum requirements in the same manner as other students. If courses are taken to satisfy both degree requirements and Core Curriculum requirements, then students may need to take additional courses in order to meet the minimum number of semester credit hours required for this degree.

Core Curriculum Component Area Requirements (p. 7)

| | |
|-----------------------------------|-----------|
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |
| Life and Physical Sciences | 6 |
| Language, Philosophy and Culture | 3 |
| Creative Arts | 3 |
| American History | 6 |
| Government-Political Science | 6 |
| Social and Behavioral Sciences | 3 |
| Component Area Option | 3 |
| Total Credit Hours | 42 |

Degree Requirements

A. Common Core

| | | |
|-------------|------------------------------------|---|
| CLA 2013 | Introduction to Ancient Greece | 3 |
| CLA 2023 | Introduction to Ancient Rome | 3 |
| PHI 2023 | Introduction to Ancient Philosophy | 3 |
| CLA 4973 | Senior Seminar in Classics | 3 |
| or HUM 4973 | Senior Seminar in Humanities | |

B. Language Component

Select one of the following emphases: 6-8

Classical Studies Emphasis:

| | |
|-------------|---------------------------------------|
| LAT 1114 | Introductory Latin I (or equivalent) |
| or GRK 1114 | Introductory Classical Greek I |
| LAT 1124 | Introductory Latin II (or equivalent) |
| or GRK 1124 | Introductory Classical Greek II |

Humanities Emphasis:

Select 6 semester hours in a language other than English

C. Discipline Core

Select one of the following emphases: 18

Classical Studies Emphasis:

| | |
|-------------|--------------------------------|
| GRK 2113 | Intermediate Classical Greek I |
| or LAT 2113 | Intermediate Latin I |

Five prescribed electives from the following list (three courses must be 3000-level or higher):

| | |
|----------|--------------------------------------------|
| CLA 2033 | Introduction to Classical Literature |
| CLA 2323 | Classical Mythology |
| CLA 3053 | Topics in Classical Literature |
| CLA 3063 | Ancient Mediterranean Art and Archaeology |
| CLA 3123 | Cultural Issues in Mediterranean Antiquity |
| CLA 3513 | Ancient Mediterranean History |
| CLA 4913 | Independent Study |
| CLA 4953 | Special Studies in Classics |

| | |
|-------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| FL 3043 | Individualized Instruction in Advanced-Level Language (provided the instruction is in Latin or Greek; may be repeated as often as subject matter varies) |
| HUM 2093 | World Religions |
| HUM 3023 | History of Cultures |
| Humanities Emphasis: | |
| HUM 2093 | World Religions |
| HUM 3013 | History of Ideas |
| Four courses in approved historical periods selected from the following (three of which must be at the 3000-level or higher): | |
| CLA 3123 | Cultural Issues in Mediterranean Antiquity |
| CLA 3513 | Ancient Mediterranean History |
| HUM 2023 | Introduction to the Humanities I |
| HUM 2033 | Introduction to the Humanities II |
| HUM 2053 | History of Film |
| HUM 3023 | History of Cultures |

D. Advanced Support Work

40-42 semester credit hours of electives. In fulfillment of this requirement, majors are encouraged to take at least 9 semester credit hours of upper-division coursework in disciplines that support the study of Philosophy. Recommended disciplines for the Classics emphasis include: Architecture; Language, Literature, and Humanities; History and Theory of Art and Music. Recommended disciplines for the Humanities emphasis include: Mathematics and Natural Sciences; Social and Behavioral Sciences; Language, Literature, and Humanities; History and Theory of Art and Music; Architecture.

Total Credit Hours

76-80

Course Sequence Guide for B.A. Degree in Classical Studies and Humanities

This course sequence guide is designed to assist students in completing their UTSA undergraduate Classical Studies and Humanities degree requirements. *This is merely a guide and students must satisfy other requirements of this catalog and meet with their academic advisor for individualized degree plans.* Progress within this guide depends upon such factors as course availability, individual student academic preparation, student time management, work obligations, and individual financial considerations. Students may choose to take courses during Summer terms to reduce course loads during long semesters.

B.A. in Classical Studies and Humanities, Classical Studies Emphasis – Four-Year Academic Plan

First Year

| Fall | Credit Hours |
|-------------------------------|-------------------------------------------------------------|
| AIS 1203 | Academic Inquiry and Scholarship (core) 3 |
| LAT 1114 or GRK 1114 | Introductory Latin I or Introductory Classical Greek I 4 |
| WRC 1013 | Freshman Composition I (core) 3 |
| Mathematics core | 3 |
| Life & Physical Sciences core | 3 |
| Credit Hours | 16 |

| | | |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|----|
| Spring | | |
| HIS 1043 or HIS 1053 or HIS 2053 | United States History: Pre-Columbus to Civil War Era (core) or United States History: Civil War Era to Present or Texas History | 3 |
| LAT 1124 or GRK 1124 | Introductory Latin II () or Introductory Classical Greek II | 4 |
| POL 1013 | Introduction to American Politics (core) | 3 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| Life & Physical Sciences core | | 3 |
| Credit Hours | | 16 |

Second Year

| | | |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|----|
| Fall | | |
| CLA 2013 | Introduction to Ancient Greece | 3 |
| HIS 1043 or HIS 1053 or HIS 2053 | United States History: Pre-Columbus to Civil War Era (core) or United States History: Civil War Era to Present or Texas History | 3 |
| Free elective | | 3 |
| Language, Philosophy & Culture core | | 3 |
| Social and Behavioral Sciences core | | 3 |
| Credit Hours | | 15 |

| | | |
|-------------------------|---------------------------------------------------------------------------|----|
| Spring | | |
| CLA 2023 | Introduction to Ancient Rome | 3 |
| PHI 2023 | Introduction to Ancient Philosophy | 3 |
| POL 1133 or POL 1213 | Texas Politics and Society (core) or Civil Rights in Texas and America | 3 |
| Free elective | | 3 |
| Creative Arts core | | 3 |
| Credit Hours | | 15 |

Third Year

| | | |
|-----------------------------------------|-----------------------------------------------------------|----|
| Fall | | |
| LAT 2113 or GRK 2113 | Intermediate Latin I or Intermediate Classical Greek I | 3 |
| Upper-division CLA, HUM, or FL elective | | 3 |
| Upper-division free elective | | 3 |
| Upper-division support work | | 3 |
| Component Area Option core | | 3 |
| Credit Hours | | 15 |

| | | |
|------------------------------|--|----|
| Spring | | |
| CLA, HUM, or FL elective | | 3 |
| CLA, HUM, or FL elective | | 3 |
| Free elective | | 3 |
| Upper-division free elective | | 3 |
| Upper-division support work | | 3 |
| Credit Hours | | 15 |

Fourth Year

| | | |
|-----------------------------------------|--|---|
| Fall | | |
| Free elective | | 3 |
| Upper-division CLA, HUM, or FL elective | | 3 |

| | | |
|-----------------------------------------|---|----|
| Upper-division CLA, HUM, or FL elective | 3 | |
| Upper-division free elective | 3 | |
| Upper-division support work | 3 | |
| Credit Hours | | 15 |

| | | |
|------------------------------|----------------------------|-----|
| Spring | | |
| CLA 4973 | Senior Seminar in Classics | 3 |
| Free elective | | 1 |
| Upper-division free elective | | 3 |
| Upper-division free elective | | 3 |
| Upper-division support work | | 3 |
| Credit Hours | | 13 |
| Total Credit Hours | | 120 |

B.A. in Classical Studies and Humanities, Humanities Emphasis – Four-Year Academic Plan

First Year

| | | |
|-------------------------------|-----------------------------------------|---------------------|
| Fall | | Credit Hours |
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| Foreign language (semester I) | | 3-4 |
| Mathematics core | | 3 |
| Life & Physical Sciences core | | 3 |
| Credit Hours | | 15-16 |

| | | |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|-------|
| Spring | | |
| HIS 1043 or HIS 1053 or HIS 2053 | United States History: Pre-Columbus to Civil War Era (core) or United States History: Civil War Era to Present or Texas History | 3 |
| POL 1013 | Introduction to American Politics (core) | 3 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| Foreign language (semester II) | | 3-4 |
| Life & Physical Sciences core | | 3 |
| Credit Hours | | 15-16 |

Second Year

| | | |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|----|
| Fall | | |
| CLA 2013 | Introduction to Ancient Greece | 3 |
| HIS 1043 or HIS 1053 or HIS 2053 | United States History: Pre-Columbus to Civil War Era (core) or United States History: Civil War Era to Present or Texas History | 3 |
| HUM 2093 | World Religions | 3 |
| Humanities Emphasis elective | | 3 |
| Language, Philosophy & Culture core | | 3 |
| Credit Hours | | 15 |

| | | |
|-------------------------|---------------------------------------------------------------------------|---|
| Spring | | |
| CLA 2023 | Introduction to Ancient Rome | 3 |
| HUM 3013 | History of Ideas | 3 |
| POL 1133 or POL 1213 | Texas Politics and Society (core) or Civil Rights in Texas and America | 3 |

| | |
|----------------------------------------------------|-------|
| Creative Arts core | 3 |
| Upper-division Humanities Emphasis elective | 3 |
| Credit Hours | 15 |
| Third Year | |
| Fall | |
| PHI 2023 Introduction to Ancient Philosophy | 3 |
| Social and Behavioral Sciences core | 3 |
| Free elective | 3 |
| Upper-division free elective | 3 |
| Upper-division Humanities Emphasis elective | 3 |
| Credit Hours | 15 |
| Spring | |
| CLA, PHI, HUM, or Literature elective ¹ | 3 |
| CLA, PHI, HUM, or Literature elective ¹ | 3 |
| Free elective | 3 |
| Upper-division free elective | 3 |
| Component Area Option core | 3 |
| Credit Hours | 15 |
| Fourth Year | |
| Fall | |
| CLA, PHI, HUM, or Literature elective ¹ | 3 |
| Free elective | 3 |
| Upper-division free elective | 3 |
| Upper-division free elective | 3 |
| Upper-division Humanities Emphasis elective | 3 |
| Credit Hours | 15 |
| Spring | |
| HUM 4973 Senior Seminar in Humanities | 3 |
| CLA, PHI, HUM, or Literature elective ¹ | 3 |
| Free elective | 3 |
| Free elective (to meet 120 hour minimum) | 1-3 |
| Upper-division free elective | 3 |
| Credit Hours | 15-13 |
| Total Credit Hours | 120 |

1

9 of these hours must be upper-division.

Bachelor of Arts Degree in Medical Humanities

The Bachelor of Arts (B.A.) degree in Medical Humanities is an interdisciplinary degree drawing upon the natural sciences, social sciences, humanities, and arts disciplines to prepare students for careers in medicine and health within a competency-based framework that promotes the interpretation of human factors associated with illness and wellness.

The degree offers three concentrations: The Pre-Medicine Concentration meets typical application requirements for American medical and dental schools; the Health Careers Concentration prepares graduates for a wide variety of health-related careers; and the Pre-Advanced Practice Provider Concentration.

All candidates seeking this degree must fulfill the Core Curriculum requirements and the degree requirements, which are listed below.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the B.A. degree in Medical Humanities must fulfill University Core Curriculum requirements in the same manner as other students. If courses are taken to satisfy both degree requirements and Core Curriculum requirements, then students may need to take additional courses in order to meet the minimum number of semester credit hours required for this degree.

Core Curriculum Component Area Requirements (p. 7)

| | |
|-----------------------------------|----|
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |
| Life and Physical Sciences | 6 |
| Language, Philosophy and Culture | 3 |
| Creative Arts | 3 |
| American History | 6 |
| Government-Political Science | 6 |
| Social and Behavioral Sciences | 3 |
| Component Area Option | 3 |
| Total Credit Hours | 42 |

Bachelor of Arts Degree in Medical Humanities with a Pre-Medicine Concentration

The minimum number of semester credit hours required for this degree is 120, including the hours of Core Curriculum requirements. Thirty-nine of the 120 total semester credit hours required for the degree must be at the upper-division level.

All candidates for this degree must complete the following degree requirements in addition to the Core Curriculum requirements.

Degree Requirements

| | | |
|-------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|-----------|
| A. Required courses in science and mathematics | | 47 |
| BIO 1404 | Biosciences I (satisfies one of the Life and Physical Sciences Core Curriculum requirements) | |
| BIO 1414 | Biosciences II (satisfies one of the Life and Physical Sciences Core Curriculum requirements) | |
| BIO 2313 | Genetics | |
| BIO 3513 | Biochemistry | |
| BIO 3713 | Microbiology | |
| | or BIO 3813 Cell Biology | |
| CHE 1103 & CHE 1121 | General Chemistry I and General Chemistry I Laboratory | |
| CHE 1113 & CHE 1131 | General Chemistry II and General Chemistry II Laboratory | |
| CHE 2603 & CHE 2612 | Organic Chemistry I and Organic Chemistry I Laboratory | |
| CHE 3643 | Organic Chemistry II | |
| MAT 1073 | Algebra for Scientists and Engineers (may be used to satisfy the Core Curriculum requirement in Mathematics) | |
| PHY 1603 & PHY 1611 | Algebra-based Physics I and Algebra-based Physics I Laboratory | |

| | |
|------------|------------------------------------------------------------------------------------------|
| PHY 1623 | Algebra-based Physics II |
| & PHY 1631 | and Algebra-based Physics II Laboratory |
| STA 1053 | Basic Statistics (may be used to satisfy the Core Curriculum requirement in Mathematics) |
| | or PSY 2073 Statistics for Psychology |

B. Required courses in medical humanities 6

| | |
|----------|------------------------------------|
| MHU 2013 | Introduction to Medical Humanities |
| MHU 4813 | Seminar in Medical Humanities |

C. Social and behavioral sciences electives

15 semester credit hours of electives in social and behavioral sciences, 9 of which must be upper-division, and 3 from the Core Curriculum, chosen from the following: 15

| | |
|----------|----------------------------------------------------------------------------------------------------------------------------------------|
| ANT 2033 | Introduction to Biological Anthropology |
| ANT 2053 | Introduction to Cultural Anthropology (may be used to satisfy the Core Curriculum requirement in Social and Behavioral Sciences) |
| ANT 2063 | Language, Thought, and Culture (may be used to satisfy the Core Curriculum requirement in Language, Philosophy and Culture) |
| ANT 3513 | The Human Skeleton |
| ANT 3523 | Medical Anthropology |
| ANT 3563 | Anthropology of Complementary and Alternative Medicine |
| ANT 3883 | Death and Dying |
| ANT 4303 | Water, Sustainability, and Health |
| ANT 4333 | Ecology and Evolution of Human Diseases |
| ANT 4413 | Genes, Health, and Ancestry |
| BIO 1033 | Drugs and Society (may be used to satisfy the Core Curriculum requirement in Social and Behavioral Sciences) |
| EDP 3673 | Introduction to Behavior Analysis |
| EDP 3683 | Behavior Analytic Assessment and Evaluation |
| EDP 3693 | Behavior Analytic Intervention and Treatment |
| EDP 4683 | Advanced Behavior Analysis |
| GES 3443 | Medical Geography |
| HTH 2413 | Introduction to Community and Public Health (may be used to satisfy the Core Curriculum requirement in Social and Behavioral Sciences) |
| HTH 2513 | Personal Health (may be used to satisfy the Core Curriculum requirement in Social and Behavioral Sciences) |
| PSY 1013 | Introduction to Psychology (may be used to satisfy the Core Curriculum requirement in Social and Behavioral Sciences) |
| PSY 2073 | Statistics for Psychology |
| PSY 3023 | Social Psychology of Small Groups |
| PSY 3523 | Psychology of Adulthood and Aging |
| PSY 3543 | Introduction to Clinical Psychology |
| PSY 4253 | Psychology of Health |
| PUB 1113 | Introduction to Public Health |
| PUB 4043 | Global Health |
| PUB 4053 | Health Care System |
| SOC 1013 | Introduction to Sociology (may be used to satisfy the Core Curriculum requirement in Social and Behavioral Sciences) |

| | |
|----------|-----------------------------------------------------------------------------------------------------------------------|
| SOC 2023 | Social Context of Drug Use (may be used to satisfy the Core Curriculum requirement in Social and Behavioral Sciences) |
| SOC 3203 | Gerontology |
| SOC 3213 | Medical Sociology |
| SOC 4683 | Health Disparities |

D. Arts and humanities electives

15 additional semester credit hours of electives in arts and humanities, 9 of which must be upper-division and 3 from the Core Curriculum (selected from a different component area than above), chosen from the following: 15

| | |
|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| AHC 1113 | Survey of Art and Architecture from Prehistoric Times to 1350 (may be used to satisfy the Core Curriculum requirement in Creative Arts) |
| AHC 1123 | Survey of Art and Architecture in Europe and the New World from 1350 to 1750 (may be used to satisfy the Core Curriculum requirement in Creative Arts) |
| AHC 1133 | Survey of Modern Art (may be used to satisfy the Core Curriculum requirement in Creative Arts) |
| AHC 4333 | Topics in Art History and Criticism |
| ART 1103 | Introduction to Visual Arts (may be used to satisfy the Core Curriculum requirement in Creative Arts) |
| BBL 3043 | Social Psychological Considerations in Mexican American Communities |
| COM 3293 | Introduction to Health Communication |
| COM 3493 | Global Health Communication |
| COM 3593 | Health Communication Campaigns |
| COM 3693 | Interpersonal Health Communication |
| COM 4893 | Health Communication Practicum |
| COM 3383 | Interpersonal Communication |
| CSH 1213 | Topics in World Cultures |
| CSH 3823 | Advanced Topics in World Cultures |
| DAN 1113 | Introduction to Modern Dance |
| ENG 2413 | Technical Writing (may be used to satisfy the Core Curriculum requirement in the Component Area Option) |
| ENG 3383 | Writing in Public and Professional Contexts |
| ENG 4433 | Advanced Professional Writing |
| HIS 3453 | History of Medicine in America |
| HUM 2023 | Introduction to the Humanities I (may be used to satisfy the Core Curriculum requirement in Creative Arts) |
| HUM 2033 | Introduction to the Humanities II (may be used to satisfy the Core Curriculum requirement in Creative Arts) |
| MUS 2273 | Introduction to Music and Art Nonprofit Organizations |
| PHI 1043 | Critical Thinking |
| PHI 2043 | Introductory Logic (may be used to satisfy the Core Curriculum requirement in the Component Area Option) |
| PHI 2123 | Contemporary Moral Issues (may be used to satisfy the Core Curriculum requirement in Language, Philosophy and Culture) |
| PHI 3013 | Philosophy of Religion |

| | |
|----------|----------------------------------------------------------|
| PHI 3033 | Philosophy of Science |
| PHI 3203 | Biomedical Ethics |
| PHI 3213 | Ethics |
| POL 3303 | Race and American Politics |
| SOC 3043 | Race and Ethnic Relations |
| SPN 3053 | Spanish for Healthcare Professionals |
| TIS 3003 | Introduction to Translation and Interpreting |
| TIS 3013 | Translation and Interpreting for the Language Specialist |
| TIS 3033 | Interpreting in Medical Settings |

Internship and Independent Study courses in the participating disciplines may also be applied to satisfy this requirement when the approved coursework is preparatory to careers in medicine and health. Students are encouraged to include independent studies and internships in their degree plans, but only 6 hours of independent study or internship will apply to the degree.

E. Free electives

13 semester credit hours of free electives, 9 of which must be upper division 13

Total Credit Hours 96

Note: Any Core Curriculum course may be used to satisfy the Component Area Option requirement.

Medical Humanities majors are encouraged to study one or more ancient or modern languages other than English through elective coursework.

Bachelor of Arts Degree in Medical Humanities with a Health Careers Concentration

The B.A. degree in Medical Humanities with a Health Careers Concentration prepares graduates for a wide variety of health-related careers.

The minimum number of semester credit hours required for this degree is 120, including the hours of Core Curriculum requirements. Thirty-nine of the 120 total semester credit hours required for the degree must be at the upper-division level.

All candidates for this degree must complete the following degree requirements in addition to the Core Curriculum requirements.

Degree Requirements

A. Required courses in science and mathematics 25

| | |
|---------------------|--------------------------------------------------------------------------------------------------------------------------------|
| BIO 1404 | Biosciences I (satisfies one of the Life and Physical Sciences Core Curriculum requirements) |
| BIO 1414 | Biosciences II (satisfies one of the Life and Physical Sciences Core Curriculum requirements) |
| BIO 2313 | Genetics |
| CHE 1103 & CHE 1121 | General Chemistry I and General Chemistry I Laboratory |
| MAT 1073 | Algebra for Scientists and Engineers (may be used to satisfy the Core Curriculum requirement in Mathematics) |
| PHY 1603 & PHY 1611 | Algebra-based Physics I and Algebra-based Physics I Laboratory |
| STA 1053 | Basic Statistics (may be used to satisfy the Core Curriculum requirement in Mathematics) or PSY 2073 Statistics for Psychology |

B. Required courses in medical humanities 6

| | |
|----------|------------------------------------|
| MHU 2013 | Introduction to Medical Humanities |
| MHU 4813 | Seminar in Medical Humanities |

C. Social and behavioral sciences electives

21 semester credit hours in social and behavioral sciences, 12 of which must be upper-division and 3 from the Core Curriculum, chosen from the following: 21

| | |
|----------|----------------------------------------------------------------------------------------------------------------------------------------|
| ANT 2033 | Introduction to Biological Anthropology |
| ANT 2053 | Introduction to Cultural Anthropology (may be used to satisfy the Core Curriculum requirement in Social and Behavioral Sciences) |
| ANT 2063 | Language, Thought, and Culture (may be used to satisfy the Core Curriculum requirement in Language, Philosophy and Culture) |
| ANT 3513 | The Human Skeleton |
| ANT 3523 | Medical Anthropology |
| ANT 3563 | Anthropology of Complementary and Alternative Medicine |
| ANT 3883 | Death and Dying |
| ANT 4303 | Water, Sustainability, and Health |
| ANT 4333 | Ecology and Evolution of Human Diseases |
| ANT 4413 | Genes, Health, and Ancestry |
| BIO 1033 | Drugs and Society (may be used to satisfy the Core Curriculum requirement in Social and Behavioral Sciences) |
| EDP 3683 | Behavior Analytic Assessment and Evaluation |
| EDP 3693 | Behavior Analytic Intervention and Treatment |
| GES 3443 | Medical Geography |
| HTH 2413 | Introduction to Community and Public Health (may be used to satisfy the Core Curriculum requirement in Social and Behavioral Sciences) |
| HTH 2513 | Personal Health (may be used to satisfy the Core Curriculum requirement in Social and Behavioral Sciences) |
| PSY 1013 | Introduction to Psychology ((may be used to satisfy the Core Curriculum requirement in Social and Behavioral Sciences) |
| PSY 3023 | Social Psychology of Small Groups |
| PSY 3113 | Motivation and Emotion |
| PSY 3523 | Psychology of Adulthood and Aging |
| PSY 3543 | Introduction to Clinical Psychology |
| PSY 4253 | Psychology of Health |
| PUB 1113 | Introduction to Public Health |
| PUB 4043 | Global Health |
| PUB 4053 | Health Care System |
| SOC 1013 | Introduction to Sociology ((may be used to satisfy the Core Curriculum requirement in Social and Behavioral Sciences) |
| SOC 2023 | Social Context of Drug Use (may be used to satisfy the Core Curriculum requirement in Social and Behavioral Sciences) |
| SOC 3203 | Gerontology |
| SOC 3213 | Medical Sociology |
| SOC 4683 | Health Disparities |

D. Arts and humanities electives

21 additional semester credit hours in arts and humanities, 12 of which must be upper-division and 3 from the Core Curriculum (selected from a different component area than above), chosen from the following:

| | | |
|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| AHC 1113 | Survey of Art and Architecture from Prehistoric Times to 1350 (may be used to satisfy the Core Curriculum requirement in Creative Arts) | 21 |
| AHC 1123 | Survey of Art and Architecture in Europe and the New World from 1350 to 1750 (may be used to satisfy the Core Curriculum requirement in Creative Arts) | |
| AHC 1133 | Survey of Modern Art (may be used to satisfy the Core Curriculum requirement in Creative Arts) | |
| AHC 4333 | Topics in Art History and Criticism | |
| ART 1103 | Introduction to Visual Arts (may be used to satisfy the Core Curriculum requirement in Creative Arts) | |
| BBL 3043 | Social Psychological Considerations in Mexican American Communities | |
| CSH 1213 | Topics in World Cultures | |
| CSH 3823 | Advanced Topics in World Cultures | |
| COM 3493 | Global Health Communication | |
| COM 3593 | Health Communication Campaigns | |
| COM 3693 | Interpersonal Health Communication | |
| COM 4893 | Health Communication Practicum | |
| DAN 1113 | Introduction to Modern Dance | |
| EDP 3673 | Introduction to Behavior Analysis | |
| EDP 4683 | Advanced Behavior Analysis | |
| ENG 2413 | Technical Writing (may be used to satisfy the Core Curriculum requirement in the Component Area Option) | |
| ENG 3383 | Writing in Public and Professional Contexts | |
| ENG 4433 | Advanced Professional Writing | |
| HIS 3453 | History of Medicine in America | |
| HUM 2023 | Introduction to the Humanities I (may be used to satisfy the Core Curriculum requirement in Creative Arts) | |
| HUM 2033 | Introduction to the Humanities II (may be used to satisfy the Core Curriculum requirement in Creative Arts) | |
| HUM 2093 | World Religions | |
| HUM 3013 | History of Ideas | |
| MUS 2273 | Introduction to Music and Art Nonprofit Organizations | |
| PHI 1043 | Critical Thinking | |
| PHI 2043 | Introductory Logic (may be used to satisfy the Core Curriculum requirement in the Component Area Option) | |
| PHI 2123 | Contemporary Moral Issues (may be used to satisfy the Core Curriculum requirement in Language, Philosophy and Culture) | |
| PHI 3203 | Biomedical Ethics | |
| PHI 3213 | Ethics | |
| PHI 3223 | Approaches to Knowledge and Reality | |
| PHI 3033 | Philosophy of Science | |
| POL 3303 | Race and American Politics | |
| SOC 3043 | Race and Ethnic Relations | |

| | | |
|----------|----------------------------------------------------------|--|
| SPN 3053 | Spanish for Healthcare Professionals | |
| TIS 3003 | Introduction to Translation and Interpreting | |
| TIS 3013 | Translation and Interpreting for the Language Specialist | |
| TIS 3033 | Interpreting in Medical Settings | |

E. Single language other than English

6 semester credit hours in a single language other than English 6

F. Free electives

12 semester credit hours of upper-division free electives 12

Total Credit Hours 91

Note: Any Core Curriculum course may be used to satisfy the Component Area Option requirement.

Bachelor of Arts Degree in Medical Humanities with a Pre-Advanced Practice Provider Concentration

The minimum number of semester credit hours required for this degree is 120, including the hours of Core Curriculum requirements. Thirty-nine of the 120 total semester credit hours required for the degree must be at the upper-division level.

All candidates for this degree must complete the following degree requirements in addition to the Core Curriculum requirements.

A. Required courses in science and mathematics 12-13

| | | |
|----------|--------------------------------------------------------------------------------------------------------------------------------------------------|--|
| BIO 1233 | Contemporary Biology I (either course satisfies one of the Life and Physical Sciences Core Curriculum requirements) or BIO 1404 Biosciences I | |
| STA 1053 | Basic Statistics (may be used to satisfy the Core Curriculum requirement in Mathematics) | |
| MHU 2013 | Introduction to Medical Humanities | |
| MHU 4813 | Seminar in Medical Humanities | |

B. Science and math electives 24

24 semester credit hours chosen from the following:

| | | |
|---------------------|-----------------------------------------------------------------------------------------------|--|
| BIO 1053 & BIO 1061 | Introductory Microbiology and Introductory Microbiology Laboratory | |
| BIO 1414 | Biosciences II (satisfies one of the Life and Physical Sciences Core Curriculum requirements) | |
| BIO 2043 | Nutrition | |
| BIO 2053 & BIO 2051 | Human Anatomy and Physiology I and Human Anatomy and Physiology Laboratory I | |
| BIO 2063 & BIO 2061 | Human Anatomy and Physiology II and Human Anatomy and Physiology Laboratory II | |
| BIO 2313 | Genetics | |
| CHE 1004 | Chemistry for Allied Health Sciences | |
| CHE 1014 | Elementary Organic and Biochemistry | |
| CHE 1073 | Basic Chemistry | |
| CHE 1103 & CHE 1121 | General Chemistry I and General Chemistry I Laboratory | |
| CHE 1113 & CHE 1131 | General Chemistry II and General Chemistry II Laboratory | |
| CHE 2603 & CHE 2612 | Organic Chemistry I and Organic Chemistry I Laboratory | |
| MAT 1023 | College Algebra with Applications | |

MAT 1073 Algebra for Scientists and Engineers (may be used to satisfy the Core Curriculum requirement in Mathematics)

PHY 1603 & PHY 1611 Algebra-based Physics I and Algebra-based Physics I Laboratory

PHY 1623 & PHY 1631 Algebra-based Physics II and Algebra-based Physics II Laboratory

Some of the courses listed in this section require other courses in this section as prerequisites.

C. Social and behavioral sciences electives 18

18 semester credit hours, 12 of which must be upper-division, chosen from the following:

ANT 2033 Introduction to Biological Anthropology

ANT 2053 Introduction to Cultural Anthropology (may be used to satisfy the Core Curriculum requirement in Social and Behavioral Sciences)

ANT 2063 Language, Thought, and Culture (may be used to satisfy the Core Curriculum requirement in Language, Philosophy and Culture)

ANT 3513 The Human Skeleton

ANT 3523 Medical Anthropology

ANT 3563 Anthropology of Complementary and Alternative Medicine

ANT 3883 Death and Dying

ANT 4303 Water, Sustainability, and Health

ANT 4333 Ecology and Evolution of Human Diseases

BIO 1033 Drugs and Society (maybe used to satisfy the Core Curriculum requirement in Social and Behavior Sciences)

EDP 3673 Introduction to Behavior Analysis

EDP 4683 Advanced Behavior Analysis

GES 3443 Medical Geography

HTH 2413 Introduction to Community and Public Health (maybe used to satisfy the Core Curriculum requirement in Social and Behavioral Sciences)

HTH 2513 Personal Health (may be used to satisfy the Core Curriculum requirement in Social and Behavioral Sciences)

PSY 1013 Introduction to Psychology (may be used to satisfy the Core Curriculum requirement Social and Behavioral Sciences)

PSY 2073 Statistics for Psychology

PSY 3023 Social Psychology of Small Groups

PSY 3523 Psychology of Adulthood and Aging

PSY 3543 Introduction to Clinical Psychology

PSY 4253 Psychology of Health

PUB 4043 Global Health

PUB 4053 Health Care System

SOC 1013 Introduction to Sociology (may be used to satisfy the Core Curriculum requirement in Social and Behavioral Sciences)

SOC 2023 Social Context of Drug Use (may be used to satisfy the Core Curriculum requirement in Social and Behavioral Sciences)

SOC 3203 Gerontology

SOC 3213 Medical Sociology

SOC 4683 Health Disparities

D. Arts and humanities electives 18

18 semester credit hours, 12 of which must be upper-division, chosen from the following:

AHC 1113 Survey of Art and Architecture from Prehistoric Times to 1350 (may be used to satisfy the Core Curriculum requirement in Creative Arts)

AHC 1123 Survey of Art and Architecture in Europe and the New World from 1350 to 1750 (may be used to satisfy the Core Curriculum requirement in Creative Arts)

AHC 1133 Survey of Modern Art (may be used to satisfy the Core Curriculum requirement in Creative Arts)

AHC 4333 Topics in Art History and Criticism

ART 1103 Introduction to Visual Arts (may be used to satisfy the Core Curriculum requirement in Creative Arts)

BBL 3043 Social Psychological Considerations in Mexican American Communities

COM 3293 Introduction to Health Communication

COM 3383 Interpersonal Communication

COM 3493 Global Health Communication

COM 3593 Health Communication Campaigns

COM 3693 Interpersonal Health Communication

COM 4893 Health Communication Practicum

CSH 1213 Topics in World Cultures

CSH 3823 Advanced Topics in World Cultures

DAN 1113 Introduction to Modern Dance

ENG 2413 Technical Writing (may be used to satisfy the Core Curriculum requirement in the Component Area Option)

ENG 3383 Writing in Public and Professional Contexts

ENG 4433 Advanced Professional Writing

HIS 3453 History of Medicine in America

HUM 2023 Introduction to the Humanities I (may be used to satisfy the Core Curriculum requirement in Creative Arts)

HUM 2033 Introduction to the Humanities II (may be used to satisfy the Core Curriculum requirement in Creative Arts)

MUS 2273 Introduction to Music and Art Nonprofit Organizations

PHI 1043 Critical Thinking (may be used to satisfy the Core Curriculum requirement in Language, Philosophy and Culture)

PHI 2043 Introductory Logic (may be used to satisfy the Core Curriculum requirement in the Component Area Option)

PHI 2123 Contemporary Moral Issues (may be used to satisfy the Core Curriculum requirement in Language, Philosophy and Culture)

PHI 3013 Philosophy of Religion

PHI 3033 Philosophy of Science

PHI 3213 Ethics

POL 3303 Race and American Politics

SOC 3043 Race and Ethnic Relations

Internship and Independent Study courses in the participating disciplines may also be used to satisfy this requirement when the approved coursework is preparatory to careers in medicine and health. Students are encouraged to include independent studies and internships in their degree plans, but only 6 hours of independent study or internship will apply to the degree.

| | |
|--------------------------|--------------|
| E. Free electives | 17-18 |
| Total Credit Hours | 90 |

Course Sequence Guide for B.A. Degree in Medical Humanities

This course sequence guide is designed to assist students in completing their UTSA undergraduate Medical Humanities degree requirements. *This is merely a guide and students must satisfy other requirements of this catalog and meet with their academic advisor for individualized degree plans.* Progress within this guide depends upon such factors as course availability, individual student academic preparation, student time management, work obligations, and individual financial considerations. Students may choose to take courses during Summer terms to reduce course loads during long semesters.

B.A. in Medical Humanities with a Pre-Medicine Concentration – Four-Year Academic Plan

First Year

| Fall | | Credit Hours |
|------------------------------------|-------------------------------------------------------|--------------|
| AIS 1223 | AIS: Arts and Humanities (core) | 3 |
| POL 1013 | Introduction to American Politics (core) | 3 |
| MAT 1073 | Algebra for Scientists and Engineers (core and major) | 3 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| Free elective (CHE 1073 if needed) | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|-------------------------------------------------|--------------------------------------------------------|----|
| BIO 1404 | Biosciences I (core and major) | 4 |
| CHE 1103 & CHE 1121 | General Chemistry I and General Chemistry I Laboratory | 4 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| American History core | | 3 |
| Creative Arts core (Arts & Humanities elective) | | 3 |
| Credit Hours | | 17 |

Second Year

Fall

| | | |
|-----------------------------------------------------------------------------|----------------------------------------------------------|----|
| BIO 1414 | Biosciences II (core and major) | 4 |
| CHE 1113 & CHE 1131 | General Chemistry II and General Chemistry II Laboratory | 4 |
| MHU 2013 | Introduction to Medical Humanities | 3 |
| STA 1053 | Basic Statistics (core and major) | 3 |
| Social and Behavioral Sciences core (Social & Behavioral Sciences elective) | | 3 |
| Credit Hours | | 17 |

Spring

| | | |
|-----------------------|--------------------------------------------------------|---|
| BIO 2313 | Genetics | 3 |
| CHE 2603 & CHE 2612 | Organic Chemistry I and Organic Chemistry I Laboratory | 5 |
| American History core | | 3 |

| | | |
|---------------------------------------|---|----|
| Social & Behavioral Sciences elective | 3 | |
| Credit Hours | | 14 |

Third Year

Fall

| | | |
|----------------------|------------------------------------------------------------------------|----|
| BIO 3713 or BIO 3813 | Microbiology (or Cell Biology) or Cell Biology | 3 |
| CHE 3643 | Organic Chemistry II | 3 |
| PHY 1603 & PHY 1611 | Algebra-based Physics I and Algebra-based Physics I Laboratory | 4 |
| POL 1133 or POL 1213 | Texas Politics and Society (core) or Civil Rights in Texas and America | 3 |
| Credit Hours | | 13 |

Spring

| | | |
|---------------------------------------|------------------------------------------------------------------|----|
| BIO 3513 | Biochemistry | 3 |
| PHY 1623 & PHY 1631 | Algebra-based Physics II and Algebra-based Physics II Laboratory | 4 |
| Arts & Humanities elective | | 3 |
| Language, Philosophy and Culture core | | 3 |
| Upper-division free elective | | 3 |
| Credit Hours | | 16 |

Fourth Year

Fall

| | | |
|------------------------------------------------------|---|----|
| Upper-division Arts & Humanities elective | 3 | |
| Upper-division Arts & Humanities elective | 3 | |
| Upper-division Social & Behavioral Sciences elective | 3 | |
| Upper-division Social & Behavioral Sciences elective | 3 | |
| Upper-division free elective | 3 | |
| Credit Hours | | 15 |

Spring

| | | |
|------------------------------------------------------|-------------------------------|-----|
| MHU 4813 | Seminar in Medical Humanities | 3 |
| Upper-division Arts & Humanities elective | 3 | |
| Upper-division Social & Behavioral Sciences elective | 3 | |
| Upper-division free elective | 3 | |
| Free elective (to meet 120 hour minimum) | 1 | |
| Credit Hours | | 13 |
| Total Credit Hours | | 120 |

B.A. in Medical Humanities with a Health Careers Concentration – Four-Year Academic Plan

First Year

| Fall | | Credit Hours |
|------------------------------------|-------------------------------------------------------|--------------|
| AIS 1223 | AIS: Arts and Humanities (core) | 3 |
| POL 1013 | Introduction to American Politics (core) | 3 |
| MAT 1073 | Algebra for Scientists and Engineers (core and major) | 3 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| Free elective (CHE 1073 if needed) | | 3 |
| Credit Hours | | 15 |

| | | |
|-------------------------------------------------|-----------------------------------------------------------|----|
| Spring | | |
| CHE 1103 & CHE 1121 | General Chemistry I and General Chemistry I Laboratory | 4 |
| STA 1053 | Basic Statistics (core and major) | 3 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| American History core | | 3 |
| Creative Arts core (Arts & Humanities elective) | | 3 |
| Credit Hours | | 16 |

Second Year

| | | |
|-----------------------------------------------------------------------------|------------------------------------|-------|
| Fall | | |
| BIO 1404 | Biosciences I (core and major) | 4 |
| MHU 2013 | Introduction to Medical Humanities | 3 |
| Foreign language (semester I) | | 3-4 |
| Social and Behavioral Sciences core (Social & Behavioral Sciences elective) | | 3 |
| Credit Hours | | 13-14 |

Spring

| | | |
|-------------------------------------------|---------------------------------|-------|
| BIO 1414 | Biosciences II (core and major) | 4 |
| American History core | | 3 |
| Foreign language (semester II) | | 3-4 |
| Social & Behavioral Sciences elective | | 3 |
| Upper-division Arts & Humanities elective | | 3 |
| Credit Hours | | 16-17 |

Third Year

| | | |
|------------------------------------------------------|------------------------------------------------------------------------------|----|
| Fall | | |
| BIO 2313 | Genetics | 3 |
| POL 1133 or POL 1213 | Texas Politics and Society (core) or Civil Rights in Texas and America | 3 |
| Social & Behavioral Sciences elective | | 3 |
| Upper-division Social & Behavioral Sciences elective | | 3 |
| Upper-division free elective | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|------------------------------------------------------|----------------------------------------------------------------------|----|
| PHY 1603 & PHY 1611 | Algebra-based Physics I and Algebra-based Physics I Laboratory | 4 |
| Arts & Humanities elective | | 3 |
| Language, Philosophy and Culture core | | 3 |
| Upper-division Social & Behavioral Sciences elective | | 3 |
| Upper-division free elective | | 3 |
| Credit Hours | | 16 |

Fourth Year

| | | |
|------------------------------------------------------|--|----|
| Fall | | |
| Upper-division Arts & Humanities elective | | 3 |
| Upper-division Arts & Humanities elective | | 3 |
| Upper-division Social & Behavioral Sciences elective | | 3 |
| Upper-division Social & Behavioral Sciences elective | | 3 |
| Upper-division free elective | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|----------------------------|-------------------------------|---|
| MHU 4813 | Seminar in Medical Humanities | 3 |
| Arts & Humanities elective | | 3 |

| | |
|-------------------------------------------|-------|
| Upper-division Arts & Humanities elective | 3 |
| Upper-division free elective | 3 |
| Free elective (to meet 120 hour minimum) | 0-2 |
| Credit Hours | 14-12 |
| Total Credit Hours | 120 |

B.A. in Medical Humanities with a Pre-Advanced Practice Provider Concentration – Four-Year Academic Plan**First Year**

| | | |
|--------------|----------------------------------------------------------|---------------------|
| Fall | | Credit Hours |
| AIS 1223 | AIS: Arts and Humanities (core) | 3 |
| STA 1053 | Basic Statistics (core and major) | 3 |
| MAT 1073 | Algebra for Scientists and Engineers (core and major) | 3 |
| MHU 2013 | Introduction to Medical Humanities | 3 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|------------------------|-------------------------------------------------------------------------------------------|----|
| BIO 1404 | Biosciences I (core and major) | 4 |
| CHE 1103 & CHE 1121 | General Chemistry I and General Chemistry I Laboratory | 4 |
| PSY 1013 | Introduction to Psychology (core and major - Social & Behavioral Sciences elective) | 3 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| Free elective | | 3 |
| Credit Hours | | 17 |

Second Year

| | | |
|----------------------------------------|-------------------------------------------------------------|----|
| Fall | | |
| BIO 1414 | Biosciences II (core and major) | 4 |
| CHE 1113 & CHE 1131 | General Chemistry II and General Chemistry II Laboratory | 4 |
| American History Core | | 3 |
| Language, Philosophy, and Culture Core | | 3 |
| Credit Hours | | 14 |

Spring

| | | |
|----------------------------|-----------------------------------------------------------|----|
| BIO 2313 | Genetics | 3 |
| CHE 2603 & CHE 2612 | Organic Chemistry I and Organic Chemistry I Laboratory | 5 |
| POL 1013 | Introduction to American Politics (core) | 3 |
| Arts & Humanities elective | | 3 |
| Credit Hours | | 14 |

Third Year

| | | |
|-------------------------|------------------------------------------------------------------------------------|---|
| Fall | | |
| BIO 3713 & BIO 3722 | Microbiology and Microbiology Laboratory | 5 |
| BIO 2053 & BIO 2051 | Human Anatomy and Physiology I and Human Anatomy and Physiology Laboratory I | 4 |
| POL 1133 or POL 1213 | Texas Politics and Society (core) or Civil Rights in Texas and America | 3 |

| | | |
|---------------------------------------------------------|--------------------------------------------------------------------------------|-----|
| Creative Arts Core | | 3 |
| Credit Hours | | 15 |
| Spring | | |
| BIO 2063 & BIO 2061 | Human Anatomy and Physiology II and Human Anatomy and Physiology Laboratory II | 4 |
| American History Core | | 3 |
| Arts & Humanities elective | | 3 |
| Social & Behavioral Sciences elective | | |
| Upper-division free elective | | 3 |
| Credit Hours | | 13 |
| Fourth Year | | |
| Fall | | |
| MHU 4813 | Seminar in Medical Humanities | 3 |
| Upper-division Arts & Humanities elective | | 3 |
| Upper-division Arts & Humanities elective | | 3 |
| Upper-division Social & Behavioral Sciences elective | | 3 |
| Upper-division Social & Behavioral Sciences elective | | 3 |
| Credit Hours | | 15 |
| Spring | | |
| Upper-division Arts & Humanities elective | | 3 |
| Upper-division Arts & Humanities elective | | 3 |
| Upper-division Social & Behavioral Sciences elective | | 3 |
| Upper-division Social & Behavioral Sciences elective | | 3 |
| Upper-division free elective | | 3 |
| Upper-division free elective (to meet 120 hour minimum) | | 2 |
| Credit Hours | | 17 |
| Total Credit Hours | | 120 |

Bachelor of Arts Degree in Philosophy

The minimum number of semester credit hours required for this degree is 120, including the hours of the Core Curriculum requirements. Thirty-nine of the total semester credit hours required for the degree must be at the upper-division level.

All candidates seeking this degree must fulfill the Core Curriculum requirements and the degree requirements, which are listed below.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the B.A. degree in Philosophy must fulfill University Core Curriculum requirements in the same manner as other students. If courses are taken to satisfy both degree requirements and Core Curriculum requirements, then students may need to take additional courses in order to meet the minimum number of semester credit hours required for this degree.

Note: If a language is used to satisfy the three-hour Language, Philosophy and Culture core requirement, students will need to take an additional three hours in the same language for the degree requirement

| | |
|-----------------------------------------------------------|---|
| Core Curriculum Component Area Requirements (p. 7) | |
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |
| Life and Physical Sciences | 6 |

| | |
|----------------------------------|----|
| Language, Philosophy and Culture | 3 |
| Creative Arts | 3 |
| American History | 6 |
| Government-Political Science | 6 |
| Social and Behavioral Sciences | 3 |
| Component Area Option | 3 |
| Total Credit Hours | 42 |

Degree Requirements

A. Required courses

| | | |
|------------------------------------------------|-----------------------------------------|----|
| PHI 2013 | Basic Philosophical Problems | 3 |
| PHI 2023 | Introduction to Ancient Philosophy | 3 |
| PHI 2033 | Introduction to Early Modern Philosophy | 3 |
| PHI 2043 | Introductory Logic | 3 |
| PHI 3213 | Ethics | 3 |
| PHI 3223 | Approaches to Knowledge and Reality | 3 |
| PHI 4973 | Seminar for Philosophy Majors | 3 |
| Additional upper-division philosophy electives | | 12 |

B. Single language other than English

| | |
|------------------------------------------------------------------------|---|
| Select 6 semester credit hours in a single language other than English | 6 |
|------------------------------------------------------------------------|---|

C. Approved support work

| | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| 39 semester credit hours of electives. In fulfillment of this requirement, majors are encouraged to take at least 9 semester credit hours of upper-division coursework in disciplines that support the study of Philosophy. Recommended disciplines include: Mathematics and Natural Sciences; Social and Behavioral Sciences; Language, Literature, and Humanities; History and Theory of Art and Music. | 39 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|

| | |
|--------------------|----|
| Total Credit Hours | 78 |
|--------------------|----|

Course Sequence Guide for B.A. Degree in Philosophy

This course sequence guide is designed to assist students in completing their UTSA undergraduate Philosophy degree requirements. *This is merely a guide and students must satisfy other requirements of this catalog and meet with their academic advisor for individualized degree plans.* Progress within this guide depends upon such factors as course availability, individual student academic preparation, student time management, work obligations, and individual financial considerations. Students may choose to take courses during Summer terms to reduce course loads during long semesters.

B.A. in Philosophy – Four-Year Academic Plan

| | | |
|-------------------------------|-----------------------------------------|---------------------|
| First Year | | |
| Fall | | Credit Hours |
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| Foreign language (semester I) | | 3-4 |
| Mathematics core | | 3 |
| Life & Physical Sciences core | | 3 |
| Credit Hours | | 15-16 |

Spring

| | | |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|-------|
| HIS 1043 or HIS 1053 or HIS 2053 | United States History: Pre-Columbus to Civil War Era (core) or United States History: Civil War Era to Present or Texas History | 3 |
| POL 1013 | Introduction to American Politics (core) | 3 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| Foreign language (semester II) | | 3-4 |
| Life & Physical Sciences core | | 3 |
| Credit Hours | | 15-16 |

Second Year**Fall**

| | | |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|----|
| HIS 1043 or HIS 1053 or HIS 2053 | United States History: Pre-Columbus to Civil War Era (core) or United States History: Civil War Era to Present or Texas History | 3 |
| PHI 2013 | Basic Philosophical Problems | 3 |
| PHI 2023 | Introduction to Ancient Philosophy | 3 |
| Language, Philosophy & Culture core | | 3 |
| Support work | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|-------------------------|---------------------------------------------------------------------------|----|
| PHI 2033 | Introduction to Early Modern Philosophy | 3 |
| PHI 2043 | Introductory Logic | 3 |
| POL 1133 or POL 1213 | Texas Politics and Society (core) or Civil Rights in Texas and America | 3 |
| Support work | | 3 |
| Creative Arts core | | 3 |
| Credit Hours | | 15 |

Third Year**Fall**

| | | |
|-------------------------------------|--------|----|
| PHI 3213 | Ethics | 3 |
| Upper-division PHI elective | | 3 |
| Upper-division support work | | 3 |
| Social and Behavioral Sciences core | | 3 |
| Component Area Option core | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|------------------------------|-------------------------------------|----|
| PHI 3223 | Approaches to Knowledge and Reality | 3 |
| Free elective | | 3 |
| Upper-division free elective | | 3 |
| Upper-division PHI elective | | 3 |
| Upper-division support work | | 3 |
| Credit Hours | | 15 |

Fourth Year**Fall**

| | | |
|-------------------------|--|---|
| PHI 4000-level elective | | 3 |
| Free elective | | 3 |

| | | |
|------------------------------|--|----|
| Free elective | | 3 |
| Upper-division free elective | | 3 |
| Upper-division free elective | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|------------------------------------------|-------------------------------|-------|
| PHI 4973 | Seminar for Philosophy Majors | 3 |
| PHI 4000-level elective | | 3 |
| Free elective | | 3 |
| Free elective (to meet 120 hour minimum) | | 1-3 |
| Upper-division free elective | | 3 |
| Credit Hours | | 15-13 |
| Total Credit Hours | | 120 |

- Minor in Classical Studies (p. 233)
- Minor in Humanities (p. 233)
- Minor in Philosophy (p. 234)
- Minor in Religious Studies (p. 234)

Minor in Classical Studies

All students pursuing the minor in Classical Studies must complete 21 semester credit hours.

A. Minor requirements

| | | |
|-------------------------|------------------------------------------------------------------------|---|
| LAT 2113 or GRK 2113 | Intermediate Latin I (or equivalent) Intermediate Classical Greek I | 3 |
|-------------------------|------------------------------------------------------------------------|---|

B. Required courses

| | | |
|----------|--------------------------------------|---|
| CLA 2013 | Introduction to Ancient Greece | 3 |
| CLA 2023 | Introduction to Ancient Rome | 3 |
| CLA 2033 | Introduction to Classical Literature | 3 |

C. Three additional courses in Classics, Greek, or Latin

Select 9 additional semester credit hours of coursework in Classics, Greek, or Latin (including Latin study in FL 3043), 6 hours of which must be at the upper-division level. 3 hours may be from a 2000-level Greek or 2000-level Latin (including Latin study in FL 2043)

| | | |
|--------------------|--|----|
| Total Credit Hours | | 21 |
|--------------------|--|----|

Minor in Humanities

All students pursuing the Minor in Humanities must complete 21 semester credit hours.

A. Minor requirements

| | | |
|----------|------------------|---|
| HUM 3013 | History of Ideas | 3 |
|----------|------------------|---|

B. Three background courses

Select one course from each of the following groups

1. Group 1

| | | |
|----------|------------------------------------------------------------------------------|--|
| AHC 1113 | Survey of Art and Architecture from Prehistoric Times to 1350 | |
| AHC 1123 | Survey of Art and Architecture in Europe and the New World from 1350 to 1750 | |
| AHC 1133 | Survey of Modern Art | |

2. Group 2

| | | |
|----------|--------------------------------------|--|
| CLA 2013 | Introduction to Ancient Greece | |
| CLA 2023 | Introduction to Ancient Rome | |
| CLA 2033 | Introduction to Classical Literature | |

3. Group 3

| | | |
|----------|-----------------------------------------|--|
| PHI 2013 | Basic Philosophical Problems | |
| PHI 2023 | Introduction to Ancient Philosophy | |
| PHI 2033 | Introduction to Early Modern Philosophy | |

| | | |
|--------------------------------------------------------------------------------------|--|-----------|
| C. Additional upper-division coursework in humanities | | |
| Select 9 additional semester credit hours of upper-division coursework in Humanities | | 9 |
| Total Credit Hours | | 21 |

Minor in Philosophy

All students pursuing the Minor in Philosophy must complete 21 semester credit hours.

A. Required courses

| | | |
|----------|-----------------------------------------|---|
| PHI 2013 | Basic Philosophical Problems | 3 |
| PHI 2023 | Introduction to Ancient Philosophy | 3 |
| PHI 2033 | Introduction to Early Modern Philosophy | 3 |
| PHI 2043 | Introductory Logic | 3 |
| PHI 3213 | Ethics | 3 |
| PHI 3223 | Approaches to Knowledge and Reality | 3 |

| | | |
|-----------------------------------------------------------|--|-----------|
| B. Additional upper-division courses in Philosophy | | |
| Additional coursework | | 3 |
| Total Credit Hours | | 21 |

Minor in Religious Studies

All students pursuing the Minor in Religious Studies must complete 21 semester credit hours.

A. Required courses

| | | |
|----------|------------------------|---|
| HUM 2093 | World Religions | 3 |
| PHI 3013 | Philosophy of Religion | 3 |

B. Select five courses from the following: 15

| | | |
|----------|---------------------------------------------------------------|--|
| AHC 1113 | Survey of Art and Architecture from Prehistoric Times to 1350 | |
| ANT 3133 | Ritual and Symbol | |
| ANT 3883 | Death and Dying | |
| CLA 2323 | Classical Mythology | |
| CLA 3123 | Cultural Issues in Mediterranean Antiquity | |
| HIS 2543 | Introduction to Islamic Civilization | |
| HUM 3123 | Religion and Culture | |
| HUM 3133 | Theory and Method in the Study of Religion | |
| HUM 3143 | Topics in Religious Studies | |
| HUM 3213 | Classics of Religious Thought | |
| HUM 3223 | Sacred Texts as Literature | |
| HUM 4973 | Senior Seminar in Humanities | |
| PHI 3073 | Asian Philosophy | |
| PHI 4973 | Seminar for Philosophy Majors | |
| SOC 3093 | Religion and Society | |

| | | |
|----------------------------------------------------------------------------------------------|--|-----------|
| Any course identified by the department as containing substantial Religious Studies content. | | |
| Total Credit Hours | | 21 |

Department of Political Science and Geography

The Department of Political Science and Geography offers Bachelor of Arts degrees in Geography and Environmental Sustainability; Global Affairs; Political Science; and Politics and Law. The Political Science and Geography and Sustainability degrees have Social Studies Teaching Tracks. The Department also offers minors in Geography and Environmental Sustainability; Global Affairs; Intelligence and Security Studies, Political Science; and Politics and Law.

Department Honors and Signature Experience

The Honors Program of the Department of Political Science and Geography is an opportunity for advanced study for students who have demonstrated commendable academic performance. The prerequisites for a student's participation in the Honors Program are a minimum grade point average of 3.0 at UTSA, a 3.5 grade point average in the major, and recommendation by a member of the Political Science and Geography faculty. Students who are approved will enroll in the appropriate honors thesis courses during their final semester at UTSA. To earn honors, the thesis must be passed by an Honors Committee that will be formed with the recommending faculty and two other faculty members. Students interested in the Departmental Honors should contact the Department for additional information.

As part of the College of Liberal and Fine Arts Signature Experience, which seeks to offer students opportunities to apply ideas and knowledge in real-world settings, the Department encourages students to enroll in mentorship courses such as an Internship, Independent Study, Study Abroad, and Research Practicum. Majors may apply 3 or 6 semester credit hours of internship study to their baccalaureate program. Internships entail supervised workplace experience, allowing the integration of academic and practitioner learning. The internship coordinator of the Department of Political Science and Geography oversees placement. Department faculty members provide supervision and grade internship performance. Further information can be obtained from the internship coordinator.

Independent Studies are arranged with Department faculty and normally cover topics that are not presented in listed courses. The Research Practicum enables students to focus on an applied research project that makes a contribution to the discovery or resolution of community needs.

- B.A degree in Geography and Environmental Sustainability (p. 234)
- B.A. degree in Global Affairs (p. 237)
- B.A. degree in Political Science (p. 239)
- B.A. degree in Politics and Law (p. 241)

Bachelor of Arts Degree in Geography and Environmental Sustainability

The minimum number of semester credit hours required for the Bachelor of Arts (B.A.) degree in Geography and Environmental Sustainability, including the Core Curriculum requirements, is 120. Thirty-nine of the total semester credit hours required for the degree must be at the upper-division level. At least 40 semester credit hours of geography coursework are required to fulfill the Geography and Environmental Sustainability major. The 40-hour total is considered a minimum, and students are

encouraged to deepen and broaden their grasp of their major through careful allocation of their elective semester credit hours.

All candidates for this degree must fulfill the Core Curriculum requirements and the degree requirements, which are listed below.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the B.A. degree in Geography and Environmental Sustainability must fulfill University Core Curriculum requirements in the same manner as other students. If courses are taken to satisfy both degree requirements and Core Curriculum requirements, then students may need to take additional courses in order to meet the minimum number of semester credit hours required for this degree.

GES 2613 may be used to satisfy a core requirement in Life and Physical Sciences as well as a major requirement.

GES 1023 may be used to satisfy a core requirement in Language, Philosophy and Culture as well as a major requirement.

GES 1013 or GES 2623 may be used to satisfy a core requirement in Social and Behavioral Science as well as a major requirement.

Core Curriculum Component Area Requirements (p. 7)

| | |
|-----------------------------------|-----------|
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |
| Life and Physical Sciences | 6 |
| Language, Philosophy and Culture | 3 |
| Creative Arts | 3 |
| American History | 6 |
| Government-Political Science | 6 |
| Social and Behavioral Sciences | 3 |
| Component Area Option | 3 |
| Total Credit Hours | 42 |

Degree Requirements

A. Courses in the major

40 semester credit hours in the major, 24 must be at the upper-division level.

| | |
|---------------------------------------------------------|----|
| 1. Required courses: | 16 |
| GES 2613 Physical Geography | |
| GES 2623 Human Geography | |
| GES 3003 Global Sustainability | |
| GES 3314 Introduction to Geographic Information Systems | |
| GES 3323 Spatial Analysis | |
| 2. Select 3 credit hours from the following: | 3 |
| GES 1013 Fundamentals of Geography | |
| GES 1023 World Regional Geography | |
| 3. Select 9 credit hours of regional geography courses: | 9 |
| GES 3113 Geography of the United States and Canada | |
| GES 3123 Geography of Latin America | |
| GES 3133 Geography of Europe | |
| GES 3143 Geography of Mexico | |
| GES 3153 Geography of Texas | |
| GES 3423 Geopolitics of Russia and Eurasia | |

| | |
|---------------------------------------------------------------------------------------------------------------------------------------------------|----|
| GES 3433 The Geography and Politics of the Asian Rim | |
| GES 4856 Study Abroad | |
| 4. Select 12 additional credit hours of Geography and Environmental Sustainability electives. These may include courses from the following lists: | 12 |

| | |
|-------------------------------------------------------------------|--|
| Earth science, resources, and the environment | |
| GES 3003 Global Sustainability | |
| GES 3613 Conservation of Resources | |
| GES 3623 Geography of Natural Hazards | |
| GES 3713 Weather and Climate | |
| GES 3723 Physiography | |
| GES 3743 Biogeography | |
| GES 3753 Climate Change | |
| Economic, political, population, and cultural studies | |
| GES 3223 Revealing Geography through Film and Pop Culture | |
| GES 3443 Medical Geography | |
| GES 3453 Population Geography | |
| GES 3533 Geography of Local Economic Activity | |
| GES 3543 Behavioral Geography | |
| GES 3633 Geography of Globalization and Development | |
| GES 3643 Political Geography | |
| GES 3673 Space and Identity Crisis in the Postmodern Era | |
| Geographic Information Systems and cartography | |
| GES 3334 Advanced Geographic Information Systems | |
| GES 3343 Analytical and Computer Cartography | |
| GES 3353 Critical Qualitative GIS | |
| GES 3363 GIS Cartography | |
| Urban studies | |
| GES 3513 Urban Geography | |
| GES 3653 Gender and Cities: An Introduction to Feminist Geography | |
| GES 3663 Urban Sustainability in Global Context | |
| GES 3733 Urban and Regional Analysis | |

Additional regional courses selected from item 3 above

| | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| B. Single language other than English | |
| Select 6 semester credit hours of a single language other than English | 6 |
| C. Electives | |
| Select 32 semester credit hours of electives. In fulfillment of this requirement, majors are encouraged to take at least 9 semester credit hours of upper-division coursework in disciplines that support the study of geography in the following areas: | 32 |
| Urban, economic, political, population, and cultural studies | |
| International courses including global affairs | |
| Earth science and resources | |
| Total Credit Hours | 78 |

Degree Requirements: B.A. Degree in Geography and Environmental Sustainability – Social Studies Teaching Track

A. Required courses

Courses marked with an asterisk (*) may also be used to satisfy Core Curriculum requirements.

| | | |
|----------|----------------------------------------------------------------|---|
| ECO 2003 | Economic Principles and Issues (*) | 3 |
| GES 1013 | Fundamentals of Geography (*) | 3 |
| GES 1023 | World Regional Geography (*) | 3 |
| GES 2613 | Physical Geography (*) | 3 |
| GES 2623 | Human Geography | 3 |
| HIS 1043 | United States History: Pre-Columbus to Civil War Era (*) | 3 |
| HIS 1053 | United States History: Civil War Era to Present (*) | 3 |
| HIS 2053 | Texas History (*) | 3 |
| HIS 2123 | Introduction to World Civilization to the Fifteenth Century | 3 |
| HIS 2133 | Introduction to World Civilization since the Fifteenth Century | 3 |
| POL 1013 | Introduction to American Politics (*) | 3 |
| POL 1133 | Texas Politics and Society (*) | 3 |

B. Upper-division History course

| | |
|-----------------------------------|---|
| Select one course in U.S. history | 3 |
|-----------------------------------|---|

C. Geography

| | |
|------------------------------------------|----|
| Select four courses from the list below: | 12 |
|------------------------------------------|----|

| | | |
|----------|----------------------------------------------------------|--|
| GES 3003 | Global Sustainability | |
| GES 3113 | Geography of the United States and Canada | |
| GES 3123 | Geography of Latin America | |
| GES 3133 | Geography of Europe | |
| GES 3153 | Geography of Texas | |
| GES 3213 | Cultural Geography | |
| GES 3633 | Geography of Globalization and Development | |
| GES 3643 | Political Geography | |
| GES 3653 | Gender and Cities: An Introduction to Feminist Geography | |
| GES 3663 | Urban Sustainability in Global Context | |
| GES 3753 | Climate Change | |

D. Government Institutions

| | |
|-------------------------------------------|---|
| Select three courses from the list below: | 9 |
|-------------------------------------------|---|

| | | |
|----------|--------------------------------------------|--|
| POL 3013 | The American Legal Process | |
| POL 3283 | The American Presidency | |
| POL 3313 | The Supreme Court | |
| POL 3323 | Constitutional Law I | |
| POL 3363 | Political Parties and Interest Groups | |
| POL 3373 | The Legislative Process | |
| POL 3503 | American Foreign Policy since World War II | |

E. Upper-division Geography and Environmental Sustainability courses

| | |
|--------------------------------------------------------|----|
| 12 semester credit hours of upper-division GES courses | 12 |
|--------------------------------------------------------|----|

F. Teacher Certification courses **33**

| | |
|--------------------|-----|
| Total Credit Hours | 105 |
|--------------------|-----|

Course Sequence Guide for B.A. Degree in Geography and Environmental Sustainability

This course sequence guide is designed to assist students in completing their UTSA undergraduate Geography and Environmental Sustainability degree requirements. *This is merely a guide and students must satisfy other requirements of this catalog and meet with their academic advisor for individualized degree plans.* Progress within this guide depends upon such factors as course availability, individual student academic preparation,

student time management, work obligations, and individual financial considerations. Students may choose to take courses during Summer terms to reduce course loads during long semesters.

B.A. in Geography and Environmental Sustainability – Four-Year Academic Plan

First Year

| Fall | | Credit Hours |
|----------------------------------|---------------------------------------------------------------------------------------------------------------------------------|--------------|
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| GES 2613 | Physical Geography (core and major) | 3 |
| HIS 1043 or HIS 1053 or HIS 2053 | United States History: Pre-Columbus to Civil War Era (core) or United States History: Civil War Era to Present or Texas History | 3 |
| POL 1013 | Introduction to American Politics (core) | 3 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|----------------------------------|---------------------------------------------------------------------------------------------------------------------------------|----|
| GES 1013 or GES 1023 | Fundamentals of Geography or World Regional Geography | 3 |
| HIS 1043 or HIS 1053 or HIS 2053 | United States History: Pre-Columbus to Civil War Era (core) or United States History: Civil War Era to Present or Texas History | 3 |
| POL 1133 or POL 1213 | Texas Politics and Society (core) or Civil Rights in Texas and America | 3 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| Life & Physical Sciences core | | 3 |
| Credit Hours | | 15 |

Second Year

Fall

| | | |
|--------------------|----------------------------------|----|
| GES 2623 | Human Geography (core and major) | 3 |
| Creative Arts core | | 3 |
| Free elective | | 3 |
| Free elective | | 3 |
| Free elective | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|-------------------------------------|--|----|
| Component Area Option core | | 3 |
| Language, Philosophy & Culture core | | 3 |
| Mathematics core | | 3 |
| Free elective | | 3 |
| Free elective | | 3 |
| Credit Hours | | 15 |

Third Year

Fall

| | | |
|-------------------------------------------------------------------|--|-----|
| Regional geography course (See item A.3. in degree requirements.) | | 3 |
| Foreign language (semester I) | | 3-4 |

| | | |
|-------------------------------------------------------------------|------------------------------------------------|-------|
| Upper-division GES elective | | 3 |
| Upper-division free elective | | 3 |
| Free elective | | 3 |
| | Credit Hours | 15-16 |
| Spring | | |
| GES 3323 | Spatial Analysis | 3 |
| Regional geography course (See item A.3. in degree requirements.) | | 3 |
| Free elective | | 3 |
| Upper-division GES elective | | 3 |
| Foreign language (semester II) | | 3-4 |
| | Credit Hours | 15-16 |
| Fourth Year | | |
| Fall | | |
| GES 3314 | Introduction to Geographic Information Systems | 4 |
| Regional geography course (See item A.3. in degree requirements.) | | 3 |
| Upper-division free elective | | 3 |
| Upper-division free elective | | 3 |
| Upper-division GES elective | | 3 |
| | Credit Hours | 16 |
| Spring | | |
| GES elective | | 3 |
| Free elective (to meet 120 hour minimum) | | 0-2 |
| Upper-division free elective | | 3 |
| Upper-division free elective | | 3 |
| Upper-division GES elective | | 3 |
| | Credit Hours | 14-12 |
| | Total Credit Hours | 120 |

Bachelor of Arts Degree in Global Affairs

The minimum number of semester credit hours required for the Bachelor of Arts (B.A.) degree in Global Affairs, including the Core Curriculum requirements, is 120. Thirty-nine of the total semester credit hours required for the degree must be at the upper-division level. At least 42 semester credit hours of Global Affairs coursework are required to fulfill the Global Affairs major. The 42-hour total is considered a minimum, and students are encouraged to deepen and broaden their grasp of the major through careful allocation of elective semester credit hours.

All candidates for this degree must fulfill the Core Curriculum requirements and the degree requirements, which are listed below.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the B.A. degree in Global Affairs must fulfill University Core Curriculum requirements in the same manner as other students. If courses are taken to satisfy both degree requirements and Core Curriculum requirements, then students may need to take additional courses in order to meet the minimum number of semester credit hours required for this degree.

GLA 1013 should be used to satisfy the core requirement for Language, Philosophy and Culture. All Global Affairs majors are required to take GLA 1013 as a prerequisite for upper-division GLA courses.

Core Curriculum Component Area Requirements (p. 7)

| | |
|-----------------------------------|----|
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |
| Life and Physical Sciences | 6 |
| Language, Philosophy and Culture | 3 |
| Creative Arts | 3 |
| American History | 6 |
| Government-Political Science | 6 |
| Social and Behavioral Sciences | 3 |
| Component Area Option | 3 |
| Total Credit Hours | 42 |

Degree Requirements

A. Courses in the major

45 semester credit hours in the major, 30 of which must be at the upper-division level.

| | |
|-----------------------------------------------------------------------------------|---|
| 1. Required introductory courses on global affairs: | 9 |
| GLA 1013 U.S. in the Global Arena | |
| GLA 2603 Introduction to Global Politics * | |
| and one of the following | |
| GLA 2103 Introduction to Intelligence Studies | |
| GLA 2203 Introduction to Security Studies: Theory and Policy | |
| GLA 2633 Comparative Politics | |
| 2. Required methods courses: | 6 |
| POL 2693 Designing Research in Political Science | |
| and one of the following | |
| GLA 3103 Research Methods in Global Affairs | |
| GLA 4123 Advanced Techniques in Global Affairs | |
| POL 2703 Quantitative Methods in Political Science | |
| 3. Select three of the following Foundations of Global Affairs courses: | 9 |
| GLA 3003 International Law | |
| GLA 3213 Theories of International Relations | |
| GLA 3233 Theories of International Justice | |
| GLA 3483 International Political Economy | |
| GLA 3513 International Organizations in World Politics | |
| GLA 3523 Force in International Politics | |
| GLA 3613 Nationalism and Identity Politics in a Globalizing World | |
| GLA 3763 Globalization | |
| GLA 3783 Democracy and World Politics | |
| GLA 4853 Study Abroad: Global Affairs | |
| 4. Select three of the following Governance and Policy in Global Affairs courses: | 9 |
| GLA 3033 Global Governance | |
| GLA 3043 International Human Rights | |
| GLA 3503 American Foreign Policy since World War II | |
| GLA 3533 The United Nations | |
| GLA 3543 Diplomacy | |
| GLA 3563 Current Issues in World Politics | |
| GLA 3733 National Security Law | |
| GLA 4133 Conflict, Law, and Security in Global Affairs | |
| GLA 4213 The Intelligence Community in World Affairs | |

| | | |
|------------------------------------------------------------|--------------------------------------------|----|
| GLA 4243 | Terrorism and Counter-Terrorism | |
| GLA 4434 | Cyber Warfare and International Politics | |
| GLA 4853 | Study Abroad: Global Affairs | |
| 5. Select three of the following Regional Studies courses: | | 9 |
| GLA 3383 | East European Politics | |
| GLA 3393 | Latin American Politics | |
| GLA 3403 | European Governments | |
| GLA 3423 | Geopolitics of Russia and Eurasia | |
| GLA 3433 | Governments and Politics of Southeast Asia | |
| GLA 3443 | Governments and Politics of East Asia | |
| GLA 3453 | Politics of Mexico | |
| GLA 3463 | Politics of the Developing World | |
| GLA 3473 | Latin America in the World | |
| GLA 3493 | Politics of the Middle East | |
| GLA 4853 | Study Abroad: Global Affairs | |
| 6. Senior seminar course: | | 3 |
| GLA 4973 | Senior Seminar | |
| B. A single language other than English | | |
| 6 semester credit hours of a language | | 6 |
| C. Electives | | |
| 27 semester credit hours of electives | | 27 |
| Total Credit Hours | | 78 |

*
Note: Credit **cannot** be earned for both GLA 2603 and POL 2603.

Course Sequence Guide for B.A. Degree in Global Affairs

This course sequence guide is designed to assist students in completing their UTSA undergraduate Global Affairs degree requirements. *This is merely a guide and students must satisfy other requirements of this catalog and meet with their academic advisor for individualized degree plans.* Progress within this guide depends upon such factors as course availability, individual student academic preparation, student time management, work obligations, and individual financial considerations. Students may choose to take courses during Summer terms to reduce course loads during long semesters.

B.A. in Global Affairs – Four-Year Academic Plan

First Year

| | | Credit Hours |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|--------------|
| Fall | | |
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| HIS 1043 or HIS 1053 or HIS 2053 | United States History: Pre-Columbus to Civil War Era (core) or United States History: Civil War Era to Present or Texas History | 3 |
| POL 1013 | Introduction to American Politics (core) | 3 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| Mathematics core | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|----------|-------------------------------------------|---|
| GLA 1013 | U.S. in the Global Arena (core and major) | 3 |
|----------|-------------------------------------------|---|

| | | |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|----|
| HIS 1043 or HIS 1053 or HIS 2053 | United States History: Pre-Columbus to Civil War Era (core) or United States History: Civil War Era to Present or Texas History | 3 |
| POL 1133 or POL 1213 | Texas Politics and Society (core) or Civil Rights in Texas and America | 3 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| Life & Physical Sciences core | | 3 |
| Credit Hours | | 15 |

Second Year

Fall

| | | |
|-----------------------------------|---------------------------------|----|
| GLA 2603 | Introduction to Global Politics | 3 |
| Life & Physical Sciences core | | 3 |
| Social & Behavioral Sciences core | | 3 |
| Free elective | | 3 |
| GLA elective | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|----------------------------|-----------------------------------------|----|
| POL 2693 | Designing Research in Political Science | 3 |
| GLA elective | | 3 |
| Creative Arts core | | 3 |
| Component Area Option core | | 3 |
| Free elective | | 3 |
| Credit Hours | | 15 |

Third Year

Fall

| | | |
|--------------------------------------------------------|--|-------|
| Second Methods course (GLA 3103, GLA 4123 or POL 2703) | | 3 |
| Foreign language (semester I) | | 3-4 |
| GLA elective | | 3 |
| Free elective | | 3 |
| GLA elective | | 3 |
| Credit Hours | | 15-16 |

Spring

| | | |
|--------------------------------|--|-------|
| Foreign language (semester II) | | 3-4 |
| Upper-division free elective | | 3 |
| Upper-division GLA course | | 3 |
| GLA elective | | 3 |
| Free elective | | 3 |
| Credit Hours | | 15-16 |

Fourth Year

Fall

| | | |
|------------------------------|--|----|
| Upper-division free elective | | 3 |
| Upper-division free elective | | 3 |
| Upper-division GLA elective | | 3 |
| Upper-division GLA course | | 3 |
| Upper-division GLA course | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|----------|----------------|---|
| GLA 4973 | Senior Seminar | 3 |
|----------|----------------|---|

| | |
|------------------------------------------|-------|
| Upper-division free elective | 3 |
| Upper-division free elective | 3 |
| Upper-division GLA course | 3 |
| Free elective (to meet 120 hour minimum) | 1-3 |
| Credit Hours | 15-13 |
| Total Credit Hours | 120 |

Bachelor of Arts Degree in Political Science

The minimum number of semester credit hours required for the Bachelor of Arts (B.A.) degree in Political Science, including the Core Curriculum requirements, is 120. Thirty-nine of the total semester credit hours required for the degree must be at the upper-division level. At least 39 semester credit hours of Political Science coursework are required to fulfill the Political Science major. The 39-hour total is considered a minimum, and students are encouraged to deepen and broaden their grasp of their major through careful allocation of their elective semester credit hours. These courses, which require advance approval from the academic advisor, should serve to introduce students to other social sciences.

All candidates for this degree must fulfill the Core Curriculum requirements and the degree requirements, which are listed below.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the B.A. degree in Political Science must fulfill University Core Curriculum requirements in the same manner as other students. If courses are taken to satisfy both degree requirements and Core Curriculum requirements, then students may need to take additional courses in order to meet the minimum number of semester credit hours required for this degree.

Core Curriculum Component Area Requirements (p. 7)

| | |
|-----------------------------------|----|
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |
| Life and Physical Sciences | 6 |
| Language, Philosophy and Culture | 3 |
| Creative Arts | 3 |
| American History | 6 |
| Government-Political Science | 6 |
| Social and Behavioral Sciences | 3 |
| Component Area Option | 3 |
| Total Credit Hours | 42 |

Degree Requirements

A. 39 hours in the major

Courses must be selected in the following manner:

| | |
|-------------------------------------------------------------|----|
| 1. Required courses: | 12 |
| POL 2533 Introduction to Political Science | |
| POL 2693 Designing Research in Political Science | |
| POL 2703 Quantitative Methods in Political Science | |
| POL 4973 Seminar in Political Science | |
| 2. Gateway courses. Select two courses from the list below: | 6 |

| | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| GLA 2603 Introduction to Global Politics (Credit cannot be earned for both GLA 2603 and POL 2603.) | |
| or POL 2603 Introduction to Global Politics | |
| POL 2503 Introduction to Political Theory | |
| POL 2513 Politics and the Administrative Process | |
| POL 2623 Law and Society | |
| POL 2633 Comparative Politics | |
| 3. Political science electives. 21 semester credit hours of upper-division electives, with at least 3 hours in each of the sub-fields below. Internship, Honors Thesis, and Study Abroad may count as upper-division political science electives: | 21 |

American Politics

| | |
|----------------------------------------------------------|--|
| POL 3123 Political Psychology | |
| POL 3183 Women in Politics | |
| POL 3244 Mass Media and Public Opinion | |
| POL 3253 Participation and American National Elections | |
| POL 3283 The American Presidency | |
| POL 3293 Political Movements | |
| POL 3303 Race and American Politics | |
| POL 3313 The Supreme Court | |
| POL 3363 Political Parties and Interest Groups | |
| POL 3373 The Legislative Process | |
| POL 3413 Urban Development: Politics Planning, and Power | |
| POL 3633 Political Economy | |
| POL 3743 Politics in Film | |
| POL 3773 Experiments in Democratic Renewal | |
| POL 3813 Politics of Federal Justice Policy Making | |
| POL 3823 Politics of Congressional Elections | |
| POL 3843 Campaign and Election Law | |
| POL 3853 Immigration Law | |

Comparative Politics

| | |
|-------------------------------------------------------|--|
| POL 3393 Latin American Politics | |
| POL 3403 European Governments | |
| POL 3433 Governments and Politics of Southeast Asia | |
| POL 3443 Governments and Politics of East Asia | |
| POL 3453 Politics of Mexico | |
| POL 3463 Politics of the Developing World | |
| POL 3473 Latin America in the World | |
| POL 3493 Politics of the Middle East | |
| POL 3553 The Welfare State in Comparative Perspective | |
| POL 3783 Democracy and World Politics | |
| POL 4023 Techniques in Global Analysis | |

International Politics

| | |
|-------------------------------------------------------------------|--|
| GLA 3003 International Law | |
| GLA 3213 Theories of International Relations | |
| GLA 3233 Theories of International Justice | |
| GLA 3533 The United Nations | |
| GLA 3483 International Political Economy | |
| GLA 3543 Diplomacy | |
| GLA 3613 Nationalism and Identity Politics in a Globalizing World | |
| GLA 4213 The Intelligence Community in World Affairs | |
| GLA 4133 Conflict, Law, and Security in Global Affairs | |

| | |
|--------------------------------------------------------------|-----------------------------------------------------------------------------|
| GLA 4243 | Terrorism and Counter-Terrorism |
| GLA 4434 | Cyber Warfare and International Politics |
| POL 3033 | Global Governance |
| POL 3043 | International Human Rights |
| POL 3383 | East European Politics |
| POL 3423 | Geopolitics of Russia and Eurasia |
| POL 3483 | International Political Economy |
| POL 3503 | American Foreign Policy since World War II |
| POL 3513 | International Organizations in World Politics |
| POL 3523 | Force in International Politics |
| POL 3563 | Current Issues in World Politics |
| POL 3763 | Globalization |
| POL 4023 | Techniques in Global Analysis |
| POL 4163 | Model UN |
| POL 4853 | Study Abroad: Political Science or GLA 4853 Study Abroad: Global Affairs |
| Political Theory | |
| POL 3103 | Contemporary Theories of Justice |
| POL 3113 | American Political Thought |
| POL 3133 | Political Philosophy: Ancient and Medieval |
| POL 3143 | Political Philosophy: Modern |
| POL 3153 | Political Philosophy: Contemporary |
| POL 3173 | Justice and Social Policy |
| POL 3203 | African American Political Thought |
| POL 3643 | Justice among Nations |
| Politics and the Administrative Process or Public Law | |
| PAL 3113 | Minorities and the Law |
| PAL 3413 | Regulatory Law and Enterprise |
| PAL 3863 | Contracts |
| PAL 4213 | Great Controversies in Politics and Law |
| PAL 4223 | Torts through the Case Method |
| PAL 4233 | Federal Courts |
| POL 3013 | The American Legal Process |
| POL 3223 | Judicial Politics |
| POL 3313 | The Supreme Court |
| POL 3323 | Constitutional Law I |
| POL 3333 | Constitutional Law II |
| POL 3413 | Urban Development: Politics Planning, and Power |
| POL 3583 | Jurisprudence |
| POL 3813 | Politics of Federal Justice Policy Making |
| POL 3843 | Campaign and Election Law |
| POL 3853 | Immigration Law |
| POL 4133 | Politics, Law, and Literature |
| POL 4323 | Administrative Law and Politics |
| B. Electives | |
| Select 39 semester credit hours of electives. | 39 |
| Total Credit Hours | 78 |

Degree Requirements: B.A. Degree in Political Science – Social Studies Teaching Track

A. Required courses

| | | |
|-----------------------------------------------------------------------------------------------|-----------------------------------------------------------------|---|
| Courses marked with an asterisk (*) may also be used to satisfy Core Curriculum requirements. | | |
| ECO 2003 | Economic Principles and Issues (*) | 3 |
| GES 1013 | Fundamentals of Geography | 3 |
| GES 1023 | World Regional Geography | 3 |
| GES 2613 | Physical Geography (*) | 3 |
| HIS 1043 | United States History: Pre-Columbus to Civil War Era (*) | 3 |
| HIS 1053 | United States History: Civil War Era to Present (*) | 3 |
| HIS 2053 | Texas History (*) | 3 |
| HIS 2123 | Introduction to World Civilization to the Fifteenth Century (*) | 3 |
| HIS 2133 | Introduction to World Civilization since the Fifteenth Century | 3 |
| POL 1013 | Introduction to American Politics (*) | 3 |
| POL 1133 | Texas Politics and Society (*) | 3 |
| POL 4973 | Seminar in Political Science | 3 |

B. Upper-division History course

| | |
|-----------------------------------|---|
| Select one course in U.S. history | 3 |
|-----------------------------------|---|

C. Geography

| | |
|-------------------------------------------|-------------------------------------------|
| Select three courses from the list below: | 9 |
| GES 3113 | Geography of the United States and Canada |
| GES 3123 | Geography of Latin America |
| GES 3133 | Geography of Europe |
| GES 3153 | Geography of Texas |
| GES 3213 | Cultural Geography |
| GES 3643 | Political Geography |

D. Government Institutions

| | |
|------------------------------------------|--------------------------------------------|
| Select four courses from the list below: | 12 |
| POL 3013 | The American Legal Process |
| POL 3283 | The American Presidency |
| POL 3313 | The Supreme Court |
| POL 3323 | Constitutional Law I |
| POL 3363 | Political Parties and Interest Groups |
| POL 3373 | The Legislative Process |
| POL 3503 | American Foreign Policy since World War II |

E. Upper-division Political Science courses

| | |
|--------------------------------------------------------|----|
| 12 semester credit hours of upper-division POL courses | 12 |
|--------------------------------------------------------|----|

F. Teacher Certification courses

| | |
|---------------------------|------------|
| Total Credit Hours | 105 |
|---------------------------|------------|

Course Sequence Guide for B.A. Degree in Political Science

This course sequence guide is designed to assist students in completing their UTSA undergraduate Political Science degree requirements. *This is merely a guide and students must satisfy other requirements of this catalog and meet with their academic advisor for individualized degree plans.* Progress within this guide depends upon such factors as course availability, individual student academic preparation, student time management, work obligations, and individual financial considerations.

Students may choose to take courses during Summer terms to reduce course loads during long semesters.

B.A. in Political Science – Four-Year Academic Plan

First Year

| | | Credit Hours |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|--------------|
| Fall | | |
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| HIS 1043 or HIS 1053 or HIS 2053 | United States History: Pre-Columbus to Civil War Era (core) or United States History: Civil War Era to Present or Texas History | 3 |
| POL 1013 | Introduction to American Politics (core) | 3 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| Mathematics core | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|----|
| HIS 1043 or HIS 1053 or HIS 2053 | United States History: Pre-Columbus to Civil War Era (core) or United States History: Civil War Era to Present or Texas History | 3 |
| POL 1133 or POL 1213 | Texas Politics and Society (core) or Civil Rights in Texas and America | 3 |
| POL 2533 | Introduction to Political Science | 3 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| Life & Physical Sciences core | | 3 |
| Credit Hours | | 15 |

Second Year

| | | |
|----------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| Fall | | |
| POL 2503 or POL 2513 or POL 2603 or POL 2623 or POL 2633 | Introduction to Political Theory or Politics and the Administrative Process or Introduction to Global Politics or Law and Society or Comparative Politics | 3 |
| POL 2693 | Designing Research in Political Science | 3 |
| Social & Behavioral Sciences core | | 3 |
| Life & Physical Sciences core | | 3 |
| Creative Arts core | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|----------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| POL 2503 or POL 2513 or POL 2603 or POL 2623 or POL 2633 | Introduction to Political Theory or Politics and the Administrative Process or Introduction to Global Politics or Law and Society or Comparative Politics | 3 |
| Free elective | | 3 |
| Free elective | | 3 |
| Language, Philosophy & Culture core | | 3 |

| | |
|----------------------------|----|
| Component Area Option core | 3 |
| Credit Hours | 15 |

Third Year

| | | |
|-------------------------------------------|-------------------------------------------|----|
| Fall | | |
| POL 2703 | Quantitative Methods in Political Science | 3 |
| Upper-division POL - American Politics | | 3 |
| Free elective | | 3 |
| Free elective | | 3 |
| Upper-division free elective | | 3 |
| Credit Hours | | 15 |
| Spring | | |
| POL elective | | 3 |
| Free elective | | 3 |
| Free elective | | 3 |
| Upper-division free elective | | 3 |
| Upper-division POL - Comparative Politics | | 3 |
| Credit Hours | | 15 |

Fourth Year

| | | |
|------------------------------------------------|------------------------------|-----|
| Fall | | |
| Upper-division free elective | | 3 |
| Upper-division free elective | | 3 |
| Upper-division POL elective | | 3 |
| Upper-division POL - International Politics | | 3 |
| Upper-division POL - Political Theory | | 3 |
| Credit Hours | | 15 |
| Spring | | |
| POL 4973 | Seminar in Political Science | 3 |
| Free elective (to meet 120 hour minimum) | | 3 |
| Upper-division free elective | | 3 |
| Upper-division free elective | | 3 |
| Upper-division POL - Public Administration/Law | | 3 |
| Credit Hours | | 15 |
| Total Credit Hours | | 120 |

Bachelor of Arts Degree in Politics and Law

The minimum number of semester credit hours required for the Bachelor of Arts (B.A.) degree in Politics and Law, including the Core Curriculum requirements, is 120. Thirty-nine of the total semester credit hours required for the degree must be at the upper-division level.

All candidates for this degree must fulfill the Core Curriculum requirements and the degree requirements, which are listed below.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the B.A. degree in Politics and Law must fulfill University Core Curriculum requirements in the same manner as other students. If courses are taken to satisfy both degree requirements and Core Curriculum requirements, then students may need to take additional courses in order to meet the minimum number of semester credit hours required for this degree.

| Core Curriculum Component Area Requirements (p. 7) | |
|----------------------------------------------------|-----------|
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |
| Life and Physical Sciences | 6 |
| Language, Philosophy and Culture | 3 |
| Creative Arts | 3 |
| American History | 6 |
| Government-Political Science | 6 |
| Social and Behavioral Sciences | 3 |
| Component Area Option | 3 |
| Total Credit Hours | 42 |

Degree Requirements

A. Courses in the major

| | |
|---------------------------------------------------------------------------------------------------------------------------------------------|----|
| 39 semester hours in the major; 27 must be at the upper-division level. Courses must be selected in the following manner: | |
| 1. Two introductory courses selected from the following: | 6 |
| PAL 2013 Introduction to Legal Studies | |
| PAL 2623 Law and Society | |
| POL 2503 Introduction to Political Theory | |
| 2. Required social science research methods course: | 3 |
| POL 2693 Designing Research in Political Science | |
| 3. One writing course selected from the following: | 3 |
| PAL 3023 Legal Research and Writing | |
| WRC 3013 Writing Strategies for the Pre-law Student | |
| 4. Emphasis electives. 18 semester credit hours of courses selected from the lists below with at least 12 hours taken in a single emphasis: | 18 |
| Law and Society Emphasis | |
| GLA 3003 International Law | |
| GLA 3233 Theories of International Justice | |
| PAL 3113 Minorities and the Law | |
| PAL 3223 Judicial Politics | |
| PAL 3583 Jurisprudence | |
| PAL 4013 Issues in Law and Society | |
| PAL 4123 Legal and Philosophical Reasoning | |
| POL 3103 Contemporary Theories of Justice | |
| POL 3113 American Political Thought | |
| POL 3133 Political Philosophy: Ancient and Medieval | |
| POL 3143 Political Philosophy: Modern | |
| POL 3153 Political Philosophy: Contemporary | |
| POL 3323 Constitutional Law I | |
| POL 3333 Constitutional Law II | |
| POL 3643 Justice among Nations | |
| POL 4133 Politics, Law, and Literature | |
| Law and Governmental Affairs Emphasis | |
| GLA 3513 International Organizations in World Politics | |
| PAL 3013 The American Legal Process | |
| PAL 3313 The Supreme Court | |
| PAL 3413 Regulatory Law and Enterprise | |
| PAL 3513 Trial and Appellate Advocacy | |

| | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|---|
| PAL 3533 | State Courts: Judicial Decision-Making Practice and Procedure | |
| PAL 3813 | Politics of Federal Justice Policy | |
| PAL 3843 | Campaign and Election Law | |
| PAL 3853 | Immigration Law | |
| PAL 3863 | Contracts | |
| PAL 4013 | Issues in Law and Society | |
| PAL 4223 | Torts through the Case Method | |
| PAL 4233 | Federal Courts | |
| PAL 4323 | Administrative Law and Politics | |
| POL 3173 | Justice and Social Policy | |
| POL 3373 | The Legislative Process | |
| 5. 6 semester credit hours of additional politics and law related electives selected from the following list and chosen with consent of the advisor. POL or PAL 4933/6 Internship in Politics may be used to satisfy up to 6 hours of this requirement, if internship focuses on a law-related experience: | | 6 |
| ANT 3733 | Political and Legal Anthropology | |
| BLW 3013 | Business Law | |
| CLA 3053 | Topics in Classical Literature | |
| CLA 3513 | Ancient Mediterranean History | |
| CRJ 2623 | Substantive Criminal Law | |
| CRJ 4633 | Constitutional Criminal Procedure | |
| ECO 2003 | Economic Principles and Issues | |
| ECO 3163 | Evolution of Economic Thought | |
| ENG 3223 | Shakespeare: The Early Plays | |
| ENG 3233 | Shakespeare: The Later Plays | |
| ENG 3323 | History of the English Language | |
| ES 3203 | Environmental Law | |
| GLA 3003 | International Law | |
| GLA 3033 | Global Governance | |
| GLA 3043 | International Human Rights | |
| GLA 3233 | Theories of International Justice | |
| GLA 3513 | International Organizations in World Politics | |
| GLA 3483 | International Political Economy | |
| PAD 2013 | Introduction to Public Policy | |
| PAD 3023 | Introduction to Urban Management and Policy | |
| PAD 3033 | Introduction to Nonprofit Agencies | |
| PAD 3043 | Public and Nonprofit Financial Management | |
| PAD 3113 | Managing Nonprofit Organizations | |
| PAD 3153 | Administrative Law and Policy | |
| PAL 3113 | Minorities and the Law | |
| PAL 3213 | Law School Studies | |
| PAL 3223 | Judicial Politics | |
| PAL 3313 | The Supreme Court | |
| PAL 3413 | Regulatory Law and Enterprise | |
| PAL 3583 | Jurisprudence | |
| PAL 3813 | Politics of Federal Justice Policy | |
| PAL 3843 | Campaign and Election Law | |
| PAL 3853 | Immigration Law | |
| PAL 3863 | Contracts | |
| PAL 3813 | Politics of Federal Justice Policy | |
| PAL 4013 | Issues in Law and Society | |

| | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|----|
| PAL 4123 | Legal and Philosophical Reasoning | |
| PAL 4223 | Torts through the Case Method | |
| PAL 4233 | Federal Courts | |
| PAL 4323 | Administrative Law and Politics | |
| PHI 2043 | Introductory Logic | |
| PHI 3213 | Ethics | |
| POL 2513 | Politics and the Administrative Process | |
| POL 3113 | American Political Thought | |
| POL 3133 | Political Philosophy: Ancient and Medieval | |
| POL 3143 | Political Philosophy: Modern | |
| POL 3153 | Political Philosophy: Contemporary | |
| POL 3173 | Justice and Social Policy | |
| POL 3323 | Constitutional Law I | |
| POL 3333 | Constitutional Law II | |
| POL 3373 | The Legislative Process | |
| POL 3633 | Political Economy | |
| POL 3643 | Justice among Nations | |
| POL 4133 | Politics, Law, and Literature | |
| POL 4933 | Internship in Political Science | |
| 6. Senior seminar | | 3 |
| PAL 4973 | Senior Seminar in Politics and Law | |
| POL 4973 Seminar in Political Science or GLA 4973 Seminar in Global Affairs may be substituted with consent of the Undergraduate Advisor of Record, when covering relevant topics. | | |
| B. Electives | | |
| 39 semester credit hours of electives. | | 39 |
| Total Credit Hours | | 78 |

Course Sequence Guide for B.A. Degree in Politics and Law

This course sequence guide is designed to assist students in completing their UTSA undergraduate Politics and Law degree requirements. *This is merely a guide and students must satisfy other requirements of this catalog and meet with their academic advisor for individualized degree plans.* Progress within this guide depends upon such factors as course availability, individual student academic preparation, student time management, work obligations, and individual financial considerations. Students may choose to take courses during Summer terms to reduce course loads during long semesters.

B.A. in Politics and Law – Four-Year Academic Plan

First Year

| Fall | | Credit Hours |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|--------------|
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| HIS 1043 or HIS 1053 or HIS 2053 | United States History: Pre-Columbus to Civil War Era (core) or United States History: Civil War Era to Present or Texas History | 3 |
| POL 1013 | Introduction to American Politics (core) | 3 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| Mathematics core | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|----|
| HIS 1043 or HIS 1053 or HIS 2053 | United States History: Pre-Columbus to Civil War Era (core) or United States History: Civil War Era to Present or Texas History | 3 |
| POL 1133 or POL 1213 | Texas Politics and Society (core) or Civil Rights in Texas and America | 3 |
| POL 2623 | Law and Society | 3 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| Life & Physical Sciences core | | 3 |
| Credit Hours | | 15 |

Second Year

Fall

| | | |
|-----------------------------------|-------------------------------|----|
| PAL 2013 | Introduction to Legal Studies | 3 |
| Creative Arts core | | 3 |
| Life & Physical Sciences core | | 3 |
| Social & Behavioral Sciences core | | 3 |
| Free Elective | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|-------------------------------------|--------------------------------------------------------|----|
| PAL 2623 or POL 2503 | Law and Society or Introduction to Political Theory | 3 |
| PAL concentration elective | | 3 |
| Component Area Option core | | 3 |
| Language, Philosophy & Culture core | | 3 |
| Free elective | | 3 |
| Credit Hours | | 15 |

Third Year

Fall

| | | |
|----------------------------|-----------------------------------------|----|
| POL 2693 | Designing Research in Political Science | 3 |
| PAL concentration elective | | 3 |
| PAL concentration elective | | 3 |
| Free elective | | 3 |
| Free elective | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|----------------------------|-----------------------------------------------------------------------------|----|
| PAL 3023 or WRC 3013 | Legal Research and Writing or Writing Strategies for the Pre-law Student | 3 |
| PAL concentration elective | | 3 |
| PAL concentration elective | | 3 |
| PAL elective | | 3 |
| Free elective | | 3 |
| Credit Hours | | 15 |

Fourth Year

Fall

| | | |
|----------------------------|------------------------------------|---|
| PAL 4973 | Senior Seminar in Politics and Law | 3 |
| PAL concentration elective | | 3 |
| PAL elective | | 3 |
| Free elective | | 3 |

| | |
|------------------------------|-----|
| Free elective | 3 |
| Credit Hours | 15 |
| Spring | |
| Free elective | 3 |
| Free elective | 3 |
| Upper-division free elective | 3 |
| Upper-division free elective | 3 |
| Upper-division free elective | 3 |
| Credit Hours | 15 |
| Total Credit Hours | 120 |

- Minor in Geography and Environmental Sustainability (p. 244)
- Minor in Global Affairs (p. 244)
- Minor in Intelligence and Security Studies (p. 244)
- Minor in Political Science (p. 245)
- Minor in Politics and Law (p. 246)

Minor in Geography and Environmental Sustainability

All students pursuing the Minor in Geography must complete 18 semester credit hours.

A. Courses in core concepts and regions

| | | |
|----------|---------------------------|---|
| GES 1013 | Fundamentals of Geography | 3 |
| GES 1023 | World Regional Geography | 3 |

B. Upper-division regional geography

Select one of the following: 3

| | | |
|----------|---------------------------------------------|--|
| GES 3113 | Geography of the United States and Canada | |
| GES 3123 | Geography of Latin America | |
| GES 3133 | Geography of Europe | |
| GES 3143 | Geography of Mexico | |
| GES 3153 | Geography of Texas | |
| GES 3423 | Geopolitics of Russia and Eurasia | |
| GES 3433 | The Geography and Politics of the Asian Rim | |

C. Electives in geography

Select 9 semester credit hours of upper-division electives in geography 9

Total Credit Hours 18

To declare a Minor in Geography and Environmental Sustainability, obtain advice, or seek approval of substitutions for course requirements, students should consult their academic advisor.

Minor in Global Affairs

All students pursuing a Minor in Global Affairs must complete 18 semester credit hours, at least 12 of which must be at the upper-division level (3000- or 4000-level courses).

A. Two introductory courses on global affairs: 6

| | | |
|---------------------------|------------------------------------------------------------------------|--|
| GLA 1013 | U.S. in the Global Arena | |
| and one of the following: | | |
| GLA 2603 | Introduction to Global Politics (POL 2603 can substitute for GLA 2603) | |
| GLA 2633 | Comparative Politics | |

B. Select one of the following Research Methods courses 3

| | | |
|----------|-------------------------------------------|--|
| GLA 3103 | Research Methods in Global Affairs | |
| GLA 4123 | Advanced Techniques in Global Affairs | |
| POL 2693 | Designing Research in Political Science | |
| POL 2703 | Quantitative Methods in Political Science | |

C. Additional courses

Select 9 hours of 3000- or 4000-level GLA courses. Of these 9 hours, at least 3 hours in each of the three sections: Governance and Policy in Global Affairs, Regional Studies, and International Relations (in GLA major) 9

No more than 6 semester credit hours selected from the following courses may be substituted for organized courses under section C with approval of the student's academic advisor and Department Chair:

| | | |
|----------|------------------------------|--|
| GLA 4853 | Study Abroad: Global Affairs | |
| GLA 4913 | Independent Study | |
| GLA 4933 | Internship in Global Affairs | |

Total Credit Hours 18

Requests for substitutions require pre-approval of the student's academic advisor, the supervising faculty member, and the Department Chair.

To declare a Minor in Global Affairs, obtain advice, or seek approval of substitutions for course requirements, students should consult with their academic advisor.

Minor in Intelligence and Security Studies

All students pursuing a Minor in Intelligence and Security Studies must complete 21 hours of credit hours.

A. Core introductory courses 6

| | | |
|----------|-----------------------------------------------------|--|
| GLA 2103 | Introduction to Intelligence Studies | |
| GLA 2203 | Introduction to Security Studies: Theory and Policy | |

B. Disciplinary core

Select two courses from the list below: 6

| | | |
|----------|---------------------------------------------------|--|
| GES 3314 | Introduction to Geographic Information Systems | |
| GLA 3503 | American Foreign Policy since World War II | |
| GLA 3523 | Force in International Politics | |
| GLA 3593 | Topics in Latin American Security | |
| GLA 3733 | National Security Law | |
| GLA 4133 | Conflict, Law, and Security in Global Affairs | |
| GLA 4213 | The Intelligence Community in World Affairs | |
| GLA 4243 | Terrorism and Counter-Terrorism | |
| GLA 4434 | Cyber Warfare and International Politics | |
| IS 3533 | Cyber Law and Legal System | |
| MSC 3013 | Training Management and the Warfighting Functions | |
| MSC 3033 | American Military History | |
| POL 4023 | Techniques in Global Analysis | |

C. Intelligence and Security Studies elective

Select one course from the list below: 3

| | | |
|----------|------------------------------------------------|--|
| COM 3553 | Intercultural Communication | |
| COM 3563 | International Communication | |
| ECO 3193 | International Economics | |
| FIN 4613 | Introduction to International Finance | |
| GES 3314 | Introduction to Geographic Information Systems | |

| | |
|----------|-----------------------------------------------|
| GES 3633 | Geography of Globalization and Development |
| GES 3643 | Political Geography |
| GLA 3033 | Global Governance |
| GLA 3513 | International Organizations in World Politics |
| GLA 3533 | The United Nations |
| GLA 3543 | Diplomacy |
| GLA 3783 | Democracy and World Politics |
| HIS 3823 | History of American Foreign Relations |
| POL 3383 | East European Politics |
| POL 3393 | Latin American Politics |
| POL 3453 | Politics of Mexico |
| POL 3423 | Geopolitics of Russia and Eurasia |
| POL 3433 | Governments and Politics of Southeast Asia |
| POL 3443 | Governments and Politics of East Asia |
| POL 3463 | Politics of the Developing World |
| POL 3493 | Politics of the Middle East |
| POL 4953 | Special Studies in Political Science |

D. Foreign Language

Two courses or equivalents of the following languages: Arabic, Chinese, Japanese, Korean, Russian, or Spanish 6

Students who can demonstrate competency in one of the designated foreign languages need not take additional foreign language courses but can take up to 8 hours of intermediate or advanced foreign language courses for credit toward the minor. Alternatively, they can take elective courses in intelligence and security studies to reach the 21 hours necessary to earn the minor. See department Undergraduate Advisor of Record for further questions.

Students may count three hours of internship credit toward their Minor as elective credit as long as the internship takes place at an approved security or intelligence-related agency.

Total Credit Hours 21

Minor in Political Science

All students pursuing the Minor in Political Science must complete 18 semester credit hours, 12 hours of which must be upper-division.

A. Lower-division courses

Select two of the following: 6

GLA 2603 Introduction to Global Politics (Credit cannot be earned for both GLA 2603 and POL 2603.)

or POL 2603 Introduction to Global Politics

GLA 2633 Comparative Politics

or POL 2633 Comparative Politics

POL 2503 Introduction to Political Theory

POL 2513 Politics and the Administrative Process

POL 2533 Introduction to Political Science

POL 2623 Law and Society

POL 2703 Quantitative Methods in Political Science

B. Upper-division courses

Select 12 upper-division semester credit hours. Students must take at least one upper-division class in three of the six subfields (see list of courses by subfield below): 12

American Politics

POL 2403 Mexican American Politics

| | |
|----------|-------------------------------------------------|
| POL 3123 | Political Psychology |
| POL 3183 | Women in Politics |
| POL 3244 | Mass Media and Public Opinion |
| POL 3253 | Participation and American National Elections |
| POL 3283 | The American Presidency |
| POL 3293 | Political Movements |
| POL 3303 | Race and American Politics |
| POL 3313 | The Supreme Court |
| POL 3363 | Political Parties and Interest Groups |
| POL 3373 | The Legislative Process |
| POL 3413 | Urban Development: Politics Planning, and Power |
| POL 3743 | Politics in Film |
| POL 3773 | Experiments in Democratic Renewal |
| POL 3813 | Politics of Federal Justice Policy Making |
| POL 3823 | Politics of Congressional Elections |
| POL 3843 | Campaign and Election Law |
| POL 3853 | Immigration Law |

Comparative Politics

GLA 3393 Latin American Politics
or POL 3393 Latin American Politics

GLA 3403 European Governments
or POL 3403 European Governments

GLA 3433 Governments and Politics of Southeast Asia
or POL 3433 Governments and Politics of Southeast Asia

GLA 3443 Governments and Politics of East Asia
or POL 3443 Governments and Politics of East Asia

GLA 3453 Politics of Mexico
or POL 3453 Politics of Mexico

GLA 3483 International Political Economy

GLA 3493 Politics of the Middle East
or POL 3493 Politics of the Middle East

GLA 3783 Democracy and World Politics
or POL 3783 Democracy and World Politics

GLA 4123 Advanced Techniques in Global Affairs
or POL 4023 Techniques in Global Analysis

GLA 4133 Conflict, Law, and Security in Global Affairs

POL 3463 Politics of the Developing World
or GLA 3463 Politics of the Developing World

POL 3553 The Welfare State in Comparative Perspective

International Politics

GLA 3003 International Law

GLA 3033 Global Governance
or POL 3033 Global Governance

GLA 3043 International Human Rights
or POL 3043 International Human Rights

GLA 3383 East European Politics
or POL 3383 East European Politics

GLA 3423 Geopolitics of Russia and Eurasia

GLA 3483 International Political Economy
or POL 3483 International Political Economy

GLA 3503 American Foreign Policy since World War II
or POL 3503 American Foreign Policy since World War II

| | |
|-------------------------------|------------------------------------------------------------------------------------------------------------|
| GLA 3513 | International Organizations in World Politics or POL 3513 International Organizations in World Politics |
| GLA 3523 | Force in International Politics or POL 3523 Force in International Politics |
| GLA 3533 | The United Nations |
| GLA 3543 | Diplomacy |
| GLA 3613 | Nationalism and Identity Politics in a Globalizing World |
| GLA 3563 | Current Issues in World Politics or POL 3563 Current Issues in World Politics |
| GLA 3763 | Globalization or POL 3763 Globalization |
| GLA 4123 | Advanced Techniques in Global Affairs or POL 4023 Techniques in Global Analysis |
| GLA 4133 | Conflict, Law, and Security in Global Affairs |
| Political Theory | |
| POL 3103 | Contemporary Theories of Justice |
| POL 3113 | American Political Thought |
| POL 3133 | Political Philosophy: Ancient and Medieval |
| POL 3143 | Political Philosophy: Modern |
| POL 3153 | Political Philosophy: Contemporary |
| POL 3173 | Justice and Social Policy |
| POL 3203 | African American Political Thought |
| POL 3643 | Justice among Nations |
| Administrative Process | |
| POL 3413 | Urban Development: Politics Planning, and Power |
| POL 4323 | Administrative Law and Politics |
| Public Law | |
| PAL 3863 | Contracts |
| POL 3013 | The American Legal Process |
| POL 3223 | Judicial Politics |
| POL 3313 | The Supreme Court |
| POL 3323 | Constitutional Law I |
| POL 3333 | Constitutional Law II |
| PAL 3513 | Trial and Appellate Advocacy |
| POL 3583 | Jurisprudence |
| POL 3813 | Politics of Federal Justice Policy Making |
| POL 3843 | Campaign and Election Law |
| POL 3853 | Immigration Law |
| POL 4133 | Politics, Law, and Literature |
| POL 4323 | Administrative Law and Politics |
| Total Credit Hours | 18 |

Internship hours cannot count toward the minor.

To declare a Minor in Political Science, obtain advice, or seek approval of substitutions for course requirements, students should consult their academic advisor.

Minor in Politics and Law

All students pursuing a Minor in Politics and Law must complete 18 semester credit hours, at least 12 hours of which must be at the upper-division level.

A. 15 semester credit hours of required courses

| | |
|-------------------------------------------------------------------------------|----------|
| Required introductory coursework: | 3 |
| PAL 2623 Law and Society or PAL 2013 Introduction to Legal Studies | |
| 2. One writing course selected from the following: | 3 |
| PAL 3023 Legal Research and Writing | |
| WRC 3013 Writing Strategies for the Pre-law Student | |
| 3. Three upper-division concentration courses selected from the following: | 9 |
| GLA 3003 International Law | |
| GLA 3233 Theories of International Justice | |
| PAL 3113 Minorities and the Law | |
| PAL 3213 Law School Studies | |
| PAL 3223 Judicial Politics | |
| PAL 3313 The Supreme Court | |
| PAL 3413 Regulatory Law and Enterprise | |
| PAL 3513 Trial and Appellate Advocacy | |
| PAL 3533 State Courts: Judicial Decision-Making Practice and Procedure | |
| PAL 3583 Jurisprudence | |
| PAL 3813 Politics of Federal Justice Policy | |
| PAL 3843 Campaign and Election Law | |
| PAL 3853 Immigration Law | |
| PAL 3863 Contracts | |
| PAL 4123 Legal and Philosophical Reasoning | |
| PAL 4133 Legal Analysis and Argumentation | |
| PAL 4223 Torts through the Case Method | |
| PAL 4233 Federal Courts | |
| PAL/POL 4323 Administrative Law and Politics | |
| PAL 4933 Internship in Politics and Law | |
| POL 3113 American Political Thought | |
| POL 3323 Constitutional Law I | |
| POL 3333 Constitutional Law II | |
| POL 4133 Politics, Law, and Literature | |
| B. 3 additional semester credit hours selected from the following: | 3 |
| ANT 3733 Political and Legal Anthropology | |
| BLW 3013 Business Law | |
| CLA 3053 Topics in Classical Literature | |
| CLA 3513 Ancient Mediterranean History | |
| CRJ 2623 Substantive Criminal Law | |
| CRJ 4633 Constitutional Criminal Procedure | |
| ECO 2003 Economic Principles and Issues | |
| ECO 3163 Evolution of Economic Thought | |
| ENG 3223 Shakespeare: The Early Plays | |
| ENG 3233 Shakespeare: The Later Plays | |
| ENG 3323 History of the English Language | |
| ES 3203 Environmental Law | |
| GLA 3003 International Law | |
| GLA 3033 Global Governance or POL 3033 Global Governance | |
| GLA 3043 International Human Rights or POL 3043 International Human Rights | |

| | |
|----------|------------------------------------------------------------------------------------------------------------|
| GLA 3233 | Theories of International Justice |
| GLA 3513 | International Organizations in World Politics or POL 3513 International Organizations in World Politics |
| GLA 3633 | Political Economy or POL 3633 Political Economy |
| PAD 2013 | Introduction to Public Policy |
| PAD 3023 | Introduction to Urban Management and Policy |
| PAD 3033 | Introduction to Nonprofit Agencies |
| PAD 3043 | Public and Nonprofit Financial Management |
| PAD 3113 | Managing Nonprofit Organizations |
| PAD 3153 | Administrative Law and Policy |
| PHI 2043 | Introductory Logic |
| PHI 3213 | Ethics |
| PAL 3013 | The American Legal Process or POL 3013 The American Legal Process |
| PAL 3113 | Minorities and the Law |
| PAL 3213 | Law School Studies |
| PAL 3223 | Judicial Politics |
| PAL 3313 | The Supreme Court |
| PAL 3413 | Regulatory Law and Enterprise |
| PAL 3813 | Politics of Federal Justice Policy |
| PAL 3583 | Jurisprudence |
| PAL 3843 | Campaign and Election Law |
| PAL 3853 | Immigration Law |
| PAL 3863 | Contracts |
| PAL 4013 | Issues in Law and Society |
| PAL 4123 | Legal and Philosophical Reasoning |
| PAL 4133 | Legal Analysis and Argumentation |
| PAL 4223 | Torts through the Case Method |
| PAL 4233 | Federal Courts |
| PAL 4323 | Administrative Law and Politics or POL 4323 Administrative Law and Politics |
| POL 2513 | Politics and the Administrative Process |
| POL 3113 | American Political Thought |
| POL 3133 | Political Philosophy: Ancient and Medieval |
| POL 3143 | Political Philosophy: Modern |
| POL 3153 | Political Philosophy: Contemporary |
| POL 3173 | Justice and Social Policy |
| POL 3323 | Constitutional Law I |
| POL 3333 | Constitutional Law II |
| POL 3373 | The Legislative Process |
| PAL 3583 | Jurisprudence |
| POL 3643 | Justice among Nations |
| POL 4133 | Politics, Law, and Literature |
| POL 4933 | Internship in Political Science |

Total Credit Hours

18

10. COLLEGE OF SCIENCES

Mission Statement

The College of Sciences aims to:

- Advance scientific literacy through excellence in education and community outreach.
- Conduct cutting-edge research to expand the frontiers of science and mathematics.
- Establish broad partnerships to enhance scientific competence at all levels.
- Provide leadership in the education of underrepresented and disadvantaged groups.
- Support the engagement of faculty and students in global partnerships linked to science and education.

College Honors

The College of Sciences provides an opportunity for a select group of outstanding students to do advanced study under close faculty supervision. Students who successfully complete the requirements, graduate with College Honors.

Selection for honors designation is based on the student's academic performance and recommendation by the faculty of the student's major discipline in the College of Sciences. To be eligible for the program, students must have a minimum institutional and overall grade point average of 3.0 and a minimum grade point average of 3.0 in the degree requirements of their major in the College of Sciences at UTSA. These minimum averages must be maintained for students to receive the approval of the Dean of the College of Sciences and the discipline faculty. Students applying for College Honors are expected to enroll in the appropriate honors research course during their final two semesters. The completed research paper must be approved by the supervising faculty sponsor and another college faculty member prior to graduation. Interested students should contact their faculty advisors for additional information.

Department of Biology

The Department of Biology offers a Bachelor of Science (B.S.) degree in Biology and a B.S. degree in Microbiology and Immunology, as well as a Minor in Biology. The Department also offers Grades 7–12 Biology Teacher Certification in collaboration with UTeachSA, and the Certificate in Pathogenic Outbreak Investigations in collaboration with the Department of Computer Science and the Department Information of Systems and Cyber Security in the College of Business.

The B.S. degree in Biology is designed to prepare students for professional careers in the biological sciences, medical and health service fields, research, industry, and education. The program of study is structured around a comprehensive core curriculum that includes genetics, physiology, cell biology, chemistry, physics, computer science, and mathematics. At the upper-division level, students wanting to specialize can choose one of six area concentrations: Cell and Molecular Biology, Integrative Biology, Neurobiology, Plant Biology, Pre-Medical Sciences, or Grades 7–12 Biology Teacher Certification.

The B.S. degree in Microbiology and Immunology is designed to prepare students for professional careers in the medical and health service fields, research, industry, education and as specialists in industrial quality testing and control, and as regulatory workers in government agencies and public health laboratories. The program of study is structured around a comprehensive core curriculum that is similar to the Biology degree but upper-division level coursework is designed to achieve a deeper education in several specialized areas of microbiology.

Due to extensive curriculum overlap, students cannot receive a double major in Biology and Microbiology and Immunology. Students must choose between a B.S. in Biology or a B.S. in Microbiology and Immunology.

The UTSA Department of Biology offers two accelerated degree program in conjunction with UTHealth San Antonio. The DEAP Program allows students to earn both the Bachelor of Science (B.S.) degree in Biology from UTSA and their Doctor of Dental Surgery (D.D.S.) degree at the UTHealth San Antonio Dental School within a seven-year period. The RCEAP Program allows students to earn both the Bachelor of Science (B.S.) degree in Biology from UTSA and their Master of Science in Respiratory Care (M.S.) degree at the UTHealth San Antonio Dental School within a five-year period. For eligibility requirements and application visit the UTSA Health Professions Office website (<http://www.utsa.edu/healthprofessions/>).

Admission Policy

Applicants entering UTSA as Freshmen or Transfer students with less than 30 transferable credit hours earned will be admitted to the Department of Biology if they:

- meet all UTSA undergraduate first-time freshman or transfer admission requirements.

Applicants with 30 or more transferable credit hours will be admitted to the Department of Biology if they:

- meet all UTSA undergraduate transfer admission requirements, and
- have completed College Algebra (or higher) or an equivalent with a grade of "C-" or better.

Academic Standing Policy for the B.S. Degree in Biology and the B.S. Degree in Microbiology and Immunology

The goal of the Department of Biology is to provide undergraduate students a program of study that maintains high standards, and that promotes graduation in four years. To achieve this goal, the academic standing policy of the Department of Biology is designed to identify those students most likely to succeed in their undergraduate biology education.

After a student has earned 60 hours of credit, the Department of Biology will evaluate a student's academic performance. To remain either a Biology or Microbiology and Immunology major, a student must complete the following requirements within 60 credit hours:

- A minimum overall UTSA grade point average of 2.0
- A minimum grade point average of 2.0 in all Biology coursework (UTSA and transfer credit)
- Successfully complete the following or equivalent courses with a grade of "C-" or better within 60 credit hours:

| | | |
|-------------------------|-----------------------------------------------------------------------------------------------|---|
| BIO 1404 | Biosciences I | 4 |
| BIO 1414 | Biosciences II | 4 |
| BIO 2313 | Genetics | 3 |
| CHE 1103 | General Chemistry I | 3 |
| MAT 1193 | Calculus for the Biosciences (Students in the teaching concentration can substitute STA 1053) | 3 |
| PHY 1943 or PHY 1603 | Physics for Scientists and Engineers I Algebra-based Physics I | 3 |

Students who do not meet these requirements within 60 credit hours will have their major changed to undeclared in the University student record system. In order to return to a Biology or a Microbiology and Immunology major, the student must complete all the above requirements within 15 additional credit hours from the time of dismissal, and must submit a petition for reinstatement to the Department of Biology for approval.

A student who still does not meet all the above requirements after completing a total of 75 hours must choose a major other than Biology or Microbiology and Immunology. A biology minor is, however, available to all UTSA students who seek to complement a different academic major with a strong foundation in biology.

- B.S. degree in Biology (p. 249)
- B.S. degree in Microbiology and Immunology (p. 254)

Bachelor of Science Degree in Biology

The minimum number of semester credit hours required for the Bachelor of Science (B.S.) degree in Biology, including the Core Curriculum requirements, is 120. To complete the concentration in Biology Teaching Certification requires a minimum of 124 semester credit hours. Thirty-nine of the total semester credit hours required for the degree must be at the upper-division level. All major and support work courses and the required prerequisites must be completed with a grade of "C-" or better.

For students wishing to add focus and expertise to their degree, the Department of Biology also offers the B.S. degree in Biology with a concentration in one of six areas: Cell and Molecular Biology, Integrative Biology, Neurobiology, Plant Biology, Pre-Medical Sciences, and Grades 7–12 Biology Teacher Certification. Specific grade point average

requirements and courses required for each concentration are listed following the general degree requirements.

Due to extensive curriculum overlap, students cannot receive a double major in Biology and Microbiology and Immunology. Students must choose between a B.S. in Biology or a B.S. in Microbiology and Immunology.

Sophomore Biology Research Initiative

In the sophomore year, students may take the required laboratories Molecular Genetics Laboratory (BIO 2362) and Molecular Biochemistry Laboratory (BIO 3362) alone as standard courses, or in conjunction with the Sophomore Biology Research Initiative (SBRI). SBRI gives second year students the opportunity to engage in authentic research with faculty and graduate students. Students working in teams will conduct their own research projects on a specific biological problem over two semesters. Several different research topics will be available to choose from. There will be approximately two hours of lecture/lab meeting and six hours of lab work per week. Students will receive credit for BIO 2362 and BIO 3362 and be concurrently enrolled in 3 semester credit hours of Independent Study to reflect the additional hours required to complete their research. Students will present their final data in poster format at an organized symposium. The opportunity to be part of the SBRI is limited, students should register early.

All candidates for this degree must fulfill the Core Curriculum requirements and the degree requirements, which are listed below.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the B.S. degree in Biology must fulfill University Core Curriculum requirements in the same manner as other students. The courses listed below satisfy both degree requirements and Core Curriculum requirements; however, if these courses are taken to satisfy both requirements, then students may need to take additional courses in order to meet the minimum number of semester credit hours required for this degree.

MAT 1193 may be used to satisfy the core requirement in Mathematics as well as a major requirement. (Students in the teaching concentration can substitute STA 1053 for MAT 1193.) Two of the following courses may be used to satisfy the core requirement in Life and Physical Sciences, as well as major requirements: BIO 1404, BIO 1414, PHY 1943 or PHY 1963. CS 1173 may be used to satisfy the core requirement in Component Area Option as well as a major requirement.

Core Curriculum Component Area Requirements (p. 7)

| | |
|-----------------------------------|-----------|
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |
| Life and Physical Sciences | 6 |
| Language, Philosophy and Culture | 3 |
| Creative Arts | 3 |
| American History | 6 |
| Government-Political Science | 6 |
| Social and Behavioral Sciences | 3 |
| Component Area Option | 3 |
| Total Credit Hours | 42 |

Gateway Courses

Students pursuing the B.S. degree in Biology must successfully complete each of the following Gateway Courses with a grade of "C-" or better in no more than two attempts. A student who is unable to successfully complete these courses within two attempts, including dropping a course with a grade of "W" or taking an equivalent course at another institution, will be required to change his or her major.

| | |
|----------|----------------|
| BIO 1404 | Biosciences I |
| BIO 1414 | Biosciences II |
| BIO 2313 | Genetics |

Degree Requirements

A. Required courses in the major

| | | |
|----------------------------------------------------|----------------|-----|
| 1. Biology requirements: | | |
| BIO 1404 | Biosciences I | 4 |
| BIO 1414 | Biosciences II | 4 |
| BIO 2313 | Genetics | 3 |
| BIO 3413 | Physiology | 3 |
| BIO 3513 | Biochemistry | 3 |
| BIO 3813 | Cell Biology | 3 |
| 2. Select one of the following laboratory options: | | 4-7 |

Option 1 Standard Class Laboratory

| | |
|----------|-----------------------------------|
| BIO 2362 | Molecular Genetics Laboratory |
| BIO 3362 | Molecular Biochemistry Laboratory |

Option 2 Sophomore Research Initiative

| | |
|---------------------|---------------------------------------------------------|
| BIO 2362 & BIO 4911 | Molecular Genetics Laboratory and Independent Study |
| BIO 3362 & BIO 4912 | Molecular Biochemistry Laboratory and Independent Study |

Note: In laboratory Option 1 students will learn laboratory techniques in a standard class setting. In laboratory Option 2 students will learn laboratory techniques while conducting research on a specific biological problem over two semesters. There will be several different research topics offered for Option 2.

| | |
|----------------------------------------------------------|----|
| 3. Biology electives: | |
| Additional biology electives at the upper-division level | 21 |

B. Support work

The support courses listed below are mandatory prerequisites for various biology courses starting in a student's sophomore year. Students need to complete their support work as soon as possible, in their freshman and sophomore years, to be eligible to register for upper-division biology core courses and electives. Failure to complete the support courses listed below in a timely fashion will significantly delay a student's progress toward graduation.

| | | |
|-------------------------------------------------|----------------------------------------------------------|---|
| 1. Required chemistry courses: | | |
| CHE 1103 & CHE 1121 | General Chemistry I and General Chemistry I Laboratory | 4 |
| CHE 1113 & CHE 1131 | General Chemistry II and General Chemistry II Laboratory | 4 |
| CHE 2603 & CHE 2612 | Organic Chemistry I and Organic Chemistry I Laboratory | 5 |
| CHE 3643 | Organic Chemistry II | 3 |
| 2. Required mathematics and statistics courses: | | |
| MAT 1193 | Calculus for the Biosciences | 3 |
| STA 1403 | Probability and Statistics for the Biosciences | 3 |

Students pursuing the Grades 7–12 Teacher Certification concentration can substitute STA 1053 for both MAT 1193 and STA 1403.

| | |
|-------------------------------------------------------------------------|---|
| 3. Required physics courses selected from one of the following options: | 8 |
|-------------------------------------------------------------------------|---|

Option 1

| | |
|---------------------|--------------------------------------------------------------------|
| PHY 1603 & PHY 1611 | Algebra-based Physics I and Algebra-based Physics I Laboratory * |
| PHY 1623 & PHY 1631 | Algebra-based Physics II and Algebra-based Physics II Laboratory * |

Option 2

| | |
|---------------------|--------------------------------------------------------------------------------------------------|
| PHY 1943 & PHY 1951 | Physics for Scientists and Engineers I and Physics for Scientists and Engineers I Laboratory * |
| PHY 1963 & PHY 1971 | Physics for Scientists and Engineers II and Physics for Scientists and Engineers II Laboratory * |

4. Required computer science course:

| | | |
|---------|---------------------------------|---|
| CS 1173 | Data Analysis and Visualization | 3 |
|---------|---------------------------------|---|

C. Free electives

Select 9-12 semester credit hours of free electives, depending on laboratory sequence chosen under section A2, to complete 120 hours. 1-4 credit hours must be at the upper-division level to reach the minimum requirement of 39 upper-division semester credit hours.

Students pursuing the Grades 7–12 Teacher Certification concentration will take required courses for teacher certification in lieu of free electives (see concentration requirements below).

| | |
|--------------------|----|
| Total Credit Hours | 90 |
|--------------------|----|

Note: Students in the 7-12 Teaching Certification Concentration have a defined program of study outlined below. Physics laboratories noted by an asterisk () are not required for the teaching certification concentration.

Concentrations

For students interested in research, teaching, graduate, or professional programs, the Department of Biology offers six areas of concentration. To declare a concentration or obtain advice, students should consult an undergraduate advisor in Life and Health Sciences Advising. If a student takes any of the courses listed below that satisfy both the Biology degree and concentration requirements, then the student may need to take additional upper-division Biology courses in order to meet the minimum number of semester credit hours required for the Biology degree. Students who do not satisfy all requirements of a given concentration will receive a standard B.S. degree in Biology.

Concentration in Cell and Molecular Biology

The coursework within the Cell and Molecular Biology concentration must be completed with a minimum cumulative grade point average of 3.0 or better. Students are also encouraged to enroll in BIO 4923 Laboratory Research: Biology Concentrations as part of their program of study.

All candidates for the Concentration in Cell and Molecular Biology must complete the following:

| | | |
|--------------------------------|------------------------------|---|
| BIO 3913 | Molecular Biology | 3 |
| Select three of the following: | | |
| BIO 3933 | Principles of Cancer Biology | 9 |
| BIO 4143 | Developmental Biology | |

| | | |
|--------------------|--------------------------------------------------------------------------------------------------------------------------|----|
| BIO 4453 | Endocrinology | |
| BIO 4723 | Virology | |
| BIO 4743 | Immunology | |
| BIO 4923 | Laboratory Research: Biology Concentrations (Research must be in a laboratory engaged in molecular biology research.) | |
| Total Credit Hours | | 12 |

Concentration in Integrative Biology

The coursework within the Integrative Biology concentration must be completed with a minimum cumulative grade point average of 3.0 or better. Students are also encouraged to enroll in BIO 4923 Laboratory Research: Biology Concentrations as part of their program of study.

All candidates for the Concentration in Integrative Biology must complete the following:

| | | |
|------------------------------|----------------------------------------------------------------------------------------------------------------------------|----|
| BIO 3283 | Principles of Ecology | 3 |
| BIO 3292 | Principles of Ecology Laboratory | 2 |
| Select two of the following: | | 6 |
| BIO 3213 | Animal Behavior | |
| BIO 3323 | Evolution | |
| BIO 4033 | Conservation Biology | |
| BIO 4053 | Wildlife Biology | |
| BIO 4063 | Ornithology | |
| BIO 4233 | Field Biology | |
| BIO 4923 | Laboratory Research: Biology Concentrations (Research must be in a laboratory engaged in integrative biology research.) | |
| Total Credit Hours | | 11 |

Concentration in Neurobiology

The coursework within the Neurobiology concentration must be completed with a minimum cumulative grade point average of 3.0 or better. Students are also encouraged to enroll in BIO 4923 Laboratory Research: Biology Concentrations as part of their program of study.

All candidates for the Concentration in Neurobiology must complete the following:

| | | |
|----------|-------------------------|---|
| BIO 3433 | Neurobiology | 3 |
| BIO 3442 | Neurobiology Laboratory | 2 |

*Note: If a student has completed a SBRI course sequence (BIO 2362 and BIO 3362) in the area of neurobiology it can be substituted for BIO 3442.

| | | |
|------------------------------|---------------------------------------------------------------------------------------------------------------------|----|
| Select two of the following: | | 6 |
| BIO 3213 | Animal Behavior | |
| BIO 3623 | Neuropsychopharmacology | |
| BIO 4583 | The Computational Brain | |
| BIO 4813 | Brain and Behavior | |
| BIO 4823 | Cognitive Neuroscience | |
| BIO 4923 | Laboratory Research: Biology Concentrations (Research must be in a laboratory engaged in neurobiology research.) | |
| Total Credit Hours | | 11 |

Concentration in Plant Biology

The coursework within the Plant Biology concentration must be completed with a minimum cumulative grade point average of 3.0 or better. Students are also encouraged to enroll in BIO 4923 Laboratory Research: Biology Concentrations as part of their program of study.

All candidates for the Concentration in Plant Biology must complete the following:

| | | |
|--------------------------------|--------------------------------------------------------------------------------------------------------------------|----|
| BIO 3343 | Plant Cell Biology | 3 |
| Select three of the following: | | 9 |
| BIO 3263 | The Woody Plants | |
| BIO 3273 | Biology of Flowering Plants | |
| BIO 3333 | Plants and Society | |
| BIO 4643 | Medicinal Plants | |
| BIO 4923 | Laboratory Research: Biology Concentrations (Research must be in a laboratory engaged in plant-based research.) | |
| Total Credit Hours | | 12 |

Concentration in Pre-Medical Sciences

The B.S. degree in Biology with a concentration in Pre-Medical Sciences is designed to prepare students for professional programs in medicine, dentistry, pharmacy or veterinary science. This concentration has a recommended curriculum that is designed to meet the requirements for entry into these professional schools and to prepare students for the MCAT, DAT, PCAT or GRE examinations. Students will have the option to enroll in small specialty courses that are medically focused. For completion of the Pre-Medical Sciences Concentration students must have both an overall math/science GPA of 3.5 or higher, and complete all required coursework within the concentration with a minimum GPA of 3.5 or higher. All candidates for the concentration in Pre-Medical Sciences must complete the following:

| | | |
|--------------------|----------------------------|----|
| BIO 3713 | Microbiology | 3 |
| BIO 3722 | Microbiology Laboratory | 2 |
| BIO 3433 | Neurobiology | 3 |
| BIO 4743 | Immunology | 3 |
| BIO 4813 | Brain and Behavior | 3 |
| or BIO 3213 | Animal Behavior | |
| BIO 4842 | Clinical Gross Anatomy | 2 |
| PSY 1013 | Introduction to Psychology | 3 |
| Total Credit Hours | | 19 |

Concentration in Grades 7–12 Biology Teacher Certification

The B.S. degree in Biology with Teacher Certification is designed to prepare students for professional careers in teaching Biology at the level of secondary education. The program of study is structured around a comprehensive Biology core curriculum and state requirements for grades 7–12 life science teaching certification. Students cannot receive a B.S. degree with Teacher Certification without completing the teacher certification coursework. A student who does not complete the Biology teacher certification must transfer to the B.S. degree in Biology or the B.S. degree in Microbiology and Immunology in order to receive a degree in Biology. Undergraduates seeking elementary teacher certification must complete the Interdisciplinary Studies degree.

The minimum number of semester credit hours required for the Bachelor of Science degree in Biology with Teacher Certification, including the Core Curriculum requirements, is 124. Thirty-nine of the total semester credit

hours required for the degree must be at the upper-division level. The coursework within the Biology Teacher concentration must be completed with a minimum cumulative grade point average of 2.5 or better.

All candidates for the Concentration in Grades 7–12 Biology Teacher Certification must complete the following:

| | | |
|--------------------|--------------------------------------------------------|----|
| BIO 3043 | UTeachSA Research Methods | 3 |
| BIO 3283 | Principles of Ecology | 3 |
| BIO 3323 | Evolution | 3 |
| BIO 3713 | Microbiology | 3 |
| BIO 4813 | Brain and Behavior | 3 |
| ESL 3083 | Second Language Teaching and Learning for Grades 7-12 | 3 |
| LTED 3773 | Reading and Writing Across the Disciplines-Grades 7–12 | 3 |
| UTE 1111 | Introduction to STEM Teaching Step 1 | 1 |
| UTE 1122 | Introduction to STEM Teaching Step 2 | 2 |
| UTE 3023 | Perspectives on Science and Mathematics | 3 |
| UTE 3203 | Knowing and Learning in Mathematics and Science | 3 |
| UTE 3213 | Classroom Interactions | 3 |
| UTE 4203 | Project-Based Instruction | 3 |
| UTE 4646 | Clinical Teaching | 6 |
| Total Credit Hours | | 42 |

Course Sequence Guide for B.S. Degree in Biology

B.S. in Biology – Recommended Four-Year Academic Plan

First Year

| Fall | | Credit Hours |
|--------------|---------------------------------------------|--------------|
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| BIO 1404 | Biosciences I (core and major) ¹ | 4 |
| CHE 1103 | General Chemistry I ¹ | 3 |
| CHE 1121 | General Chemistry I Laboratory | 1 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| Credit Hours | | 14 |

Spring

| | | |
|--------------|------------------------------------------------------------|----|
| BIO 1414 | Biosciences II (core and major) ¹ | 4 |
| CHE 1113 | General Chemistry II | 3 |
| CHE 1131 | General Chemistry II Laboratory | 1 |
| CS 1173 | Data Analysis and Visualization (core and major) | 3 |
| MAT 1193 | Calculus for the Biosciences (core and major) ¹ | 3 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| Credit Hours | | 17 |

Second Year

| Fall | | Credit Hours |
|-------------------------------------------------|-------------------------------|--------------|
| BIO 2313 | Genetics ¹ | 3 |
| Select one of the following Laboratory Options: | | 2-3 |
| Option 1 Standard Laboratory Class | | |
| BIO 2362 | Molecular Genetics Laboratory | |
| or | | |
| Option 2 Biology Research Initiative | | |

| | | |
|------------------------------|-----------------------------------------------------|-------|
| BIO 2362 & BIO 4911 | Molecular Genetics Laboratory and Independent Study | |
| CHE 2603 | Organic Chemistry I | 3 |
| CHE 2612 | Organic Chemistry I Laboratory | 2 |
| Select one of the following: | | 4 |
| PHY 1603 | Algebra-based Physics I ¹ | |
| PHY 1611 | Algebra-based Physics I Laboratory | |
| or | | |
| PHY 1943 | Physics for Scientists and Engineers I ¹ | |
| PHY 1951 | Physics for Scientists and Engineers I Laboratory | |
| Credit Hours | | 14-15 |

Spring

| | | |
|------------------------------------------------------|---------------------------------------------------------|-------|
| Select one of the following Laboratory Options: | | 2-4 |
| Option 1 Standard Laboratory Class | | |
| BIO 3362 | Molecular Biochemistry Laboratory | |
| or | | |
| Option 2 Biology Research Initiative | | |
| BIO 3362 & BIO 4912 | Molecular Biochemistry Laboratory and Independent Study | |
| Free elective for those choosing Option 1 laboratory | | 3 |
| CHE 3643 | Organic Chemistry II | 3 |
| STA 1403 | Probability and Statistics for the Biosciences | 3 |
| Select one of the following: | | 4 |
| PHY 1623 | Algebra-based Physics II | |
| PHY 1631 | Algebra-based Physics II Laboratory | |
| or | | |
| PHY 1963 | Physics for Scientists and Engineers II | |
| PHY 1971 | Physics for Scientists and Engineers II Laboratory | |
| Credit Hours | | 15-14 |

Third Year

| Fall | | Credit Hours |
|---------------------------------------|--------------|--------------|
| BIO 3513 | Biochemistry | 3 |
| BIO 3413 | Physiology | 3 |
| Upper-division BIO lecture (BIO 3XX3) | | 3 |
| American History core | | 3 |
| Social & Behavioral Sciences core | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|---------------------------------------|--------------|----|
| BIO 3813 | Cell Biology | 3 |
| Upper-division BIO lecture (BIO 3XX3) | | 3 |
| Upper-division BIO lecture (BIO 3XX3) | | 3 |
| American History core | | 3 |
| Creative Arts core | | 3 |
| Credit Hours | | 15 |

Fourth Year

| Fall | | Credit Hours |
|-----------------------------|--|--------------|
| Upper-division BIO elective | | 3 |
| Upper-division BIO elective | | 3 |

| | |
|-------------------------------------|-----------|
| Government-Political Science core | 3 |
| Language, Philosophy & Culture core | 3 |
| Free elective | 3 |
| Credit Hours | 15 |

Spring

| | |
|-------------------------------------------------------------|---|
| Upper-division BIO elective | 3 |
| Upper-division BIO elective | 3 |
| Government-Political Science core | 3 |
| Select one of the following depending on laboratory option: | 6 |

Option 1: Two upper-division free electives

or

Option 2: Two free electives (one must be an upper-division course)

| | |
|---------------------------|------------|
| Credit Hours | 15 |
| Total Credit Hours | 120 |

¹

In order to remain a Biology major, a student must complete these six courses within 60 semester credit hours.

Note: Some courses are only offered once a year; Fall or Spring. Check with the Department of Biology for scheduling of courses.

B.S. in Biology with Teaching Certification – Recommended Four-Year Academic Plan

First Year

| Fall | | Credit Hours |
|---------------------|---------------------------------------------|---------------------|
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| BIO 1404 | Biosciences I (core and major) ¹ | 4 |
| CHE 1103 | General Chemistry I ¹ | 3 |
| CHE 1121 | General Chemistry I Laboratory | 1 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| UTE 1111 | Introduction to STEM Teaching Step 1 | 1 |
| Credit Hours | | 15 |

Spring

| | | |
|-------------------------------------------|----------------------------------------------|-----------|
| BIO 1414 | Biosciences II (core and major) ¹ | 4 |
| CHE 1113 | General Chemistry II | 3 |
| CHE 1131 | General Chemistry II Laboratory | 1 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| UTE 1122 | Introduction to STEM Teaching Step 2 | 2 |
| Select one of the following: ¹ | | 3 |
| MAT 1193 | Calculus for the Biosciences (core) | |
| STA 1053 | Basic Statistics (core) | |
| Credit Hours | | 16 |

Summer

| | |
|-----------------------------------|----------|
| American History core | 3 |
| Government-Political Science core | 3 |
| Credit Hours | 6 |

Second Year

| | | |
|-------------|-----------------------|---|
| Fall | | |
| BIO 2313 | Genetics ¹ | 3 |

| | | |
|----------|--------------------------------------------------|---|
| CHE 2603 | Organic Chemistry I | 3 |
| CHE 2612 | Organic Chemistry I Laboratory | 2 |
| CS 1173 | Data Analysis and Visualization (core and major) | 3 |

| | | |
|----------|-------------------------------------------------|---|
| UTE 3203 | Knowing and Learning in Mathematics and Science | 3 |
|----------|-------------------------------------------------|---|

Select one of the following:

| | | |
|----------|--------------------------------------|---|
| PHY 1603 | Algebra-based Physics I ¹ | 3 |
|----------|--------------------------------------|---|

or

| | | |
|----------|-----------------------------------------------------|---|
| PHY 1943 | Physics for Scientists and Engineers I ¹ | 3 |
|----------|-----------------------------------------------------|---|

Credit Hours 17

Spring

| | | |
|----------|-------------------------------|---|
| BIO 2362 | Molecular Genetics Laboratory | 2 |
| CHE 3643 | Organic Chemistry II | 3 |
| UTE 3213 | Classroom Interactions | 3 |

Social & Behavioral Sciences core 3

Select one of the following: 3

| | | |
|----------|--------------------------|--|
| PHY 1623 | Algebra-based Physics II | |
|----------|--------------------------|--|

or

| | | |
|----------|-----------------------------------------|--|
| PHY 1963 | Physics for Scientists and Engineers II | |
|----------|-----------------------------------------|--|

Credit Hours 14

Summer

| | |
|-----------------------------------|----------|
| American History core | 3 |
| Government-Political Science core | 3 |
| Credit Hours | 6 |

Third Year

| | | |
|---------------------|-----------------------------------------|-----------|
| Fall | | |
| BIO 3283 | Principles of Ecology | 3 |
| BIO 3362 | Molecular Biochemistry Laboratory | 2 |
| BIO 3513 | Biochemistry | 3 |
| BIO 3713 | Microbiology | 3 |
| UTE 3023 | Perspectives on Science and Mathematics | 3 |
| Credit Hours | | 14 |

Spring

| | | |
|-----------|--------------------------------------------------------|---|
| BIO 3413 | Physiology | 3 |
| BIO 4813 | Brain and Behavior | 3 |
| ESL 3083 | Second Language Teaching and Learning for Grades 7-12 | 3 |
| LTED 3773 | Reading and Writing Across the Disciplines-Grades 7-12 | 3 |

Language, Philosophy, & Culture core 3

Credit Hours 15

Fourth Year

| | | |
|---------------------|---------------------------|-----------|
| Fall | | |
| BIO 3323 | Evolution | 3 |
| BIO 3813 | Cell Biology | 3 |
| BIO 3043 | UTeachSA Research Methods | 3 |
| UTE 4203 | Project-Based Instruction | 3 |
| Creative Arts core | 3 | |
| Credit Hours | | 15 |

| | | |
|---------------|--------------------|-----|
| Spring | | |
| UTE 4646 | Clinical Teaching | 6 |
| | Credit Hours | 6 |
| | Total Credit Hours | 124 |

1

In order to remain Biology major, a student must complete these six courses within 60 semester credit hours.

Note: Some courses are only offered once a year; Fall or Spring. Check with the Department of Biology for scheduling of courses.

Bachelor of Science Degree in Microbiology and Immunology

The minimum number of semester credit hours required for the Bachelor of Science (B.S.) degree in Microbiology and Immunology, including the Core Curriculum requirements, is 120. Thirty-nine of the total semester credit hours required for the degree must be at the upper-division level. All major and support work courses and the required prerequisites must be completed with a grade of "C-" or better.

Due to extensive curriculum overlap, students cannot receive a double major in Biology and Microbiology and Immunology. Students must choose between a B.S. in Biology or a B.S. in Microbiology and Immunology.

Sophomore Biology Research Initiative

In the sophomore year students can take the required laboratories Molecular Genetics Laboratory (BIO 2362) and Molecular Biochemistry Laboratory (BIO 3362) alone as standard courses, or in conjunction with the Sophomore Biology Research Initiative (SBRI). SBRI gives second year students the opportunity to engage in authentic research with faculty and graduate students. Students working in teams will conduct their own research projects on a specific biological problem over two semesters. Several different research topics will be available to choose from. There will be approximately two hours of lecture/lab meeting and six hours of lab work per week. Students will receive credit for BIO 2362 and BIO 3362 and be concurrently enrolled in three credit hours of Independent Study to reflect the additional hours required to complete their research. Students will present their final data in poster format at an organized symposium. The opportunity to be part of the SBRI is limited, students should register early.

All candidates for this degree must fulfill the Core Curriculum requirements and the degree requirements, which are listed below.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the B.S. degree in Microbiology and Immunology must fulfill University Core Curriculum requirements in the same manner as other students. The courses listed below satisfy both degree requirements and Core Curriculum requirements; however, if these courses are taken to satisfy both requirements, then students may need to take additional courses in order to meet the minimum number of semester credit hours required for this degree.

MAT 1193 may be used to satisfy the core requirement in Mathematics as well as a major requirement. Two of the following courses may be used to satisfy the core requirement in Life and Physical Sciences, as well as major requirements: BIO 1404, BIO 1414, PHY 1943 or PHY 1963.

Core Curriculum Component Area Requirements (p. 7)

| | |
|-----------------------------------|----|
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |
| Life and Physical Sciences | 6 |
| Language, Philosophy and Culture | 3 |
| Creative Arts | 3 |
| American History | 6 |
| Government-Political Science | 6 |
| Social and Behavioral Sciences | 3 |
| Component Area Option | 3 |
| Total Credit Hours | 42 |

Gateway Courses

Students pursuing the B.S. degree in Microbiology and Immunology must successfully complete each of the following Gateway Courses with a grade of "C-" or better in no more than two attempts. A student who is unable to successfully complete these courses within two attempts, including dropping a course with a grade of "W" or taking an equivalent course at another institution, will be required to change his or her major.

| | |
|----------|----------------|
| BIO 1404 | Biosciences I |
| BIO 1414 | Biosciences II |
| BIO 2313 | Genetics |

Degree Requirements

A. Required courses in the major, 34 of which must be at the upper-division level

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|---|
| 1. Required biology courses: | | |
| BIO 1404 | Biosciences I | 4 |
| BIO 1414 | Biosciences II | 4 |
| BIO 2313 | Genetics | 3 |
| BIO 3413 | Physiology | 3 |
| BIO 3513 | Biochemistry | 3 |
| BIO 3813 | Cell Biology | 3 |
| BIO 3713 & BIO 3722 | Microbiology and Microbiology Laboratory | 5 |
| BIO 4743 & BIO 4752 | Immunology and Immunology Laboratory | 5 |
| BIO 4783 | Microbial Genetics and Physiology | 3 |
| 2. Select one of the following laboratory options: 4-7 | | |
| Option 1 Standard Laboratory Class | | |
| BIO 2362 | Molecular Genetics Laboratory | |
| BIO 3362 | Molecular Biochemistry Laboratory | |
| Option 2 Research Initiative | | |
| BIO 2362 & BIO 4911 | Molecular Genetics Laboratory and Independent Study | |
| BIO 3362 & BIO 4912 | Molecular Biochemistry Laboratory and Independent Study | |
| Note: Laboratory Option 1 students will learn laboratory techniques in standard class setting. In laboratory Option 2 students will learn laboratory techniques while conducting research on a specific biological problem over two semesters. There will be different research stream topics offered for Option 2. | | |
| 3. All candidates must complete three of the following prescribed upper-division elective courses: 9 | | |

| | |
|----------|-------------------------------------------------|
| BIO 3013 | Introduction to Clinical Medicine and Pathology |
| BIO 3743 | Bacteriology |
| BIO 4473 | Advanced Clinical Medicine and Pathology |
| BIO 4483 | Medical Mycology |
| BIO 4723 | Virology |
| BIO 4763 | Parasitology |
| BIO 4923 | Laboratory Research: Biology Concentrations |

B. Support work

The support courses listed below are mandatory prerequisites for various biology courses starting in a student's sophomore year. Students need to complete their support work as soon as possible, in their freshman and sophomore years, to be eligible to register for upper-division biology core courses and electives. Failure to complete the support courses listed below in a timely fashion will significantly delay a student's progress toward graduation.

1. Required chemistry courses:

| | | |
|------------------------|-------------------------------------------------------------|---|
| CHE 1103 & CHE 1121 | General Chemistry I and General Chemistry I Laboratory | 4 |
| CHE 1113 & CHE 1131 | General Chemistry II and General Chemistry II Laboratory | 4 |
| CHE 2603 & CHE 2612 | Organic Chemistry I and Organic Chemistry I Laboratory | 5 |
| CHE 3643 | Organic Chemistry II | 3 |
| CHE 3652 | Organic Chemistry II Laboratory | 2 |

2. Required mathematics and statistics courses:

| | | |
|----------|------------------------------------------------|---|
| MAT 1193 | Calculus for the Biosciences | 3 |
| STA 1403 | Probability and Statistics for the Biosciences | 3 |

3. Required physics courses selected from one of the following options:**Option 1**

PHY 1603 Algebra-based Physics I
& PHY 1611 and Algebra-based Physics I Laboratory

PHY 1623 Algebra-based Physics II
& PHY 1631 and Algebra-based Physics II Laboratory

Option 2

PHY 1943 Physics for Scientists and Engineers I
& PHY 1951 and Physics for Scientists and Engineers I Laboratory

PHY 1963 Physics for Scientists and Engineers II
& PHY 1971 and Physics for Scientists and Engineers II Laboratory

C. Free electives

Select 6-9 semester credit hours of free electives, depending on the laboratory sequence chosen under section A2, to complete 120 hours. For students selecting option 1, at least 1 credit hour must be at the upper-division level to reach the minimum requirement of 39 upper-division semester credit hours.

Total Credit Hours 87

Course Sequence Guide for B.S. Degree in Microbiology and Immunology**B.S. in Microbiology and Immunology – Recommended Four-Year Academic Plan****First Year**

| | | Credit Hours |
|--------------|---------------------------------------------|--------------|
| Fall | | |
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| BIO 1404 | Biosciences I (core and major) ¹ | 4 |
| CHE 1103 | General Chemistry I ¹ | 3 |
| CHE 1121 | General Chemistry I Laboratory | 1 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| Credit Hours | | 14 |

Spring

| | | |
|--------------|------------------------------------------------------------|----|
| BIO 1414 | Biosciences II (core and major) ¹ | 4 |
| CHE 1113 | General Chemistry II | 3 |
| CHE 1131 | General Chemistry II Laboratory | 1 |
| MAT 1193 | Calculus for the Biosciences (core and major) ¹ | 3 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| Credit Hours | | 14 |

Second Year**Fall**

| | | |
|------------------------------------------------|-----------------------|-----|
| BIO 2313 | Genetics ¹ | 3 |
| Select on of the following Laboratory Options: | | 2-3 |

Option 1 Standard Laboratory Class

BIO 2362 Molecular Genetics Laboratory

Or

Option 2 Biology Research Initiative

BIO 2362 Molecular Genetics Laboratory
& BIO 4911 and Independent Study

CHE 2603 Organic Chemistry I 3

CHE 2612 Organic Chemistry I Laboratory 2

Select one of the following: 4

PHY 1603 Algebra-based Physics I ¹

PHY 1611 Algebra-based Physics I Laboratory

Or

PHY 1943 Physics for Scientists and Engineers I ¹

PHY 1951 Physics for Scientists and Engineers I Laboratory

Credit Hours 14-15

Spring

Select one of the following Laboratory Options: 2-4

Option 1 Standard Laboratory Class

BIO 3362 Molecular Biochemistry Laboratory

Or

Option 2 Biology Research Initiative

BIO 3362 Molecular Biochemistry Laboratory
& BIO 4912 and Independent Study

CHE 3643 Organic Chemistry II 3

CHE 3652 Organic Chemistry II Laboratory 2

| | | |
|------------------------------|----------------------------------------------------|-------|
| STA 1403 | Probability and Statistics for the Biosciences | 3 |
| Select one of the following: | | 4 |
| PHY 1623 | Algebra-based Physics II | |
| PHY 1631 | Algebra-based Physics II Laboratory | |
| Or | | |
| PHY 1963 | Physics for Scientists and Engineers II | |
| PHY 1971 | Physics for Scientists and Engineers II Laboratory | |
| Credit Hours | | 14-16 |

Third Year

Fall

| | | |
|-----------------------------------|-------------------------|----|
| BIO 3413 | Physiology | 3 |
| BIO 3513 | Biochemistry | 3 |
| BIO 3713 | Microbiology | 3 |
| BIO 3722 | Microbiology Laboratory | 2 |
| American History core | | 3 |
| Social & Behavioral Sciences core | | 3 |
| Credit Hours | | 17 |

Spring

| | | |
|----------------------------------------------------------------------|-----------------------|-------|
| BIO 3813 | Cell Biology | 3 |
| BIO 4743 | Immunology | 3 |
| BIO 4752 | Immunology Laboratory | 2 |
| American History core | | 3 |
| Creative Arts core | | 3 |
| Upper-division free elective for those choosing Option 1 laboratory. | | 3 |
| Credit Hours | | 17-14 |

Fourth Year

Fall

| | | |
|--------------------------------------|--|----|
| Upper-division Microbiology elective | | 3 |
| Upper-division Microbiology elective | | 3 |
| Government-Political Science core | | 3 |
| Language, Philosophy, & Culture core | | 3 |
| Upper-division free elective | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|--------------------------------------|-----------------------------------|----|
| BIO 4783 | Microbial Genetics and Physiology | 3 |
| Upper-division Microbiology elective | | 3 |
| Government-Political Science core | | 3 |
| Component Area Option core | | 3 |
| Upper-division free elective | | 3 |
| Credit Hours | | 15 |

Total Credit Hours 120

1

In order to remain Molecular and Immunology major, a student must complete these six courses within 60 semester credit hours.

Note: Some courses are only offered once a year: Fall or Spring. Check with the Department of Biology for scheduling of courses.

Minor in Biology

The Minor in Biology is open to all majors in the University. To declare a Minor in Biology or obtain advice, students should consult with their academic advisor. All students pursuing the minor must complete a minimum of 20 semester credit hours of Biology courses. It should be noted that students seeking a minor must also complete applicable support coursework in chemistry, computer science, physics, mathematics and statistics, as needed to fulfill the normal prerequisites for any course listed below. All Biology courses and their prerequisites must be completed with a grade of "C-" or better, and students must achieve a grade point average of at least 2.0 on all work used to satisfy the requirements of the minor.

A. Required courses

| | | |
|----------|----------------|---|
| BIO 1404 | Biosciences I | 4 |
| BIO 1414 | Biosciences II | 4 |
| BIO 2313 | Genetics | 3 |

B. 3000- or 4000-level organized biology courses

Three upper-division biology lecture courses. Excludes laboratory, independent study, research and seminar courses. Substitutions are not allowed without approval of the Biology department.

Total Credit Hours 20

Certificate in Pathogenic Outbreak Investigations

This interdisciplinary certificate program is designed for students in biology, information systems and cyber security, computer science and computer engineering disciplines to investigate biological and digital pathogen identification, propagation prediction, and mitigation. The required capstone project reinforces the cross-disciplinary learning fostered by the program and provides real-world practice.

This certificate is open only to biology, information systems and cyber security, computer science, and computer engineering majors. To apply for the Pathogenic Outbreak Investigations certificate, students should consult with the Director of the Office of Undergraduate Research for specific information about certificate requirements and consult with the Certificate Program Advisor to verify that they have met all University requirements. All courses used to satisfy the requirements of this undergraduate certificate program must be college-level courses taken at UTSA. Students must fulfill all prerequisite requirements for elective courses.

Students pursuing the Certificate in Pathogenic Outbreak Investigations must complete a minimum of 15 semester credit hours:

A. Courses required by all majors:

| | | |
|------------------------------------------------------------|----------------------------------------------------|---|
| Topic: Introduction to Pathogenic Outbreak Investigations: | | 3 |
| BIO 4953 | Special Studies in Biology | |
| or CS 4593 | Topics in Computer Science | |
| or IS 3313 | Introduction to Pathogenic Outbreak Investigations | |

Topic: Advanced Research in Pathogenic Outbreak Investigations: 3

| | | |
|------------|----------------------------------------|--|
| BIO 4953 | Special Studies in Biology | |
| or CS 4913 | Independent Study | |
| or IS 4953 | Special Studies in Information Systems | |

B. Required course according to major: 3

| | | |
|----------|--------------|---|
| BIO 3713 | Microbiology | 3 |
|----------|--------------|---|

| | |
|---------|----------------------------------------------|
| CS 4593 | Topics in Computer Science (Cloud Computing) |
| IS 4533 | Malware Analysis |

C. Elective courses for each major. Select 6 hours from one of the following groups depending on major. 6

Biology elective options ¹

| | |
|----------|----------------------------------------------|
| BIO 3513 | Biochemistry |
| BIO 3743 | Bacteriology |
| BIO 4743 | Immunology |
| BIO 5762 | Fundamentals of Immunology for Biotechnology |
| BIO 6973 | Special Problems (Comparative Genomics) |
| BIO 6973 | Special Problems (Microbial Genomics) |

Information Systems/Cyber Security elective options

| | |
|---------|-------------------------------------------|
| IS 3523 | Intrusion Detection and Incident Response |
| IS 4463 | Web Application Security |
| IS 4483 | Digital Forensic Analysis I |
| IS 4513 | Industrial Control Systems |
| IS 4523 | Digital Forensic Analysis II |

Computer Science elective options

| | |
|---------|------------------------------------------|
| CS 3113 | Principles of Cyber Security |
| CS 3433 | Computer and Information Security |
| CS 3753 | Data Science |
| CS 3873 | Computer Networks |
| CS 4223 | Bioinformatics and Big Data |
| CS 4353 | Unix and Network Security |
| CS 4363 | Cryptography |
| CS 4373 | Data Mining |
| CS 4593 | Topics in Computer Science |
| CS 4633 | Simulation Techniques |
| CS 4643 | Cellular and Mobile Technologies |
| CS 4653 | Software and Malware Reverse Engineering |
| CS 4663 | Distributed and Cloud Systems Security |
| CS 4673 | Cyber Operations |
| CS 4683 | Secure Software Development and Analysis |
| CS 4713 | Compiler Construction |
| CS 4823 | Parallel Programming |
| CS 4833 | Embedded Systems |
| CS 4843 | Cloud Computing |
| CS 4853 | Advanced Systems Programming |
| CS 4863 | Distributed Computing and Systems |
| CS 4933 | Internship in Computer Science |
| CS 4963 | Advanced Topics in Systems and Cloud |
| CS 4973 | Advanced Topics in Data Science |

Total Credit Hours 15

1

Undergraduate biology students are permitted to take graduate courses based on need, student background/capability, and instructor consent.

Department of Chemistry

The Department of Chemistry offers a Bachelor of Arts degree in Chemistry, a Bachelor of Science degree in Chemistry, and a Bachelor of Science degree in Biochemistry, as well as a minor in Chemistry.

Admission Policy

The goal of the Department of Chemistry is to provide undergraduate students a program of study with the highest possible standards. The admission policy of the Department of Chemistry is designed to identify those students most likely to succeed in their undergraduate chemistry education.

Direct Admission Criteria

Applicants entering UTSA will be directly admitted to the Department of Chemistry if they:

- meet all UTSA undergraduate admission requirements,
- are ranked in the top 15 percent of their high school class, have a minimum 1350 SAT* or 29 ACT score, and
- are Calculus I ready (<https://future.utsa.edu/ready/calculus-ready/>)

* New SAT scores combine Evidence-Based Reading and Writing and Math.

Transfer applicants entering UTSA will be directly admitted to the Department of Chemistry if they:

- meet all UTSA undergraduate admission requirements,
- have a transfer grade point average (GPA) of 2.50 or higher,
- have completed CHE 1103 General Chemistry I or equivalent with a grade of "C-" or better, and
- are Calculus I ready (<https://future.utsa.edu/ready/calculus-ready/>)

Admission Criteria for Applicants Who Do Not Meet Direct Admission Criteria

Applicants for admission to the Department of Chemistry who do not meet the direct admission requirements, but meet UTSA's general admission requirements, will be part of Life and Health Sciences Studies (XLHS) or Engineering, Mathematics, and Sciences Studies (XEMS).

In order to declare Chemistry or Biochemistry as a major, a student's academic performance will be evaluated after the following requirements have been met:

- have a grade point average of at least 2.0 for all UTSA coursework,
- have successfully completed each of the two courses below with a grade of "C-" or better and earned grade point average of at least 2.25 for these courses, and
- have successfully satisfied all three sections (mathematics, reading, and writing) of the Texas Success Initiative (TSI)
- have successfully completed CHE 1103 General Chemistry I and MAT 1093 Precalculus, or equivalent courses, with a grade of "C-" or better.

Applicants who have completed all the above courses as equivalent transferable college credit with a grade of "C-" or better and have no UTSA coursework can declare a Chemistry or Biochemistry major if they:

- meet all UTSA undergraduate admission requirements,
- have a cumulative grade point average of 2.5 or better for transfer courses equivalent to the two courses listed above, and
- have successfully satisfied all three sections (mathematics, reading, and writing) of the Texas Success Initiative (TSI).

Students who are not Chemistry or Biochemistry majors are restricted from registering for upper-division (3000- and 4000-level) Chemistry courses without the consent of an undergraduate academic advisor. A student who does not meet all the above requirements after completing the above 6 credit hours must choose a major other than biochemistry or chemistry. A chemistry minor is, however, available to all UTSA students who seek to complement a different academic major with a stronger foundation in chemistry.

- B.S. degree in Chemistry (p. 258)
- B.S. degree in Biochemistry (p. 259)
- B.A. degree in Chemistry (p. 261)

Bachelor of Science Degree in Chemistry

The Bachelor of Science (B.S.) degree in Chemistry provides opportunities for preparation for careers in industry, governmental agencies, environmental studies, preprofessional programs, and medical technology, and for graduate study in chemistry or other related fields. The degree plan, as described below for the B.S degree in Chemistry, meets the minimum requirements for professional chemists as defined by the American Chemical Society, and recipients receive a certificate from the American Chemical Society.

The minimum number of semester credit hours required for this degree, including the Core Curriculum requirements, is 120, at least 39 of which must be at the upper-division level. All major and support work courses must be completed with a grade of “C-” or better.

All candidates seeking this degree must fulfill the Core Curriculum requirements and the degree requirements, which are listed below.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the Bachelor of Science degree in Chemistry must fulfill University Core Curriculum requirements in the same manner as other students. The courses listed below satisfy both degree requirements and Core Curriculum requirements; however, if these courses are taken to satisfy both requirements, then students may need to take additional courses in order to meet the minimum number of semester credit hours required for this degree.

MAT 1214 may be used to satisfy the core requirement in Mathematics as well as a major requirement. The following two courses may be used to satisfy the core requirement in Life and Physical Sciences as well as major requirements: PHY 1943 and PHY 1963. STA 1053 may be used to satisfy the Component Area Option core requirement as well as a major requirement.

Core Curriculum Component Area Requirements (p. 7)

| | |
|-----------------------------------|---|
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |
| Life and Physical Sciences | 6 |
| Language, Philosophy and Culture | 3 |
| Creative Arts | 3 |

| | |
|--------------------------------|----|
| American History | 6 |
| Government-Political Science | 6 |
| Social and Behavioral Sciences | 3 |
| Component Area Option | 3 |
| Total Credit Hours | 42 |

Gateway Courses

Students pursuing the B.S. degree in Chemistry must successfully complete each of the following Gateway Courses with a grade of “C-” or better in no more than two attempts. A student who is unable to successfully complete these courses within two attempts, including dropping a course with a grade of “W” or taking an equivalent course at another institution, will be required to change his or her major.

| | |
|----------|---------------------|
| CHE 1103 | General Chemistry I |
| MAT 1214 | Calculus I |
| MAT 1224 | Calculus II |

Degree Requirements

A. Required courses in chemistry

| | | |
|-------------|--------------------------------------|---|
| CHE 1103 | General Chemistry I | 3 |
| CHE 1113 | General Chemistry II | 3 |
| CHE 1121 | General Chemistry I Laboratory | 1 |
| CHE 1131 | General Chemistry II Laboratory | 1 |
| CHE 2603 | Organic Chemistry I | 3 |
| CHE 2612 | Organic Chemistry I Laboratory | 2 |
| CHE 2803 | Quantitative Topics for Chemists | 3 |
| CHE 3214 | Analytical Chemistry | 4 |
| CHE 3464 | Descriptive Inorganic Chemistry | 4 |
| CHE 3643 | Organic Chemistry II | 3 |
| CHE 3652 | Organic Chemistry II Laboratory | 2 |
| CHE 3804 | Physical Chemistry I and Laboratory | 4 |
| CHE 3824 | Physical Chemistry II and Laboratory | 4 |
| CHE 4213 | Instrumental Analysis | 3 |
| CHE 4303 | Biochemistry I | 3 |
| CHE 4463 | Inorganic Chemistry | 3 |
| CHE 4913 | Independent Study | 3 |
| or CHE 4923 | Special Project in Chemistry | |
| CHE 4971 | Proseminar | 1 |

B. Approved upper-division chemistry electives

Select 9 additional semester credit hours of approved upper-division chemistry electives, 6 hours of which must be organized courses in chemistry at the 4000 level or above; no more than 3 semester credit hours may be from CHE 4913 Independent Study, CHE 4923 Special Project in Chemistry, or CHE 4993 Honors Research.

C. Support work in science, mathematics, and statistics

1. Required courses:

| | | |
|---------------------|------------------------------------------------------------------------------------------------|---|
| MAT 1214 | Calculus I | 4 |
| MAT 1224 | Calculus II | 4 |
| PHY 1943 & PHY 1951 | Physics for Scientists and Engineers I and Physics for Scientists and Engineers I Laboratory | 4 |
| PHY 1963 & PHY 1971 | Physics for Scientists and Engineers II and Physics for Scientists and Engineers II Laboratory | 4 |

| | | |
|----------------------------------------------------------------------|------------------|----|
| STA 1053 | Basic Statistics | 3 |
| 2. Elective work from the College of Science approved by the advisor | | 3 |
| D. Electives | | |
| Select 6 semester credit hours of electives | | 6 |
| Total Credit Hours | | 87 |

Course Sequence Guide for B.S. Degree in Chemistry

This course sequence guide is designed to assist students in completing their UTSA undergraduate Chemistry degree requirements. *This is merely a guide and students must satisfy other requirements of this catalog and meet with their academic advisor for individualized degree plans.* Progress within this guide depends upon such factors as course availability, individual student academic preparation, student time management, work obligations, and individual financial considerations. Students may choose to take courses during Summer terms to reduce course loads during long semesters.

B.S. in Chemistry – Recommended Four-Year Academic Plan

First Year

| Fall | | Credit Hours |
|--------------|---------------------------------------------|--------------|
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| CHE 1103 | General Chemistry I | 3 |
| CHE 1121 | General Chemistry I Laboratory ¹ | 1 |
| MAT 1214 | Calculus I (core and major) | 4 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| Credit Hours | | 14 |

Spring

| | | |
|--------------|----------------------------------------------|----|
| CHE 1113 | General Chemistry II | 3 |
| CHE 1131 | General Chemistry II Laboratory ¹ | 1 |
| MAT 1224 | Calculus II | 4 |
| STA 1053 | Basic Statistics (core and major) | 3 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| Credit Hours | | 14 |

Second Year

| Fall | | Credit Hours |
|---------------------|---------------------------------------------------------------------------------------------------------------|--------------|
| CHE 2603 | Organic Chemistry I | 3 |
| CHE 2612 | Organic Chemistry I Laboratory ¹ | 2 |
| CHE 3214 | Analytical Chemistry | 4 |
| PHY 1943 & PHY 1951 | Physics for Scientists and Engineers I and Physics for Scientists and Engineers I Laboratory (core and major) | 4 |
| Credit Hours | | 13 |

Spring

| | | |
|---------------------|-----------------------------------------------------------------------------------------------------------------|---|
| CHE 2803 | Quantitative Topics for Chemists | 3 |
| CHE 3643 | Organic Chemistry II | 3 |
| CHE 3652 | Organic Chemistry II Laboratory ¹ | 2 |
| PHY 1963 & PHY 1971 | Physics for Scientists and Engineers II and Physics for Scientists and Engineers II Laboratory (core and major) | 4 |

| | |
|-----------------------|----|
| American History core | 3 |
| Credit Hours | 15 |

Summer

| | |
|-----------------------------------|---|
| Government-Political Science core | 3 |
| College of Sciences elective | 3 |
| Credit Hours | 6 |

Third Year

Fall

| | | |
|-------------------------------------|-------------------------------------|----|
| CHE 3804 | Physical Chemistry I and Laboratory | 4 |
| CHE 4303 | Biochemistry I | 3 |
| Free elective | | 3 |
| Government-Political Science core | | 3 |
| Language, Philosophy & Culture core | | 3 |
| Credit Hours | | 16 |

Spring

| | | |
|-----------------------------------|--------------------------------------|----|
| CHE 3464 | Descriptive Inorganic Chemistry | 4 |
| CHE 3824 | Physical Chemistry II and Laboratory | 4 |
| American History core | | 3 |
| Social & Behavioral Sciences core | | 3 |
| Credit Hours | | 14 |

Fourth Year

Fall

| | | |
|-----------------------------|-------------------------------------------------------------------------------------|----|
| CHE 4463 | Inorganic Chemistry | 3 |
| CHE 4913 or CHE 4923 | Independent Study (or Special Project in Chemistry) or Special Project in Chemistry | 3 |
| Upper-division CHE elective | | 3 |
| Upper-division CHE elective | | 3 |
| COS elective | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|-----------------------------|-----------------------|-----|
| CHE 4213 | Instrumental Analysis | 3 |
| CHE 4971 | Proseminar | 1 |
| Free elective | | 3 |
| Upper-division CHE elective | | 3 |
| Creative Arts core | | 3 |
| Credit Hours | | 13 |
| Total Credit Hours | | 120 |

¹

These laboratory courses include a lecture component as indicated on the University Schedule of Classes.

Note: Some courses are only offered once a year: Fall or Spring. Check with the Department of Chemistry for scheduling of courses.

Bachelor of Science Degree in Biochemistry

The Bachelor of Science (B.S.) degree in Biochemistry provides opportunities for preparation for careers in industry, governmental agencies, environmental studies, preprofessional programs, and medical technology, and for graduate study in chemistry or other related fields. The degree plan, as described below for the B.S. degree in Biochemistry,

meets the minimum requirements for professional chemists as defined by the American Chemical Society, and recipients receive a certificate from the American Chemical Society. It utilizes courses from the Chemistry, Biology, and Physics departments to structure education in all the major aspects of Biochemistry.

The minimum number of semester credit hours required for this degree, including the Core Curriculum requirements, is 120, at least 39 of which must be at the upper-division level. All major and support work courses must be completed with a grade of "C-" or better.

All candidates seeking this degree must fulfill the Core Curriculum requirements and the degree requirements, which are listed below.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the B.S. degree in Biochemistry must fulfill University Core Curriculum requirements in the same manner as other students.

The courses listed below satisfy both degree requirements and Core Curriculum requirements; however, if these courses are taken to satisfy both requirements, then students may need to take additional courses in order to meet the minimum number of semester credit hours required for this degree.

MAT 1214 may be used to satisfy the core requirement in Mathematics as well as a major requirement. The following two courses may be used to satisfy the core requirement in Life and Physical Sciences as well as major requirements: PHY 1943 and PHY 1963. BIO 1404 may be used to satisfy the Component Area Option core requirement.

Core Curriculum Component Area Requirements (p. 7)

| | |
|-----------------------------------|-----------|
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |
| Life and Physical Sciences | 6 |
| Language, Philosophy and Culture | 3 |
| Creative Arts | 3 |
| American History | 6 |
| Government-Political Science | 6 |
| Social and Behavioral Sciences | 3 |
| Component Area Option | 3 |
| Total Credit Hours | 42 |

Gateway Courses

Students pursuing the B.S. degree in Biochemistry must successfully complete each of the following Gateway Courses with a grade of "C-" or better in no more than two attempts. A student who is unable to successfully complete these courses within two attempts, including dropping a course with a grade of "W" or taking an equivalent course at another institution, will be required to change his or her major.

| | |
|----------|---------------------|
| CHE 1103 | General Chemistry I |
| MAT 1214 | Calculus I |
| MAT 1224 | Calculus II |

Degree Requirements

A. Required chemistry courses

| | | |
|----------|----------------------|---|
| CHE 1103 | General Chemistry I | 3 |
| CHE 1113 | General Chemistry II | 3 |

| | | |
|----------|-----------------------------------------|---|
| CHE 1121 | General Chemistry I Laboratory | 1 |
| CHE 1131 | General Chemistry II Laboratory | 1 |
| CHE 2603 | Organic Chemistry I | 3 |
| CHE 2612 | Organic Chemistry I Laboratory | 2 |
| CHE 3214 | Analytical Chemistry | 4 |
| CHE 3464 | Descriptive Inorganic Chemistry | 4 |
| CHE 3643 | Organic Chemistry II | 3 |
| CHE 3652 | Organic Chemistry II Laboratory | 2 |
| CHE 3854 | Basic Biophysical Chemistry Lecture/Lab | 4 |
| CHE 4303 | Biochemistry I | 3 |
| CHE 4313 | Biochemistry II | 3 |
| CHE 4332 | Biochemistry II Laboratory | 2 |
| CHE 4913 | Independent Study | 3 |
| CHE 4971 | Proseminar | 1 |

B. Required biology and physics courses

| | | |
|----------|-----------------------------------|---|
| BIO 1404 | Biosciences I | 4 |
| BIO 1414 | Biosciences II | 4 |
| BIO 2313 | Genetics | 3 |
| BIO 2362 | Molecular Genetics Laboratory | 2 |
| BIO 3813 | Cell Biology | 3 |
| BIO 3362 | Molecular Biochemistry Laboratory | 2 |
| BIO 3913 | Molecular Biology | 3 |
| PHY 4833 | Molecular Biophysics | 3 |

C. Upper-division biology and chemistry electives 6

6 additional semester credit hours of approved upper-division electives which must be organized courses in chemistry or biology at the 4000 level or above; no more than 3 semester credit hours may be from CHE 4913 Independent Study, BIO 4923 Laboratory Research, or CHE 4993 Honors Research.

D. Support work in science and mathematics

1. Required courses

| | | |
|---------------------|------------------------------------------------------------------------------------------------|---|
| MAT 1214 | Calculus I | 4 |
| MAT 1224 | Calculus II | 4 |
| PHY 1943 & PHY 1951 | Physics for Scientists and Engineers I and Physics for Scientists and Engineers I Laboratory | 4 |
| PHY 1963 & PHY 1971 | Physics for Scientists and Engineers II and Physics for Scientists and Engineers II Laboratory | 4 |

2. Electives 5

5 additional semester credit hours of elective work from the College of Sciences, as approved by the advisor.

Total Credit Hours 93

Course Sequence Guide for B.S. Degree in Biochemistry

This course sequence guide is designed to assist students in completing their UTSA undergraduate Biochemistry degree requirements. *This is merely a guide and students must satisfy other requirements of this catalog and meet with their academic advisor for individualized degree plans.* Progress within this guide depends upon such factors as course availability, individual student academic preparation, student time management, work obligations, and individual financial considerations. When available, students may choose to take courses during Summer terms to reduce course loads during long semesters.

B.S. in Biochemistry – Recommended Four-Year Academic Plan**First Year**

| | | Credit Hours |
|-------------|---------------------------------------------|--------------|
| Fall | | |
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| BIO 1404 | Biosciences I (core and major) | 4 |
| CHE 1103 | General Chemistry I | 3 |
| CHE 1121 | General Chemistry I Laboratory ¹ | 1 |
| MAT 1214 | Calculus I (core and major) | 4 |
| | | 15 |

Spring

| | | |
|----------|---------------------------------|----|
| BIO 1414 | Biosciences II | 4 |
| CHE 1113 | General Chemistry II | 3 |
| CHE 1131 | General Chemistry II Laboratory | 1 |
| MAT 1224 | Calculus II | 4 |
| WRC 1013 | Freshman Composition I | 3 |
| | | 15 |

Second Year**Fall**

| | | |
|-----------------------------------|---------------------------------------------------------------------------------------------------------------|----|
| BIO 2313 | Genetics | 3 |
| CHE 2603 | Organic Chemistry I | 3 |
| CHE 2612 | Organic Chemistry I Laboratory ¹ | 2 |
| PHY 1943 & PHY 1951 | Physics for Scientists and Engineers I and Physics for Scientists and Engineers I Laboratory (core and major) | 4 |
| Government-Political Science Core | | 3 |
| | | 15 |

Spring

| | | |
|---------------------|-----------------------------------------------------------------------------------------------------------------|----|
| CHE 3643 | Organic Chemistry II | 3 |
| CHE 3652 | Organic Chemistry II Laboratory ¹ | 2 |
| PHY 1963 & PHY 1971 | Physics for Scientists and Engineers II and Physics for Scientists and Engineers II Laboratory (core and major) | 4 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| BIO 2362 | Molecular Genetics Laboratory | 2 |
| | | 14 |

Third Year**Fall**

| | | |
|------------------------------------|-----------------------------------|----|
| BIO 3362 | Molecular Biochemistry Laboratory | 2 |
| BIO 3813 | Cell Biology | 3 |
| CHE 4303 | Biochemistry I | 3 |
| Upper-division BIO or CHE elective | | 3 |
| American History core | | 3 |
| Social & Behavioral Sciences core | | 3 |
| | | 17 |

Spring

| | | |
|----------|----------------------------|---|
| BIO 3913 | Molecular Biology | 3 |
| CHE 4313 | Biochemistry II | 3 |
| CHE 4332 | Biochemistry II Laboratory | 2 |

| | | |
|-----------------------|---|----|
| American History core | 3 | |
| Creative Arts core | 3 | |
| Credit Hours | | 14 |

Fourth Year**Fall**

| | | |
|------------------------------------|------------------------------------------------------------------|----|
| CHE 3214 | Analytical Chemistry | 4 |
| CHE 3854 | Basic Biophysical Chemistry Lecture/Lab | 4 |
| CHE 4913 or BIO 4923 | Independent Study or Laboratory Research: Biology Concentrations | 3 |
| Government-Political Science core | | 3 |
| Upper-division BIO or CHE elective | | 3 |
| | | 17 |

Spring

| | | |
|--------------------------------------|---------------------------------|-----|
| CHE 3464 | Descriptive Inorganic Chemistry | 4 |
| CHE 4971 | Proseminar | 1 |
| PHY 4833 | Molecular Biophysics | 3 |
| Language, Philosophy, & Culture core | | 3 |
| Upper-division COS elective | | 2 |
| | | 13 |
| Total Credit Hours | | 120 |

¹

These laboratory courses include a lecture component as indicated on the University Schedule of Classes.

Note: Some courses are only offered once a year: Fall or Spring. Check with the Departments of Chemistry and Biology for scheduling of courses.

Bachelor of Arts Degree in Chemistry

The Bachelor of Arts (B.A.) degree in Chemistry is a less comprehensive degree than the B.S. degree in Chemistry. It provides opportunities for preparation for careers in industry, governmental agencies, environmental studies, and preprofessional programs. It is not recommended for students planning to pursue graduate studies in chemistry or related fields. It does not meet the criteria for an American Chemical Society approved degree in chemistry.

The minimum number of semester credit hours required for this degree, including the Core Curriculum requirements, is 120, at least 39 of which must be at the upper-division level. All major and support work courses must be completed with a grade of "C-" or better.

All candidates seeking this degree must fulfill the Core Curriculum requirements and the degree requirements, which are listed below.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the B.A. degree in Chemistry must fulfill University Core Curriculum requirements in the same manner as other students. The courses listed below satisfy both degree requirements and Core Curriculum requirements; however, if these courses are taken to satisfy both requirements, then students may need to take additional courses in order to meet the minimum number of semester credit hours required for this degree.

MAT 1214 may be used to satisfy the core requirement in Mathematics as well as a major requirement. The following two courses may be used to satisfy the core requirement in Life and Physical Sciences as well as major requirements: PHY 1943 and PHY 1963.

Core Curriculum Component Area Requirements (p. 7)

| | |
|-----------------------------------|-----------|
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |
| Life and Physical Sciences | 6 |
| Language, Philosophy and Culture | 3 |
| Creative Arts | 3 |
| American History | 6 |
| Government-Political Science | 6 |
| Social and Behavioral Sciences | 3 |
| Component Area Option | 3 |
| Total Credit Hours | 42 |

Gateway Courses

Students pursuing the B.A. degree in Chemistry must successfully complete each of the following Gateway Courses with a grade of "C-" or better in no more than two attempts. A student who is unable to successfully complete these courses within two attempts, including dropping a course with a grade of "W" or taking an equivalent course at another institution, will be required to change his or her major.

| | |
|----------|---------------------|
| CHE 1103 | General Chemistry I |
| MAT 1214 | Calculus I |
| MAT 1224 | Calculus II |

Degree Requirements

A. Required courses in chemistry

| | | |
|----------|-----------------------------------------|---|
| CHE 1103 | General Chemistry I | 3 |
| CHE 1113 | General Chemistry II | 3 |
| CHE 1121 | General Chemistry I Laboratory | 1 |
| CHE 1131 | General Chemistry II Laboratory | 1 |
| CHE 2603 | Organic Chemistry I | 3 |
| CHE 2612 | Organic Chemistry I Laboratory | 2 |
| CHE 3214 | Analytical Chemistry | 4 |
| CHE 3464 | Descriptive Inorganic Chemistry | 4 |
| CHE 3643 | Organic Chemistry II | 3 |
| CHE 3652 | Organic Chemistry II Laboratory | 2 |
| CHE 3854 | Basic Biophysical Chemistry Lecture/Lab | 4 |
| CHE 4213 | Instrumental Analysis | 3 |
| CHE 4971 | Proseminar | 1 |

B. Upper-division chemistry electives

Select 12 additional semester credit hours of approved upper-division 12 chemistry electives; no more than 6 semester credit hours may be from CHE 4913 Independent Study, CHE 4923 Special Project in Chemistry, or CHE 4993 Honors Research.

C. Support work in science and mathematics

| | | |
|----------------------|-------------|---|
| 1. Required courses: | | |
| MAT 1214 | Calculus I | 4 |
| MAT 1224 | Calculus II | 4 |

| | | |
|---------------------|----------------------------------------------------------------------------------------------|---|
| PHY 1943 & PHY 1951 | Physics for Scientists and Engineers I and Physics for Scientists and Engineers I Laboratory | 4 |
|---------------------|----------------------------------------------------------------------------------------------|---|

| | | |
|---------------------|------------------------------------------------------------------------------------------------|---|
| PHY 1963 & PHY 1971 | Physics for Scientists and Engineers II and Physics for Scientists and Engineers II Laboratory | 4 |
|---------------------|------------------------------------------------------------------------------------------------|---|

2. Select 18 additional semester credit hours of approved upper-division electives from the College of Sciences; up to 6 semester credit hours may be from the College of Engineering with approval of the advisor of the degree-granting program.

| | |
|---------------------------------------------|-----------|
| D. Electives | |
| Select 7 semester credit hours of electives | 7 |
| Total Credit Hours | 87 |

Course Sequence Guide for B.A. Degree in Chemistry

This course sequence guide is designed to assist students in completing their UTSA undergraduate Chemistry degree requirements. *This is merely a guide and students must satisfy other requirements of this catalog and meet with their academic advisor for individualized degree plans.* Progress within this guide depends upon such factors as course availability, individual student academic preparation, student time management, work obligations, and individual financial considerations. Students may choose to take courses during Summer terms to reduce course loads during long semesters.

B.A. in Chemistry – Recommended Four-Year Academic Plan

| First Year | | Credit Hours |
|-----------------------------------|----------------------------------------------|--------------|
| Fall | | |
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| CHE 1103 | General Chemistry I | 3 |
| CHE 1121 | General Chemistry I Laboratory ¹ | 1 |
| MAT 1214 | Calculus I (core and major) | 4 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| Credit Hours | | 14 |
| Spring | | |
| CHE 1113 | General Chemistry II | 3 |
| CHE 1131 | General Chemistry II Laboratory ¹ | 1 |
| MAT 1224 | Calculus II | 4 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| Social & Behavioral Sciences core | | 3 |
| Credit Hours | | 14 |
| Second Year | | |
| Fall | | |
| CHE 2603 | Organic Chemistry I | 3 |
| CHE 2612 | Organic Chemistry I Laboratory ¹ | 2 |
| CHE 3214 | Analytical Chemistry | 4 |
| Free elective | | 3 |
| American History core | | 3 |
| Credit Hours | | 15 |
| Spring | | |
| CHE 3643 | Organic Chemistry II | 3 |
| CHE 3652 | Organic Chemistry II Laboratory | 2 |

| | | |
|---------------------------------------|----------------------------------------------------------------------------------------------------------|-----|
| PHY 1943 & PHY 1951 | Physics for Scientists and Engineers I and Physics for Scientists and Engineers I Laboratory (core) | 4 |
| Government-Political Science core | | 3 |
| Language, Philosophy and Culture core | | 3 |
| | Credit Hours | 15 |
| Summer | | |
| PHY 1963 & PHY 1971 | Physics for Scientists and Engineers II and Physics for Scientists and Engineers II Laboratory (core) | 4 |
| | Credit Hours | 4 |
| Third Year | | |
| Fall | | |
| Government-Political Science core | | 3 |
| Upper-division CHE elective | | 3 |
| Upper-division COS elective | | 3 |
| Upper-division COS elective | | 3 |
| Upper-division COS elective | | 3 |
| | Credit Hours | 15 |
| Spring | | |
| CHE 3464 | Descriptive Inorganic Chemistry | 4 |
| CHE 3854 | Basic Biophysical Chemistry Lecture/Lab | 4 |
| Component Area Option core | | 3 |
| Free elective | | 4 |
| | Credit Hours | 15 |
| Fourth Year | | |
| Fall | | |
| Upper-division CHE elective | | 3 |
| Upper-division CHE elective | | 3 |
| Upper-division COS elective | | 3 |
| Upper-division COS elective | | 3 |
| American History core | | 3 |
| | Credit Hours | 15 |
| Spring | | |
| CHE 4213 | Instrumental Analysis | 3 |
| CHE 4971 | Proseminar | 1 |
| Upper-division CHE elective | | 3 |
| Upper-division COS elective | | 3 |
| Creative Arts core | | 3 |
| | Credit Hours | 13 |
| | Total Credit Hours | 120 |

1

These laboratory courses include a lecture component as indicated on the University Schedule of Classes.

Note: Some courses are only offered once a year: Fall or Spring. Check with the Department of Chemistry for scheduling of courses

Minor in Chemistry

The purpose of this minor is to permit students majoring in other areas to obtain a solid, broad-based knowledge of chemistry. The

minor is applicable to those students in other areas of science and in preprofessional programs. All coursework for the Minor in Chemistry must be completed with a grade of "C-" or better. All students pursuing the Minor in Chemistry must complete 23 semester credit hours.

A. Required courses

| | | |
|----------|---------------------------------|---|
| CHE 1103 | General Chemistry I | 3 |
| CHE 1113 | General Chemistry II | 3 |
| CHE 1121 | General Chemistry I Laboratory | 1 |
| CHE 1131 | General Chemistry II Laboratory | 1 |
| CHE 2603 | Organic Chemistry I | 3 |
| CHE 2612 | Organic Chemistry I Laboratory | 2 |
| CHE 3643 | Organic Chemistry II | 3 |

B. Additional chemistry courses

Select 7 additional hours of 2000-, 3000- or 4000-level chemistry courses including at least one of the following laboratory-based courses:

| | | |
|----------|-----------------------------------------|--|
| CHE 3214 | Analytical Chemistry | |
| CHE 3464 | Descriptive Inorganic Chemistry | |
| CHE 3854 | Basic Biophysical Chemistry Lecture/Lab | |

| | | |
|--------------------|--|----|
| Total Credit Hours | | 23 |
|--------------------|--|----|

To declare a Minor in Chemistry, obtain advice, or seek approval of substitutions for course requirements, students should consult their academic advisor.

Department of Computer Science

The Department of Computer Science offers a Bachelor of Science degree in Computer Science with concentrations in Cloud and Systems, Cyber Security, Data Science, and Software Engineering, a Cyber Operations Track, a Bachelor of Arts degree in Computer Science with Teaching Track, and a Minor in Computer Science. The department also offers the Certificate in Pathogenic Outbreak Investigations in collaboration with the Department of Biology and the Department of Information Systems and Cyber Security in the College of Business.

Admission Policy

The goal of the Department of Computer Science is to provide undergraduate students a program of study with the highest possible standards. To achieve this goal, the admission policy of the Department of Computer Science is designed to identify those students most likely to succeed in their undergraduate computer science education.

Direct Admission Criteria

Applicants entering UTSA as Freshmen will be directly admitted to the Department of Computer Science if they:

- Meet all UTSA undergraduate admission requirements,
- Are ranked in the top 15 percent of their high school class and a minimum 1350 SAT* or 29 ACT score, and
- Are Calculus I (<https://future.utsa.edu/ready/calculus-ready/>) (or higher) ready

Transfer applicants will be directly admitted to the Department of Computer Science if they:

- Meet all UTSA undergraduate transfer admission requirements
- Are Calculus I (<https://future.utsa.edu/ready/calculus-ready/>) (or higher) ready

All applicants for admission to the Department of Computer Science must be qualified to take MAT 1214 Calculus I (or higher) and CS 1083 Programming I for Computer Scientists (or higher). Students who do not meet the requirements, but meet UTSA's general admission requirements, will be part of "Engineering, Mathematics, and Sciences Studies (XEMS)" where students will be able to work towards meeting the prerequisites needed to declare Computer Science as their major. Applicants who are not qualified should be admitted as an undeclared (UND) major.

A directly admitted computer science (CS) student who fails to complete each of the gateway courses within two attempts from the date of first admission to the Department of Computer Science will be changed from CS to undeclared (UND) in the University student record system. The student must choose a major other than computer science. A computer science minor is, however, available to all UTSA students who seek to complement a different academic major with a strong foundation in computer science.

- B.S. Degree in Computer Science (p. 264)
- B.A. Degree in Computer Science with Teaching Track (p. 267)

Bachelor of Science Degree in Computer Science

The Bachelor of Science (B.S.) degree in Computer Science is designed to prepare students with a strong technical emphasis on modern computing

and systems. The degree program offers students the opportunity to prepare for advanced graduate study and for careers in high-technology companies, business, government, and teaching. The department offers concentrations in Cloud and Systems, Cyber Security, Data Science, and Software Engineering. The department also offers the B.S. in Computer Science with a Cyber Operations Track.

The B.S. degree in Computer Science requires a minimum of 120 semester credit hours, including the Core Curriculum requirements. Thirty-nine of the total semester credit hours required for the degree must be at the upper-division level.

All majors in computer science are required to complete all required and elective computer science courses with a grade of "C-" or better.

All candidates seeking this degree must fulfill the Core Curriculum requirements and the degree requirements, which are listed below.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the B.S. degree in Computer Science must fulfill University Core Curriculum requirements in the same manner as other students. The course listed below will satisfy both degree requirements and Core Curriculum requirements; however, if this course is taken to satisfy both requirements, then students may need to take an additional course in order to meet the minimum number of semester credit hours required for this degree.

MAT 1214 may be used to satisfy the core requirement in Mathematics as well as a major requirement.

Core Curriculum Component Area Requirements (p. 7)

| | |
|-----------------------------------|-----------|
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |
| Life and Physical Sciences | 6 |
| Language, Philosophy and Culture | 3 |
| Creative Arts | 3 |
| American History | 6 |
| Government-Political Science | 6 |
| Social and Behavioral Sciences | 3 |
| Component Area Option | 3 |
| Total Credit Hours | 42 |

Gateway Courses

Students pursuing the B.S. degree in Computer Science must successfully complete each of the following Gateway Courses with a grade of "C-" or better in no more than two attempts. A student who is unable to successfully complete these courses within two attempts, including dropping a course with a grade of "W" or taking an equivalent course at another institution, will be required to change his or her major.

| | | |
|---------|-------------------------|---|
| CS 1714 | Computer Programming II | 4 |
| CS 2124 | Data Structures | 4 |

Degree Requirements

A. Required courses (this also satisfies the 3 hours of core curriculum requirement for Mathematics)

| | | |
|---------|---------------------------------------|---|
| CS 1083 | Programming I for Computer Scientists | 3 |
| CS 1714 | Computer Programming II | 4 |

| | | |
|----------|-------------------------------------------------------------------------------------------|---|
| CS 2124 | Data Structures | 4 |
| CS 2233 | Discrete Mathematical Structures | 3 |
| CS 3333 | Mathematical Foundations of Computer Science | 3 |
| CS 3343 | Analysis of Algorithms | 3 |
| CS 3424 | Systems Programming | 4 |
| CS 3443 | Application Programming | 3 |
| CS 3723 | Programming Languages | 3 |
| CS 3733 | Operating Systems | 3 |
| CS 3743 | Database Systems | 3 |
| CS 3844 | Computer Organization | 4 |
| CS 3853 | Computer Architecture | 3 |
| MAT 1214 | Calculus I (The student who is not prepared for MAT 1214 must take MAT 1093 Precalculus.) | 4 |
| MAT 1224 | Calculus II | 4 |

B. Upper-Division computer science courses

With prior written approval of the Undergraduate Advisor of Record, students may take upper-division MAT or STA courses to satisfy up to 6 hours of this requirement. A student with a cumulative grade point average of 3.0 or better may enroll in graduate courses and apply the credits earned toward satisfying this requirement. Enrollment in graduate courses requires prior written approvals as described in chapter 1 (Bachelor's Degree Regulations) of this catalog.

C. Free electives

| | |
|--------------------|----|
| Electives | 6 |
| Total Credit Hours | 81 |

Concentration in Cloud and Systems

Students may declare a Concentration in Cloud and Systems after completing CS 3424 Systems Programming with a grade of "C-" or better. All candidates for the Concentration in Cloud and Systems must fulfill the Core Curriculum requirements and the Computer Science degree requirements including, as part of the upper-division computer science electives in item B in the degree requirements, the following course:

| | | |
|------------------------------------------------------------------------------------------------------------------------|----------------------------------------|---|
| CS 4843 | Cloud Computing | 3 |
| plus three additional courses selected from the following (an elective can only be counted towards one concentration): | | |
| CS 3873 | Computer Networks | 3 |
| CS 4243 | Large-Scale Data Management | 3 |
| CS 4633 | Simulation Techniques | 3 |
| CS 4663 | Distributed and Cloud Systems Security | 3 |
| CS 4713 | Compiler Construction | 3 |
| CS 4823 | Parallel Programming | 3 |
| CS 4833 | Embedded Systems | 3 |
| CS 4853 | Advanced Systems Programming | 3 |
| CS 4863 | Distributed Computing and Systems | 3 |
| CS 4963 | Advanced Topics in Systems and Cloud | 3 |

Concentration in Cyber Security

Students may declare a Concentration in Cyber Security after completing CS 2124 Data Structures with a grade of "C-" or better. All candidates for the Concentration in Cyber Security must fulfill the Core Curriculum requirements and the Computer Science degree requirements including, as part of the computer science electives in item B in the degree requirements, the following course:

| | | |
|------------------------------------------------------------------------------------------------------------------------|------------------------------------------|---|
| CS 3113 | Principles of Cyber Security | 3 |
| plus three additional courses selected from the following (an elective can only be counted towards one concentration): | | |
| CS 3433 | Computer and Information Security | 3 |
| CS 4353 | Unix and Network Security | 3 |
| CS 4363 | Cryptography | 3 |
| CS 4453 | Penetration Testing | 3 |
| CS 4473 | Cryptocurrencies and Bitcoins | 3 |
| CS 4493 | Advanced Topics in Cyber Security | 3 |
| CS 4643 | Cellular and Mobile Technologies | 3 |
| CS 4653 | Software and Malware Reverse Engineering | 3 |
| CS 4663 | Distributed and Cloud Systems Security | 3 |
| CS 4673 | Cyber Operations | 3 |
| CS 4683 | Secure Software Development and Analysis | 3 |

Concentration in Data Science

Students may declare a Concentration in Data Science after completing CS 3343 Analysis of Algorithms with a grade of "C-" or better. All candidates for the Concentration in Data Science must fulfill the Core Curriculum requirements and the Computer Science degree requirements including, as part of the upper-division computer science electives in item B in the degree requirements, the following course:

| | | |
|----------------------------------------------------------------------------------------------------------------------|------------------------------------------|---|
| CS 3753 | Data Science | 3 |
| plus two additional courses selected from the following (an elective can only be counted towards one concentration): | | |
| CS 3793 | Artificial Intelligence | 3 |
| CS 4223 | Bioinformatics and Big Data | 3 |
| CS 4233 | Computational Biology and Bioinformatics | 3 |
| CS 4243 | Large-Scale Data Management | 3 |
| CS 4253 | Machine Learning | 3 |
| CS 4263 | Deep Learning | 3 |
| CS 4373 | Data Mining | 3 |
| CS 4973 | Advanced Topics in Data Science | 3 |

Concentration in Software Engineering

Students may declare a Concentration in Software Engineering after completing CS 3443 Application Programming with a grade of "C-" or better. All candidates for the Concentration in Software Engineering must fulfill the Core Curriculum requirements and the Computer Science degree requirements including, as part of the upper-division computer science electives in item B in the degree requirements, the following course:

| | | |
|----------------------------------------------------------------------------------------------------------------------|-------------------------------------------|---|
| CS 3773 | Software Engineering | 3 |
| plus two additional courses selected from the following (an elective can only be counted towards one concentration): | | |
| CS 4393 | User Interfaces | 3 |
| CS 4413 | Web Technologies | 3 |
| CS 4613 | Senior Design I | 3 |
| CS 4623 | Senior Design II | 3 |
| CS 4683 | Secure Software Development and Analysis | 3 |
| CS 4723 | Software Validation and Quality Assurance | 3 |
| CS 4743 | Enterprise Software Engineering | 3 |
| CS 4773 | Object-Oriented Systems | 3 |
| CS 4783 | Advanced Software Engineering | 3 |

Degree Requirements for Cyber Operations Track

Cyber Operations (CO) Track is a new program option for students in the current BS in Computer Science (BSCS) degree. Students graduating with this option will have Cyber Operations Track indicated as part of their BSCS degree. The objective of the Cyber Operations Track is to provide rigorous curriculum in cybersecurity with a focus on offensive cyber operations while balancing theoretical foundations and experiential learning.

All candidates for the Cyber Operations Track must fulfill the Core Curriculum requirements, the Computer Science degree requirements except CS 3853 Computer Architecture, which is available as an elective for this track, and the following courses:

A. Required courses (this also satisfies the 3 hours of core curriculum requirement for Mathematics)

| | | |
|----------|-------------------------------------------------------------------------------------------|---|
| CS 1083 | Programming I for Computer Scientists | 3 |
| CS 1714 | Computer Programming II | 4 |
| CS 2124 | Data Structures | 4 |
| CS 2233 | Discrete Mathematical Structures | 3 |
| CS 3333 | Mathematical Foundations of Computer Science | 3 |
| CS 3343 | Analysis of Algorithms | 3 |
| CS 3424 | Systems Programming | 4 |
| CS 3443 | Application Programming | 3 |
| CS 3723 | Programming Languages | 3 |
| CS 3733 | Operating Systems | 3 |
| CS 3743 | Database Systems | 3 |
| CS 3844 | Computer Organization | 4 |
| MAT 1214 | Calculus I (The student who is not prepared for MAT 1214 must take MAT 1093 Precalculus.) | 4 |
| MAT 1224 | Calculus II | 4 |

B. Required courses for Cyber Operations Track

| | | |
|---------|------------------------------------------|---|
| CS 3113 | Principles of Cyber Security | 3 |
| CS 3433 | Computer and Information Security | 3 |
| CS 3873 | Computer Networks | 3 |
| CS 4353 | Unix and Network Security | 3 |
| CS 4363 | Cryptography | 3 |
| CS 4643 | Cellular and Mobile Technologies | 3 |
| CS 4653 | Software and Malware Reverse Engineering | 3 |
| CS 4663 | Distributed and Cloud Systems Security | 3 |
| CS 4683 | Secure Software Development and Analysis | 3 |

C. Elective

Choose one of the following:

| | | |
|-------------------------------------------|----------------------------------------------------------------------------------------------------------|--|
| CS 3853 | Computer Architecture | |
| CS 4673 | Cyber Operations | |
| CS 4853 | Advanced Systems Programming | |
| Any other CS upper division electives, or | | |
| IS 4523 | Digital Forensic Analysis II (from Information Systems and Cybersecurity program in College of Business) | |

Total Credit Hours 78

Course Sequence Guide for B.S. Degree in Computer Science

This course sequence guide is designed to assist students in completing their UTSA undergraduate Computer Science degree requirements.

This is merely a guide and students must satisfy other requirements of this catalog and meet with their academic advisor for individualized degree plans. Progress within this guide depends upon such factors as course availability, individual student academic preparation, student time management, work obligations, and individual financial considerations. Students may choose to take courses during Summer terms to reduce course loads during long semesters.

B.S. in Computer Science (no track) – Recommended Four-Year Academic Plan

First Year

| Fall | | Credit Hours |
|--------------------|-----------------------------------------|--------------|
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| CS 1083 | Programming I for Computer Scientists | 3 |
| MAT 1214 | Calculus I (core and major) | 4 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| Creative Arts core | | 3 |
| Credit Hours | | 16 |

Spring

| | | |
|-------------------------|---------------------------------------------------------------------------|----|
| CS 1714 | Computer Programming II | 4 |
| CS 2233 | Discrete Mathematical Structures | 3 |
| MAT 1224 | Calculus II | 4 |
| POL 1133 or POL 1213 | Texas Politics and Society (core) or Civil Rights in Texas and America | 3 |
| Credit Hours | | 14 |

Second Year

Fall

| | | |
|-------------------------------|----------------------------------------------|----|
| CS 2124 | Data Structures | 4 |
| CS 3333 | Mathematical Foundations of Computer Science | 3 |
| POL 1013 | Introduction to American Politics (core) | 3 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| Life & Physical Sciences core | | 3 |
| Credit Hours | | 16 |

Spring

| | | |
|-----------------------------------|-------------------------|----|
| CS 3424 | Systems Programming | 4 |
| CS 3443 | Application Programming | 3 |
| CS 3844 | Computer Organization | 4 |
| Social & Behavioral Sciences core | | 3 |
| Credit Hours | | 14 |

Third Year

Fall

| | | |
|-------------------------------|------------------------|---|
| CS 3343 | Analysis of Algorithms | 3 |
| CS 3723 | Programming Languages | 3 |
| CS 3743 | Database Systems | 3 |
| Life & Physical Sciences core | | 3 |

| | | |
|-------------------------------------|-----------------------|-----|
| Free Elective | | 3 |
| Credit Hours | | 15 |
| Spring | | |
| CS 3733 | Operating Systems | 3 |
| CS 3853 | Computer Architecture | 3 |
| Upper-division CS elective | | 3 |
| Upper-division CS elective | | 3 |
| Free Elective | | 3 |
| Credit Hours | | 15 |
| Fourth Year | | |
| Fall | | |
| Upper-division CS elective | | 3 |
| Upper-division CS elective | | 3 |
| Upper-division CS elective | | 3 |
| Component Area Option core | | 3 |
| American History core | | 3 |
| Credit Hours | | 15 |
| Spring | | |
| Upper-division CS elective | | 3 |
| Upper-division CS elective | | 3 |
| Upper-division CS elective | | 3 |
| Language, Philosophy & Culture core | | 3 |
| American History core | | 3 |
| Credit Hours | | 15 |
| Total Credit Hours | | 120 |

Note: Some courses are only offered once a year: Fall or Spring. Check with the Department of Computer Science for scheduling of courses.

B.S. in Computer Science with Cyber Operations Track – Recommended Four-Year Academic Plan

| | | |
|-------------------------------|----------------------------------------------|----|
| First Year | | |
| Fall | | |
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| CS 1083 | Programming I for Computer Scientists | 3 |
| MAT 1214 | Calculus I (core and major) | 4 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| Life & Physical Sciences core | | 3 |
| Credit Hours | | 16 |
| Spring | | |
| CS 1714 | Computer Programming II | 4 |
| MAT 1224 | Calculus II | 4 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| Life & Physical Sciences core | | 3 |
| Credit Hours | | 14 |
| Second Year | | |
| Fall | | |
| CS 2124 | Data Structures | 4 |
| CS 2233 | Discrete Mathematical Structures | 3 |
| CS 3333 | Mathematical Foundations of Computer Science | 3 |

| | | |
|----------------------------------------------------------------------------|------------------------------------------|-----|
| Language, Philosophy & Culture core | | 3 |
| Social & Behavioral Sciences core | | 3 |
| Credit Hours | | 16 |
| Spring | | |
| CS 3113 | Principles of Cyber Security | 3 |
| CS 3424 | Systems Programming | 4 |
| CS 3443 | Application Programming | 3 |
| CS 3844 | Computer Organization | 4 |
| Credit Hours | | 14 |
| Third Year | | |
| Fall | | |
| CS 3343 | Analysis of Algorithms | 3 |
| CS 3433 | Computer and Information Security | 3 |
| CS 3733 | Operating Systems | 3 |
| CS 3873 | Computer Networks | 3 |
| American History core | | 3 |
| Credit Hours | | 15 |
| Spring | | |
| CS 3723 | Programming Languages | 3 |
| CS 3743 | Database Systems | 3 |
| CS 4353 | Unix and Network Security | 3 |
| CS 4363 | Cryptography | 3 |
| American History core | | 3 |
| Credit Hours | | 15 |
| Fourth Year | | |
| Fall | | |
| CS 4643 | Cellular and Mobile Technologies | 3 |
| CS 4653 | Software and Malware Reverse Engineering | 3 |
| CS 4663 | Distributed and Cloud Systems Security | 3 |
| Creative Arts core | | 3 |
| Government-Political Science core | | 3 |
| Credit Hours | | 15 |
| Spring | | |
| CS 4683 | Secure Software Development and Analysis | 3 |
| Upper-division Cyber Security elective (must be approved by CS department) | | 3 |
| Upper-division Cyber Security elective (must be approved by CS department) | | 3 |
| Component Area Option core | | 3 |
| Government-Political Science core | | 3 |
| Credit Hours | | 15 |
| Total Credit Hours | | 120 |

Note: Some courses are only offered once a year: Fall or Spring. Check with the Department of Computer Science for scheduling of courses.

Bachelor of Arts Degree in Computer Science with Teaching Track

The Bachelor of Arts (B.A.) degree in Computer Science with Teaching Track is designed for students who are interested in teaching computer

science at the middle school or high school level as a certified teacher. This program integrates a cohesive set of fundamental computer science courses from the Bachelor of Science degree in Computer Science as well as the UTeachSA program so that students can gain solid foundations in the computer science and education fields to obtain the Computer Science teaching certification.

The B.A. degree in Computer Science requires a minimum of 120 semester credit hours, including the Core Curriculum requirements. Thirty-nine of the total semester credit hours required for the degree must be at the upper-division level.

All majors in computer science are required to complete all required and elective computer science courses with a grade of "C-" or better.

All candidates seeking this degree must fulfill the Core Curriculum requirements and the degree requirements, which are listed below.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the B.A. degree in Computer Science must fulfill University Core Curriculum requirements in the same manner as other students. The course listed below will satisfy both degree requirements and Core Curriculum requirements; however, if this course is taken to satisfy both requirements, then students may need to take an additional course in order to meet the minimum number of semester credit hours required for this degree.

MAT 1214 may be used to satisfy the core requirement in Mathematics as well as a major requirement.

Core Curriculum Component Area Requirements (p. 7)

| | |
|-----------------------------------|-----------|
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |
| Life and Physical Sciences | 6 |
| Language, Philosophy and Culture | 3 |
| Creative Arts | 3 |
| American History | 6 |
| Government-Political Science | 6 |
| Social and Behavioral Sciences | 3 |
| Component Area Option | 3 |
| Total Credit Hours | 42 |

Gateway Courses

Students pursuing the B.A. degree in Computer Science must successfully complete each of the following Gateway Courses with a grade of "C-" or better in no more than two attempts. A student who is unable to successfully complete these courses within two attempts, including dropping a course with a grade of "W" or taking an equivalent course at another institution, will be required to change his or her major.

| | | |
|---------|-------------------------|---|
| CS 1714 | Computer Programming II | 4 |
| CS 2124 | Data Structures | 4 |

Degree Requirements

A. Required courses (this also satisfies the 3 hours of core curriculum requirement for Mathematics)

| | | |
|---------|---------------------------------------|---|
| CS 1083 | Programming I for Computer Scientists | 3 |
| CS 1714 | Computer Programming II | 4 |

| | | |
|----------|-------------------------------------------------------------------------------------------|---|
| CS 2124 | Data Structures | 4 |
| CS 2233 | Discrete Mathematical Structures | 3 |
| CS 3333 | Mathematical Foundations of Computer Science | 3 |
| CS 3343 | Analysis of Algorithms | 3 |
| CS 3424 | Systems Programming | 4 |
| CS 3443 | Application Programming | 3 |
| CS 3743 | Database Systems | 3 |
| CS 3844 | Computer Organization | 4 |
| MAT 1214 | Calculus I (The student who is not prepared for MAT 1214 must take MAT 1093 Precalculus.) | 4 |
| MAT 1224 | Calculus II | 4 |

B. Upper-Division computer science electives 12

Any of upper division computer science electives in the B.S. in Computer Science program

C. Education courses (27 hours)

| | | |
|-----------|--------------------------------------------------------|---|
| UTE 1111 | Introduction to STEM Teaching Step 1 | 1 |
| UTE 1122 | Introduction to STEM Teaching Step 2 | 2 |
| UTE 3023 | Perspectives on Science and Mathematics | 3 |
| UTE 3203 | Knowing and Learning in Mathematics and Science | 3 |
| UTE 3213 | Classroom Interactions | 3 |
| UTE 4203 | Project-Based Instruction | 3 |
| ESL 3083 | Second Language Teaching and Learning for Grades 7-12 | 3 |
| LTED 3773 | Reading and Writing Across the Disciplines-Grades 7-12 | 3 |
| UTE 4646 | Clinical Teaching | 6 |

| | |
|---------------------------|-----------|
| Total Credit Hours | 81 |
|---------------------------|-----------|

Course Sequence Guide for B.A. Degree in Computer Science with Teaching Track

This course sequence guide is designed to assist students in completing their UTSA undergraduate B.A. in Computer Science degree requirements. *This is merely a guide and students must satisfy other requirements of this catalog and meet with their academic advisor for individualized degree plans.* Progress within this guide depends upon such factors as course availability, individual student academic preparation, student time management, work obligations, and individual financial considerations. Students may choose to take courses during Summer terms to reduce course loads during long semesters.

B.A. in Computer Science with Teaching Track - Recommended Four-Year Academic Plan

First Year

| Fall | | Credit Hours |
|---------------------|-----------------------------------------|--------------|
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| CS 1083 | Programming I for Computer Scientists | 3 |
| MAT 1214 | Calculus I (core and major) | 4 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| UTE 1111 | Introduction to STEM Teaching Step 1 | 1 |
| Credit Hours | | 14 |

Spring

| | | |
|---------|-------------------------|---|
| CS 1714 | Computer Programming II | 4 |
|---------|-------------------------|---|

| | | |
|-------------------------|------------------------------------------------------------------------------|----|
| MAT 1224 | Calculus II | 4 |
| POL 1133 or POL 1213 | Texas Politics and Society (core) or Civil Rights in Texas and America | 3 |
| WRC 1023 | Freshman Composition II | 3 |
| UTE 1122 | Introduction to STEM Teaching Step 2 | 2 |
| Credit Hours | | 16 |

Second Year**Fall**

| | | |
|-------------------------------|----------------------------------------------------|----|
| CS 2124 | Data Structures | 4 |
| CS 2233 | Discrete Mathematical Structures | 3 |
| POL 1013 | Introduction to American Politics | 3 |
| Life & Physical Sciences core | | 3 |
| UTE 3203 | Knowing and Learning in Mathematics and Science | 3 |
| Credit Hours | | 16 |

Spring

| | | |
|-----------------------------------|-------------------------------------------------|----|
| CS 3333 | Mathematical Foundations of Computer Science | 3 |
| CS 3443 | Application Programming | 3 |
| Life & Physical Sciences core | | 3 |
| Social & Behavioral Sciences core | | 3 |
| UTE 3023 | Perspectives on Science and Mathematics | 3 |
| Credit Hours | | 15 |

Third Year**Fall**

| | | |
|----------------------------|----------------------------------------------------------|----|
| CS 3424 | Systems Programming | 4 |
| CS 3844 | Computer Organization | 4 |
| Component Area Option core | | 3 |
| Creative Arts core | | 3 |
| ESL 3083 | Second Language Teaching and Learning for Grades 7-12 | 3 |
| Credit Hours | | 17 |

Spring

| | | |
|-------------------------------------|------------------------|----|
| CS 3343 | Analysis of Algorithms | 3 |
| CS 3743 | Database Systems | 3 |
| Language, Philosophy & Culture core | | 3 |
| American History core | | 3 |
| UTE 3213 | Classroom Interactions | 3 |
| Credit Hours | | 15 |

Fourth Year**Fall**

| | | |
|----------------------------|-----------------------------------------------------------|----|
| Upper-division CS elective | | 3 |
| Upper-division CS elective | | 3 |
| American History core | | 3 |
| LTED 3773 | Reading and Writing Across the Disciplines-Grades 7-12 | 3 |
| UTE 4203 | Project-Based Instruction | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|----------------------------|--|---|
| Upper-division CS elective | | 3 |
|----------------------------|--|---|

| | | |
|----------------------------|-------------------|-----|
| Upper-division CS elective | | 3 |
| UTE 4646 | Clinical Teaching | 6 |
| Credit Hours | | 12 |
| Total Credit Hours | | 120 |

Minor in Computer Science

All students pursuing the Minor in Computer Science must complete 20 semester credit hours. All required and elective courses must be completed with a grade of "C-" or better.

A. Required courses

| | | |
|---------|---------------------------------------|---|
| CS 1083 | Programming I for Computer Scientists | 3 |
| CS 1714 | Computer Programming II | 4 |
| CS 2124 | Data Structures | 4 |

B. CS core courses or approved CS electives

| | | |
|--------------------------------------------------------------------------------------------------------------------------------------|--|----|
| Select 9 hours of additional CS core courses or approved CS electives, at least 6 hours of which must be at the upper-division level | | 9 |
| Total Credit Hours | | 20 |

To declare a Minor in Computer Science, obtain advice, or seek approval of substitutions for course requirements, students should consult with their academic advisor.

Certificate in Pathogenic Outbreak Investigations

This interdisciplinary certificate program is designed for students in biology, information systems and cyber security, computer science and computer engineering disciplines to investigate biological and digital pathogen identification, propagation prediction, and mitigation. The required capstone project reinforces the cross-disciplinary learning fostered by the program and provides real-world practice.

This certificate is open only to biology, information systems and cyber security, computer science, and computer engineering majors. To apply for the Pathogenic Outbreak Investigations certificate, students should consult with the Director of the Office of Undergraduate Research for specific information about certificate requirements and consult with the Certificate Program Advisor to verify that they have met all University requirements. All courses used to satisfy the requirements of this undergraduate certificate program must be college-level courses taken at UTSA. Students must fulfill all prerequisite requirements for elective courses.

Students pursuing the Certificate in Pathogenic Outbreak Investigations must complete a minimum of 15 semester credit hours:

A. Courses required by all majors:

| | | |
|-----------------------------------------------------------------|----------------------------------------------------|---|
| Topic: Introduction to Pathogenic Outbreak Investigations: | | 3 |
| BIO 4953 | Special Studies in Biology | |
| or CS 4593 | Topics in Computer Science | |
| or IS 3313 | Introduction to Pathogenic Outbreak Investigations | |
| Topic: Advanced Research in Pathogenic Outbreak Investigations: | | 3 |
| BIO 4953 | Special Studies in Biology | |
| or CS 4913 | Independent Study | |
| or IS 4953 | Special Studies in Information Systems | |

B. Required course according to major:

| | | |
|----------|--------------|---|
| BIO 3713 | Microbiology | 3 |
|----------|--------------|---|

| | | |
|---------------------------------------------------------------------------------------------------------|----------------------------------------------|----|
| CS 4593 | Topics in Computer Science (Cloud Computing) | |
| IS 4533 | Malware Analysis | |
| C. Elective courses for each major. Select 6 hours from one of the following groups depending on major. | | 6 |
| Biology elective options ¹ | | |
| BIO 3513 | Biochemistry | |
| BIO 3743 | Bacteriology | |
| BIO 4743 | Immunology | |
| BIO 5762 | Fundamentals of Immunology for Biotechnology | |
| BIO 6973 | Special Problems (Comparative Genomics) | |
| BIO 6973 | Special Problems (Microbial Genomics) | |
| Information Systems/Cyber Security elective options | | |
| IS 3523 | Intrusion Detection and Incident Response | |
| IS 4463 | Web Application Security | |
| IS 4483 | Digital Forensic Analysis I | |
| IS 4513 | Industrial Control Systems | |
| IS 4523 | Digital Forensic Analysis II | |
| Computer Science elective options | | |
| CS 3113 | Principles of Cyber Security | |
| CS 3433 | Computer and Information Security | |
| CS 3753 | Data Science | |
| CS 3873 | Computer Networks | |
| CS 4223 | Bioinformatics and Big Data | |
| CS 4353 | Unix and Network Security | |
| CS 4363 | Cryptography | |
| CS 4373 | Data Mining | |
| CS 4593 | Topics in Computer Science | |
| CS 4633 | Simulation Techniques | |
| CS 4643 | Cellular and Mobile Technologies | |
| CS 4653 | Software and Malware Reverse Engineering | |
| CS 4663 | Distributed and Cloud Systems Security | |
| CS 4673 | Cyber Operations | |
| CS 4683 | Secure Software Development and Analysis | |
| CS 4713 | Compiler Construction | |
| CS 4823 | Parallel Programming | |
| CS 4833 | Embedded Systems | |
| CS 4843 | Cloud Computing | |
| CS 4853 | Advanced Systems Programming | |
| CS 4863 | Distributed Computing and Systems | |
| CS 4933 | Internship in Computer Science | |
| CS 4963 | Advanced Topics in Systems and Cloud | |
| CS 4973 | Advanced Topics in Data Science | |
| Total Credit Hours | | 15 |

1

Undergraduate biology students are permitted to take graduate courses based on need, student background/capability, and instructor consent.

Department of Earth and Planetary Sciences

The undergraduate degree programs offered by the Department of Earth and Planetary Sciences - a Bachelor of Science (B.S.) degree in Geosciences, a Bachelor of Arts (B.A.) degree in Geosciences, a Minor in Geology, and a Certificate in Geographic Information Systems (GIS) - reflect the Department's policy of offering the opportunity for a comprehensive education of the highest quality, individualized to the needs and interests of the student. Completion of a basic science curriculum allows students to apply for entry into one of several highly specialized areas in geosciences. Students who have majored in one of these degree programs are eligible to apply for positions in education, industry, or government as well as for entry into professional or graduate schools.

Note: The B.A. degree in Geology and the B.S. degree in Geology were renamed to Geosciences starting fall 2021.

- B.S. degree in Geosciences (formerly Geology) (p. 270)
- B.A. degree in Geosciences (formerly Geology) (p. 272)

Bachelor of Science Degree in Geosciences (formerly Geology)

Note: Starting August 23, 2021, the B.S. degree in Geology was renamed B.S. degree in Geosciences.

The Bachelor of Science (B.S.) degree in Geosciences provides opportunities to prepare for careers in the geosciences and for successful studies in graduate school. The program of study focuses on fundamentals and learning skills used by geologists in their professional careers.

The minimum number of semester credit hours required for this degree, including the Core Curriculum requirements, is 120, at least 39 of which must be at the upper-division level. All major and support work courses must be completed with a grade of "C-" or better.

All candidates seeking this degree must fulfill the Core Curriculum requirements and the degree requirements, which are listed below.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the B.S. degree in Geosciences must fulfill University Core Curriculum requirements in the same manner as other students. If courses are taken to satisfy both degree requirements and Core Curriculum requirements, then students may need to take additional courses in order to meet the minimum number of semester credit hours required for this degree.

Core Curriculum Component Area Requirements (p. 7)

| | |
|-----------------------------------|---|
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |
| Life and Physical Sciences | 6 |
| Language, Philosophy and Culture | 3 |
| Creative Arts | 3 |
| American History | 6 |
| Government-Political Science | 6 |

| | |
|--------------------------------|----|
| Social and Behavioral Sciences | 3 |
| Component Area Option | 3 |
| Total Credit Hours | 42 |

Gateway Courses

Students pursuing the B.S. degree in Geosciences must successfully complete each of the following Gateway Courses with a grade of "C-" or better in no more than two attempts. A student who is unable to successfully complete these courses within two attempts, including dropping a course with a grade of "W" or taking an equivalent course at another institution, will be required to change his or her major.

| | |
|------------------------|-------------------------------------------------------------|
| CHE 1113 & CHE 1131 | General Chemistry II and General Chemistry II Laboratory |
| GEO 1103 & GEO 1111 | Physical Geology and Physical Geology Laboratory |
| MAT 1224 | Calculus II |

Degree Requirements

A. Major courses

| | |
|------------------------|-----------------------------------------------------------------------------------|
| 1. Required courses | |
| GEO 1103 & GEO 1111 | Physical Geology and Physical Geology Laboratory 4 |
| GEO 1123 & GEO 1131 | Life Through Time and Life Through Time Laboratory 4 |
| GEO 2003 & GEO 2011 | Mineralogy and Mineralogy Laboratory 4 |
| GEO 2113 | Fundamentals of Geographic Information Systems (GIS) 3 |
| GEO 3043 & GEO 3051 | Petrology and Petrology Laboratory 4 |
| GEO 3063 & GEO 3071 | Paleontology and Paleontology Laboratory 4 |
| GEO 3103 & GEO 3111 | Structural Geology and Structural Geology Laboratory 4 |
| GEO 3113 | Geologic Field Investigations 3 |
| GEO 3123 & GEO 3131 | Sedimentation and Stratigraphy and Sedimentation and Stratigraphy Laboratory 4 |
| GEO 4933 | Field Geology Part I 3 |
| GEO 4943 | Field Geology Part II 3 |

2. Select 20 additional semester credit hours at the upper-division-level from the remaining GEO course offerings. Students should meet with their academic advisor and/or a member of the Department of Earth and Planetary Sciences to verify that they have taken the necessary prerequisites.

B. Courses within the College of Sciences

| | | |
|------------------------|-------------------------------------------------------------------------------------------------|---|
| CHE 1103 & CHE 1121 | General Chemistry I and General Chemistry I Laboratory | 4 |
| CHE 1113 & CHE 1131 | General Chemistry II and General Chemistry II Laboratory | 4 |
| CS 1173 | Data Analysis and Visualization | 3 |
| MAT 1214 | Calculus I | 4 |
| MAT 1224 | Calculus II | 4 |
| PHY 1943 & PHY 1951 | Physics for Scientists and Engineers I and Physics for Scientists and Engineers I Laboratory | 4 |

| | | |
|------------------------|---------------------------------------------------------------------------------------------------|---|
| PHY 1963 & PHY 1971 | Physics for Scientists and Engineers II and Physics for Scientists and Engineers II Laboratory | 4 |
|------------------------|---------------------------------------------------------------------------------------------------|---|

Total Credit Hours 87

Concentrations

For those students interested in addressing water resource or climate issues, the Department of Earth and Planetary Sciences offers two areas of concentration. To declare a concentration, or obtain advice, students should consult an undergraduate advisor in the Mathematics and Physical Sciences Advising Center. To receive credit for the concentration area of study, students must successfully complete all requirements for the B.S. degree along with all courses listed under each concentration area. Students who do not successfully complete all courses of a given concentration area will receive a standard B.S. degree in Geosciences.

Concentration in Hydrology

All candidates for the Concentration in Hydrology must complete the following courses:

| | | |
|--------------------|----------------------------|----|
| GEO 3374 | Geochemistry | 4 |
| GEO 4203 | Aqueous Geochemistry | 3 |
| GEO 4623 | Groundwater Hydrogeology | 3 |
| GEO 4133 | River Science | 3 |
| GEO 4503 | Hydrogeophysics | 3 |
| GEO 4511 | Hydrogeophysics Laboratory | 1 |
| Total Credit Hours | | 17 |

Concentration in Earth System and Climate

All candidates for the Concentration in Earth System and Climate must complete the following courses:

| | | |
|------------------------|-----------------------------------------------|----|
| GEO 3003 | Fundamentals of Meteorology | 3 |
| GEO 3163 | Oceanography | 3 |
| GEO 3173 | Polar Regions and Climate Change | 3 |
| GEO 4053 | Climate Change: Past, Present, Future | 3 |
| GEO 4113 & GEO 4121 | Geomorphology and Geomorphology Laboratory | 4 |
| Total Credit Hours | | 16 |

Course Sequence Guide for B.S. Degree in Geosciences (formerly Geology)

This course sequence guide is designed to assist students in completing their UTSA undergraduate Geosciences degree requirements. *This is merely a guide and students must satisfy other requirements of this catalog and meet with their academic advisor for individualized degree plans.* Progress within this guide depends upon such factors as course availability, individual student academic preparation, student time management, work obligations, and individual financial considerations. Students may choose to take courses during Summer terms to reduce course loads during long semesters.

B.S. in Geosciences – Recommended Four-Year Academic Plan

First Year

| Fall | | Credit Hours |
|----------|-----------------------------------------|--------------|
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |

| | | |
|---------------------|---------------------------------------------------------------------|----|
| CHE 1103 & CHE 1121 | General Chemistry I and General Chemistry I Laboratory ¹ | 4 |
| GEO 1103 & GEO 1111 | Physical Geology and Physical Geology Laboratory | 4 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| Credit Hours | | 14 |

Spring

| | | |
|---------------------|-----------------------------------------------------------------------|----|
| CHE 1113 & CHE 1131 | General Chemistry II and General Chemistry II Laboratory ¹ | 4 |
| CS 1173 | Data Analysis and Visualization | 3 |
| GEO 1123 & GEO 1131 | Life Through Time and Life Through Time Laboratory (core and major) | 4 |
| MAT 1214 | Calculus I (core and major) | 4 |
| Credit Hours | | 15 |

Second Year

Fall

| | | |
|---------------------|---------------------------------------------------------------------------------------------------------------|----|
| GEO 2003 & GEO 2011 | Mineralogy and Mineralogy Laboratory | 4 |
| GEO 3063 & GEO 3071 | Paleontology and Paleontology Laboratory | 4 |
| MAT 1224 | Calculus II | 4 |
| PHY 1943 & PHY 1951 | Physics for Scientists and Engineers I and Physics for Scientists and Engineers I Laboratory (core and major) | 4 |
| Credit Hours | | 16 |

Spring

| | | |
|---------------------|------------------------------------------------------------------------------------------------|----|
| GEO 2113 | Fundamentals of Geographic Information Systems (GIS) | 3 |
| GEO 3043 & GEO 3051 | Petrology and Petrology Laboratory | 4 |
| PHY 1963 & PHY 1971 | Physics for Scientists and Engineers II and Physics for Scientists and Engineers II Laboratory | 4 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| Credit Hours | | 14 |

Third Year

Fall

| | | |
|-----------------------------|------------------------------------------|----|
| GEO 3113 | Geologic Field Investigations | 3 |
| POL 1013 | Introduction to American Politics (core) | 3 |
| Upper-division GEO elective | | 3 |
| Upper-division GEO elective | | 3 |
| Component Area Option core | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|---------------------|------------------------------------------------------|---|
| GEO 3103 & GEO 3111 | Structural Geology and Structural Geology Laboratory | 4 |
|---------------------|------------------------------------------------------|---|

| | | |
|-----------------------------|------------------------------------------------------------------------------|----|
| GEO 3123 & GEO 3131 | Sedimentation and Stratigraphy and Sedimentation and Stratigraphy Laboratory | 4 |
| POL 1133 or POL 1213 | Texas Politics and Society (core) or Civil Rights in Texas and America | 3 |
| Upper-division GEO elective | | 3 |
| Credit Hours | | 14 |

Summer

| | | |
|--------------|-----------------------|---|
| GEO 4933 | Field Geology Part I | 3 |
| GEO 4943 | Field Geology Part II | 3 |
| Credit Hours | | 6 |

Fourth Year

Fall

| | | |
|-------------------------------------|--|----|
| American History core | | 3 |
| Language, Philosophy & Culture core | | 3 |
| Upper-division GEO elective | | 3 |
| Upper-division GEO elective | | 3 |
| Credit Hours | | 12 |

Spring

| | | |
|-----------------------------------|--|-----|
| American History core | | 3 |
| Creative Arts core | | 3 |
| Social & Behavioral Sciences core | | 3 |
| Upper-division GEO elective | | 3 |
| Upper-division GEO elective | | 2 |
| Credit Hours | | 14 |
| Total Credit Hours | | 120 |

¹

These laboratory courses include a lecture component as indicated on the University Schedule of Classes.

Note: Some courses are only offered once a year: Fall or Spring. Check with the Department of Geological Sciences for scheduling of courses.

Bachelor of Arts Degree in Geosciences (formerly Geology)

Note: Starting August 23, 2021, the B.S. degree in Geology was renamed B.A. degree in Geosciences.

The Bachelor of Arts (B.A.) degree in Geosciences provides opportunities to prepare for careers in fields such as earth science education, law, insurance, financial services, energy business, and environmental management. It is not recommended for students planning to pursue careers as professional geologists or graduate studies in geology or related fields.

The minimum number of semester credit hours required for this degree, including the Core Curriculum requirements, is 120, at least 39 of which must be at the upper-division level. All major and support work courses must be completed with a grade of "C-" or better.

All candidates seeking this degree must fulfill the Core Curriculum requirements and the degree requirements, which are listed below.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the B.A. degree in Geosciences must fulfill University Core Curriculum requirements in the same manner as other students. If courses are taken to satisfy both degree requirements and Core Curriculum requirements, then students may need to take additional courses in order to meet the minimum number of semester credit hours required for this degree.

Core Curriculum Component Area Requirements (p. 7)

| | |
|-----------------------------------|-----------|
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |
| Life and Physical Sciences | 6 |
| Language, Philosophy and Culture | 3 |
| Creative Arts | 3 |
| American History | 6 |
| Government-Political Science | 6 |
| Social and Behavioral Sciences | 3 |
| Component Area Option | 3 |
| Total Credit Hours | 42 |

Gateway Courses

Students pursuing the B.A. degree in Geosciences must successfully complete each of the following Gateway Courses with a grade of "C-" or better in no more than two attempts. A student who is unable to successfully complete these courses within two attempts, including dropping a course with a grade of "W" or taking an equivalent course at another institution, will be required to change his or her major.

| | |
|------------------------|-------------------------------------------------------------|
| CHE 1113 & CHE 1131 | General Chemistry II and General Chemistry II Laboratory |
| GEO 1103 & GEO 1111 | Physical Geology and Physical Geology Laboratory |
| MAT 1214 | Calculus I |

Degree Requirements

A. Major courses

| | | |
|------------------------|---------------------------------------------------------------------------------|---|
| 1. Required courses | | |
| GEO 1103 & GEO 1111 | Physical Geology and Physical Geology Laboratory | 4 |
| GEO 1123 & GEO 1131 | Life Through Time and Life Through Time Laboratory | 4 |
| GEO 2003 & GEO 2011 | Mineralogy and Mineralogy Laboratory | 4 |
| GEO 2113 | Fundamentals of Geographic Information Systems (GIS) | 3 |
| GEO 3043 & GEO 3051 | Petrology and Petrology Laboratory | 4 |
| GEO 3063 & GEO 3071 | Paleontology and Paleontology Laboratory | 4 |
| GEO 3123 & GEO 3131 | Sedimentation and Stratigraphy and Sedimentation and Stratigraphy Laboratory | 4 |

| | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| 2. Select 16 semester credit hours at the upper-division level from among the remaining GEO course offerings. Students should meet with their academic advisor and/or a member of the Department of Earth and Planetary Sciences to verify that they have taken the necessary prerequisites. | 16 |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|

B. Courses within the College of Sciences

| | | |
|---------------------------------------|---------------------------------------------------------------------------------------------------|---|
| CHE 1103 & CHE 1121 | General Chemistry I and General Chemistry I Laboratory | 4 |
| CHE 1113 & CHE 1131 or GEO 3374 | General Chemistry II and General Chemistry II Laboratory Geochemistry | 4 |
| CS 1173 | Data Analysis and Visualization | 3 |
| MAT 1214 | Calculus I | 4 |
| PHY 1603 & PHY 1611 | Algebra-based Physics I and Algebra-based Physics I Laboratory | 4 |
| or | | |
| PHY 1943 & PHY 1951 | Physics for Scientists and Engineers I and Physics for Scientists and Engineers I Laboratory | 4 |
| PHY 1623 & PHY 1631 | Algebra-based Physics II and Algebra-based Physics II Laboratory | 4 |
| or | | |
| PHY 1963 & PHY 1971 | Physics for Scientists and Engineers II and Physics for Scientists and Engineers II Laboratory | 4 |

C. Electives

| | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| Select 18 semester credit hours of electives to meet the 120 semester credit hour degree minimum with an appropriate number of credit hours at the upper-division level to meet the UTSA minimum of 39 upper-division hours. If PHY 1943 and PHY 1963 are taken under section B above, MAT 1224 should be used to fulfill 3 hours of electives. | 18 |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|

| | |
|---------------------------|-----------|
| Total Credit Hours | 84 |
|---------------------------|-----------|

Concentrations

For those students interested in addressing water resource or climate issues, the Department of Earth and Planetary Sciences offers two areas of concentration. To declare a concentration, or obtain advice, students should consult an undergraduate adviser in the Mathematics and Physical Sciences Advising Center. To receive credit for the concentration area of study, students must successfully complete all requirements for the B.A. degree along with all courses listed under each concentration area. Students who do not successfully complete all courses of a given concentration area will receive a standard B.A. degree in Geosciences.

Concentration in Hydrology

All candidates for the Concentration in Hydrology must complete the following courses:

| | | |
|----------|----------------------------|---|
| GEO 3374 | Geochemistry | 4 |
| GEO 4203 | Aqueous Geochemistry | 3 |
| GEO 4623 | Groundwater Hydrogeology | 3 |
| GEO 4133 | River Science | 3 |
| GEO 4503 | Hydrogeophysics | 3 |
| GEO 4511 | Hydrogeophysics Laboratory | 1 |

| | |
|---------------------------|-----------|
| Total Credit Hours | 17 |
|---------------------------|-----------|

Concentration in Earth System and Climate

All candidates for the Concentration in Earth System and Climate must complete the following courses:

| | | |
|---------------------|--------------------------------------------|----|
| GEO 3003 | Fundamentals of Meteorology | 3 |
| GEO 3163 | Oceanography | 3 |
| GEO 3173 | Polar Regions and Climate Change | 3 |
| GEO 4053 | Climate Change: Past, Present, Future | 3 |
| GEO 4113 & GEO 4121 | Geomorphology and Geomorphology Laboratory | 4 |
| Total Credit Hours | | 16 |

Course Sequence Guide for B.A. Degree in Geosciences (formerly Geology)

This course sequence guide is designed to assist students in completing their UTSA undergraduate Geosciences degree requirements. *This is merely a guide and students must satisfy other requirements of this catalog and meet with their academic advisor for individualized degree plans.* Progress within this guide depends upon such factors as course availability, individual student academic preparation, student time management, work obligations, and individual financial considerations. Students may choose to take courses during Summer terms to reduce course loads during long semesters.

B.A. in Geosciences – Recommended Four-Year Academic Plan

First Year

| | | Credit Hours |
|---------------------|----------------------------------------------------------|---------------------|
| Fall | | |
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| CHE 1103 & CHE 1121 | General Chemistry I and General Chemistry I Laboratory 1 | 4 |
| GEO 1103 & GEO 1111 | Physical Geology and Physical Geology Laboratory | 4 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| Credit Hours | | 14 |

Spring

| | | |
|-------------------------------|---------------------------------------------------------------------|----|
| CS 1173 | Data Analysis and Visualization | 3 |
| GEO 1123 & GEO 1131 | Life Through Time and Life Through Time Laboratory (core and major) | 4 |
| MAT 1214 | Calculus I (core and major) | 4 |
| Life & Physical Sciences core | | 3 |
| Credit Hours | | 14 |

Second Year

| | | |
|------------------------------|------------------------------------------------------------|----|
| Fall | | |
| GEO 2003 & GEO 2011 | Mineralogy and Mineralogy Laboratory | 4 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| Creative Arts core | | 3 |
| Select one of the following: | | 4 |
| CHE 1113 & CHE 1131 | General Chemistry II and General Chemistry II Laboratory 1 | 4 |
| GEO 3374 | Geochemistry | 3 |
| Credit Hours | | 14 |

Spring

| | | |
|---------------------|----------------------------------------------------------------------------------------------|----|
| GEO 2113 | Fundamentals of Geographic Information Systems (GIS) | 3 |
| GEO 3043 & GEO 3051 | Petrology and Petrology Laboratory | 4 |
| PHY 1603 & PHY 1611 | Algebra-based Physics I and Algebra-based Physics I Laboratory | 4 |
| or | | |
| PHY 1943 & PHY 1951 | Physics for Scientists and Engineers I and Physics for Scientists and Engineers I Laboratory | 4 |
| Free elective | | 3 |
| Free elective | | 3 |
| Credit Hours | | 17 |

Third Year

Fall

| | | |
|-------------------------------------|------------------------------------------------------------------------------------------------|----|
| GEO 3063 & GEO 3071 | Paleontology and Paleontology Laboratory | 4 |
| PHY 1623 & PHY 1631 | Algebra-based Physics II and Algebra-based Physics II Laboratory | 4 |
| or | | |
| PHY 1963 & PHY 1971 | Physics for Scientists and Engineers II and Physics for Scientists and Engineers II Laboratory | 4 |
| Language, Philosophy & Culture core | | 3 |
| Upper-division GEO elective | | 3 |
| Credit Hours | | 14 |

Spring

| | | |
|-----------------------------|------------------------------------------------------------------------------|----|
| GEO 3123 & GEO 3131 | Sedimentation and Stratigraphy and Sedimentation and Stratigraphy Laboratory | 4 |
| POL 1013 | Introduction to American Politics (core) | 3 |
| Upper-division GEO elective | | 3 |
| Upper-division GEO elective | | 3 |
| Component Area Option core | | 3 |
| Credit Hours | | 16 |

Fourth Year

Fall

| | | |
|------------------------------|--|----|
| Free elective | | 3 |
| Free elective | | 3 |
| Upper-division Free elective | | 3 |
| Upper-division GEO elective | | 3 |
| American History core | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|-----------------------------------|------------------------------------------------------------------------|---|
| POL 1133 or POL 1213 | Texas Politics and Society (core) or Civil Rights in Texas and America | 3 |
| American History core | | 3 |
| Social & Behavioral Sciences core | | 3 |

| | |
|------------------------------|-----|
| Upper-division Free elective | 3 |
| Upper-division GEO elective | 3 |
| Upper-division GEO elective | 1 |
| Credit Hours | 16 |
| Total Credit Hours | 120 |

1

These laboratory courses include a lecture component as indicated on the University Schedule of Classes.

Note: Some courses are only offered once a year: Fall or Spring. Check with the Department of Earth and Planetary Sciences for scheduling of courses.

Minor in Geology

All students pursuing the Minor in Geology must complete 21 semester credit hours. All coursework must be completed with a grade of "C-" or better.

A. Required courses

| | | |
|---------------------------------|------------------------------------------------------------------------------|---|
| GEO 1103 & GEO 1111 | Physical Geology and Physical Geology Laboratory | 4 |
| GEO 1123 & GEO 1131 | Life Through Time and Life Through Time Laboratory | 4 |
| GEO 2003 & GEO 2011 or GEO 3004 | Mineralogy and Mineralogy Laboratory Rocks, Fossils, and Global Tectonics | 4 |

B. Electives

| | |
|-------------------------------------------|----|
| Approved upper-division geology electives | 9 |
| Total Credit Hours | 21 |

To declare a Minor in Geology, obtain advice about prerequisites about approved upper-division geology electives, or seek approval of substitutions for course requirements, students should consult their academic advisor.

Certificate in Geographic Information System

Understanding and use of geospatial information is needed to address issues related to geological, environmental, biological, physical, business, and social processes. The objectives of the program is to train undergraduate students from any discipline of UTSA to be expert in using Geographic Information System (GIS) tool for creating, operating, and managing geospatial data, making professional maps, and analyzing data for various science and technique applications. This is an interdisciplinary program and it is administrated through the Geological Sciences department. Courses currently offered through different departments (Geological Sciences, Environmental Science and Ecology, Civil and Environmental Engineering, Political Science and Geography) can be used for the certificate program.

The requirement for the certificate is 15 semester credit hours (five courses). Courses taken in the certificate program may be applied towards to other B.S. or B.A. degrees, depending on program requirements and with approval of the undergraduate advisor of record of the degree program. Student who is not currently in any UTSA degree program can apply as non-degree-seeking special student at the undergraduate level to pursue this certificate.

Students pursuing the Certificate in Geographic Information System must complete a minimum of 15 semester credit hours:

| | |
|----------------------------------------|------------------------------------------------------|
| A. One of the following: | 3 |
| CE 4293 | Geographic Information Systems (GIS) |
| ES 2113 | Fundamentals of Geographic Information Systems (GIS) |
| GEO 2113 | Fundamentals of Geographic Information Systems (GIS) |
| GES 3314 | Introduction to Geographic Information Systems |
| B. One of the following: | 3 |
| GEO 3343 | Introduction to Geospatial Technologies |
| GES 3323 | Spatial Analysis |
| C. One of the following: | 3 |
| GEO 4093 | Principles of Remote Sensing |
| GES 3363 | GIS Cartography |
| D. Courses within Geological Sciences: | 6 |
| GEO 4073 | Web GIS |
| GEO 4103 | Programming and Statistics for GIS |
| Total Credit Hours | 15 |

Department of Environmental Science and Ecology

The Department of Environmental Science and Ecology offers a Bachelor of Science degree in Environmental Science, a Bachelor of Arts in Environmental Studies, and a Bachelor of Science degree in Multidisciplinary Science. The Bachelor degree in Environmental Science degree aims to provide students with both basic and advanced science training in the field of Environmental Science. The Bachelor of Arts is designed to provide students with a multidisciplinary educational approach regarding environmental issues and foster system-thinking skills. The Multidisciplinary Science degree is designed for future secondary science teachers.

- B.S. degree in Environmental Science (p. 276)
- B.A. degree in Environmental Studies (p. 279)
- B.S. degree in Multidisciplinary Science (p. 281)

Bachelor of Science Degree in Environmental Science

The Bachelor of Science (B.S.) degree in Environmental Science aims to provide students in the program with both basic and advanced training in the field of Environmental Science. Students will develop skills in how to monitor environmental conditions as well as analyze environmental problems. The main areas of study will include conservation and restoration ecology, environmental management, or natural resources and wildlife management. Today's environmental problems call for scientists who are educated in more than one discipline, highly trained in technical skills, and aware of the political and social dimensions of environmental problems and how to make decisions with regard to these situations. Coursework includes a variety of interdisciplinary topics ranging from fundamentals of Geographic Information Systems, environmental systems, soil, water, global change, environmental law, and environmental assessment. Students will gain hands-on experience with many of the instrumental techniques used in environmental analysis and have the opportunity to engage in teamwork for field studies, excursions and laboratory studies. There is a strong emphasis on producing graduates with well-developed oral and written communication skills who are capable of complex problem solving.

The minimum number of semester credit hours required for this degree, including the Core Curriculum requirements, is 120, at least 39 of which must be at the upper-division level.

All major and support work courses must be completed with a grade of "C-" or better.

All candidates seeking this degree must fulfill the Core Curriculum requirements and the degree requirements, which are listed below.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the B.S. degree in Environmental Science must fulfill University Core Curriculum requirements in the same manner as other students. If courses are taken to satisfy both degree requirements and Core Curriculum requirements, then students may need to take additional courses in order to meet the minimum number of semester credit hours required for this degree.

Core Curriculum Component Area Requirements (p. 7)

| | |
|-----------------------------------|-----------|
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |
| Life and Physical Sciences | 6 |
| Language, Philosophy and Culture | 3 |
| Creative Arts | 3 |
| American History | 6 |
| Government-Political Science | 6 |
| Social and Behavioral Sciences | 3 |
| Component Area Option | 3 |
| Total Credit Hours | 42 |

Gateway Courses

Students pursuing the B.S. degree in Environmental Science must successfully complete each of the following Gateway Courses with a grade of "C-" or better in no more than two attempts. A student who is unable to successfully complete these courses within two attempts, including dropping a course with a grade of "W" or taking an equivalent course at another institution, will be required to change his or her major.

| | | |
|----------|---------------------------------------------------|---|
| CHE 1083 | Introduction to the Molecular Structure of Matter | 3 |
| CHE 1093 | Introduction to Molecular Transformations | 3 |
| MAT 1093 | Precalculus | 3 |

Degree Requirements

A. Required environmental science courses (54 hours of which 6 are in the core)

| | | |
|--------------------------------------------------|--------------------------------------------------------------------------------------------------|---|
| Must be completed with a grade of "C-" or better | | |
| ES 1113 & ES 1111 | Environmental Botany and Environmental Botany Laboratory | 4 |
| ES 1123 & ES 1121 | Environmental Zoology and Environmental Zoology Laboratory | 4 |
| ES 1213 & ES 1211 | Environmental Geology and Environmental Geology Laboratory | 4 |
| ES 1314 | Environmental Statistics | 4 |
| ES 2013 & ES 2021 | Introduction to Environmental Science I and Introduction to Environmental Science I Laboratory | 4 |
| ES 2023 & ES 2031 | Introduction to Environmental Science II and Introduction to Environmental Science II Laboratory | 4 |
| ES 2113 | Fundamentals of Geographic Information Systems (GIS) | 3 |
| ES 3033 & ES 3042 | Environmental Ecology and Environmental Ecology Laboratory | 5 |
| ES 3123 & ES 3121 | Introduction to Soils and Introduction to Soils Laboratory | 4 |
| ES 3143 & ES 3141 | Watershed Processes and Watershed Processes Laboratory | 4 |
| ES 3203 | Environmental Law | 3 |
| ES 4103 | Global Change | 3 |
| ES 4203 | Environmental Assessment | 3 |
| ES 4212 | Senior Seminar | 2 |
| ES 4253 | Sources, Fate, and Transport of Chemicals in the Environment | 3 |

B. Required support courses (15 hours of which 6 are in the core)

Must be completed with a grade of "C-" or better

| | | |
|----------|---------------------------------------------------|---|
| CHE 1083 | Introduction to the Molecular Structure of Matter | 3 |
| CHE 1093 | Introduction to Molecular Transformations | 3 |
| COM 2113 | Public Speaking | 3 |
| ENG 2413 | Technical Writing | 3 |
| MAT 1093 | Precalculus | 3 |

C. Area of Study courses 21

Upper-division environmental science courses completed with a grade of "C-" or better

Twenty one (21) semester credit hours of additional environmental science courses are required of which 15 hours must be upper division. While the degree is a general degree in environmental science, four areas of study have been identified within the B.S.degree program for students interested in conservation and restoration ecology, environmental management, natural resources and wildlife management, or aquatic sciences. Depending on their area of interest, students must select courses from the following areas of study:

Conservation and Restoration Ecology

Required Courses:

| | |
|---------|----------------------|
| ES 4213 | Conservation Biology |
| ES 4233 | Restoration Ecology |

Select five courses from the following:

| | |
|---------|--------------------------------------------|
| ES 3053 | Environmental Remediation |
| ES 3103 | Environmental Microbiology |
| ES 3113 | Ichthyology |
| ES 3133 | Oceanography |
| ES 3153 | Environmental Chemistry |
| ES 3163 | Ornithology |
| ES 3173 | Mammalogy |
| ES 3183 | Entomology |
| ES 3193 | Herpetology |
| ES 3213 | Biology of Flowering Plants |
| ES 3223 | Woody Plants |
| ES 3953 | Topics in Environmental Science |
| ES 4023 | Aquatic Ecology |
| ES 4113 | Field Biology |
| ES 4123 | Desert Biology |
| ES 4133 | Natural Resource Policy and Administration |
| ES 4163 | Renewable Energy |
| ES 4183 | Environmental Toxicology |
| ES 4243 | Wildlife Management |
| ES 4913 | Independent Study |
| ES 4953 | Special Studies in Environmental Science |

Environmental Management

Required Courses:

| | |
|---------|----------------------------|
| ES 3053 | Environmental Remediation |
| ES 3103 | Environmental Microbiology |
| ES 4183 | Environmental Toxicology |

Select four courses from the following:

| | |
|---------|-------------------------|
| ES 3113 | Ichthyology |
| ES 3133 | Oceanography |
| ES 3153 | Environmental Chemistry |

| | |
|---------|------------------------------------------|
| ES 3953 | Topics in Environmental Science |
| ES 4023 | Aquatic Ecology |
| ES 4153 | Introduction to Sustainability |
| ES 4163 | Renewable Energy |
| ES 4173 | Waste Water Treatment |
| ES 4243 | Wildlife Management |
| ES 4913 | Independent Study |
| ES 4953 | Special Studies in Environmental Science |

Natural Resources and Wildlife Management

Required courses:

| | |
|---------|--------------------------------------------|
| ES 4133 | Natural Resource Policy and Administration |
| ES 4243 | Wildlife Management |

Select five courses from the following:

| | |
|---------|------------------------------------------|
| ES 3053 | Environmental Remediation |
| ES 3103 | Environmental Microbiology |
| ES 3113 | Ichthyology |
| ES 3133 | Oceanography |
| ES 3153 | Environmental Chemistry |
| ES 3163 | Ornithology |
| ES 3173 | Mammalogy |
| ES 3183 | Entomology |
| ES 3193 | Herpetology |
| ES 3213 | Biology of Flowering Plants |
| ES 3223 | Woody Plants |
| ES 3953 | Topics in Environmental Science |
| ES 4023 | Aquatic Ecology |
| ES 4113 | Field Biology |
| ES 4123 | Desert Biology |
| ES 4153 | Introduction to Sustainability |
| ES 4163 | Renewable Energy |
| ES 4173 | Waste Water Treatment |
| ES 4183 | Environmental Toxicology |
| ES 4213 | Conservation Biology |
| ES 4233 | Restoration Ecology |
| ES 4913 | Independent Study |
| ES 4953 | Special Studies in Environmental Science |

Aquatic Sciences

Required Courses:

| | |
|---------|-----------------|
| ES 3113 | Ichthyology |
| ES 3133 | Oceanography |
| ES 4023 | Aquatic Ecology |

Select four courses from the following:

| | |
|---------|---------------------------------|
| ES 3053 | Environmental Remediation |
| ES 3103 | Environmental Microbiology |
| ES 3153 | Environmental Chemistry |
| ES 3163 | Ornithology |
| ES 3173 | Mammalogy |
| ES 3183 | Entomology |
| ES 3193 | Herpetology |
| ES 3213 | Biology of Flowering Plants |
| ES 3223 | Woody Plants |
| ES 3953 | Topics in Environmental Science |

| | | |
|--------------------|--------------------------------------------|----|
| ES 4113 | Field Biology | |
| ES 4123 | Desert Biology | |
| ES 4133 | Natural Resource Policy and Administration | |
| ES 4153 | Introduction to Sustainability | |
| ES 4163 | Renewable Energy | |
| ES 4183 | Environmental Toxicology | |
| ES 4243 | Wildlife Management | |
| ES 4913 | Independent Study | |
| ES 4953 | Special Studies in Environmental Science | |
| Total Credit Hours | | 90 |

Course Sequence Guide for B.S. Degree in Environmental Science

This course sequence guide is designed to assist students in completing their UTSA undergraduate Environmental Science degree requirements. *This is merely a guide and students must satisfy other requirements of this catalog and meet with their academic advisor for individualized degree plans.* Progress within this guide depends upon such factors as course availability, individual student academic preparation, student time management, work obligations, and individual financial considerations. Students may choose to take courses during Summer terms to reduce course loads during long semesters.

B.S. in Environmental Science – Recommended Four-Year Academic Plan

First Year

| Fall | | Credit Hours |
|--------------------|------------------------------------------|--------------|
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| ES 1123 | Environmental Zoology (core and major) | 3 |
| ES 1121 | Environmental Zoology Laboratory (major) | 1 |
| MAT 1093 | Precalculus (core and support work) | 3 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| Creative Arts core | | 3 |
| Credit Hours | | 16 |

Spring

| | | |
|--------------|-----------------------------------------|----|
| COM 2113 | Public Speaking (core and support work) | 3 |
| ES 1113 | Environmental Botany (core and major) | 3 |
| ES 1111 | Environmental Botany Laboratory (major) | 1 |
| ES 1314 | Environmental Statistics (major) | 4 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| Credit Hours | | 14 |

Second Year

| Fall | | |
|---------|--------------------------------------------------------------|---|
| ES 2013 | Introduction to Environmental Science I (major) | 3 |
| ES 2021 | Introduction to Environmental Science I Laboratory (major) | 1 |
| ES 2113 | Fundamentals of Geographic Information Systems (GIS) (major) | 3 |

| | | |
|-----------------------|------------------------------------------------------------------|----|
| CHE 1083 | Introduction to the Molecular Structure of Matter (support work) | 3 |
| POL 1013 | Introduction to American Politics (core) | 3 |
| American History core | | 3 |
| Credit Hours | | 16 |

Spring

| | | |
|--------------|-------------------------------------------------------------|----|
| ES 2023 | Introduction to Environmental Science II (major) | 3 |
| ES 2031 | Introduction to Environmental Science II Laboratory (major) | 1 |
| ES 1213 | Environmental Geology (major) | 3 |
| ES 1211 | Environmental Geology Laboratory (major) | 1 |
| CHE 1093 | Introduction to Molecular Transformations (support work) | 3 |
| ENG 2413 | Technical Writing (support work) | 3 |
| Credit Hours | | 14 |

Third Year

Fall

| | | |
|-----------------------------------|------------------------------------------|----|
| ES 3123 | Introduction to Soils (major) | 3 |
| ES 3121 | Introduction to Soils Laboratory (major) | 1 |
| ES 3033 | Environmental Ecology (major) | 3 |
| ES 3042 | Environmental Ecology Laboratory (major) | 2 |
| POL 1133 | Texas Politics and Society (core) | 3 |
| ES Area of Study Required (major) | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|-----------------------------------|----------------------------------------------------------------------|----|
| ES 3143 | Watershed Processes (major) | 3 |
| ES 3141 | Watershed Processes Laboratory (major) | 1 |
| ES 4253 | Sources, Fate, and Transport of Chemicals in the Environment (major) | 3 |
| ES Area of Study Required (major) | | 3 |
| ES Area of Study Elective (major) | | 3 |
| American History core | | 3 |
| Credit Hours | | 16 |

Fourth Year

Fall

| | | |
|------------------------------------------------|---------------------------|----|
| ES 4103 | Global Change (major) | 3 |
| ES 3203 | Environmental Law (major) | 3 |
| ES Area of Study Elective (major) ² | | 3 |
| ES Area of Study Elective (major) | | 3 |
| Language, Philosophy & Culture core | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|-----------------------------------|----------------------------------|---|
| ES 4203 | Environmental Assessment (major) | 3 |
| ES 4212 | Senior Seminar (major) | 2 |
| ES Area of Study Elective (major) | | 3 |
| ES Area of Study Elective (major) | | 3 |

| | |
|------------------------------------|-----|
| Social and Behavioral Science core | 3 |
| Credit Hours | 14 |
| Total Credit Hours | 120 |

1

These laboratory courses include a lecture component as indicated on the University Schedule of Classes. (Note: The prerequisite for CHE 1131 General Chemistry II Laboratory is CHE 1121 General Chemistry I Laboratory.)

2

For Environmental Management and Aquatic Studies, this is the third required Area of Study course.

Note: Some courses are only offered once a year: Fall or Spring. Check with the Environmental Science Academic Programs department for scheduling of courses.

Bachelor of Arts Degree in Environmental Studies

The Bachelor of Arts in Environmental Studies degree is designed to provide students with a multidisciplinary educational approach regarding environmental issues, and fosters system-thinking skills. The curriculum focuses on the interfaces between human and natural systems; includes key concepts from the natural sciences, social sciences, applied sciences and the humanities; and promotes understanding of both the sociopolitical and natural aspects of environmental problems. A large and increasing portion of environmental jobs are based in non-science, environmentally related fields - such as legal or consulting positions and a wide range of management and government position - that include a significant social or human relations component. This program is designed to prepare students to acquire the knowledge and skills needed to establish successful careers by becoming sustainability-oriented problem solvers through scholarship, practice, and informed citizenship.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the B.A. degree in Environmental Studies must fulfill University Core Curriculum requirements in the same manner as other students. If courses are taken to satisfy both degree requirements and Core Curriculum requirements, then students may need to take additional courses in order to meet the minimum number of semester credit hours required for this degree.

Core Curriculum Component Area Requirements (p. 7)

| | |
|-----------------------------------|----|
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |
| Life and Physical Sciences | 6 |
| Language, Philosophy and Culture | 3 |
| Creative Arts | 3 |
| American History | 6 |
| Government-Political Science | 6 |
| Social and Behavioral Sciences | 3 |
| Component Area Option | 3 |
| Total Credit Hours | 42 |

Degree Requirements

A. Required courses (72 hours of which 12 are in the core)

| Must be completed with a grade of "C-" or better | | |
|--------------------------------------------------|--------------------------------------------------------------------------------------------------|---|
| ES 1003 | Survey Topics in Environmental Studies | 3 |
| ES 1113 | Environmental Botany | 3 |
| ES 1123 | Environmental Zoology | 3 |
| ES 1213 | Environmental Geology | 3 |
| ES 1314 | Environmental Statistics | 4 |
| ES 2013 & ES 2021 | Introduction to Environmental Science I and Introduction to Environmental Science I Laboratory | 4 |
| ES 2023 & ES 2031 | Introduction to Environmental Science II and Introduction to Environmental Science II Laboratory | 4 |
| ES 2113 | Fundamentals of Geographic Information Systems (GIS) | 3 |
| ES 3203 | Environmental Law | 3 |
| ES 4133 | Natural Resource Policy and Administration | 3 |
| ES 4153 | Introduction to Sustainability | 3 |
| ES 4163 | Renewable Energy | 3 |
| ES 4203 | Environmental Assessment | 3 |
| CHE 1083 | Introduction to the Molecular Structure of Matter | 3 |
| COM 2113 | Public Speaking | 3 |
| ENG 2413 | Technical Writing | 3 |
| ENG 3383 | Writing in Public and Professional Contexts | 3 |
| GES 3753 | Climate Change | 3 |
| ANT 2053 | Introduction to Cultural Anthropology | 3 |
| ECO 2003 | Economic Principles and Issues | 3 |
| MS 4333 | Project Management | 3 |
| PAD 3043 | Public and Nonprofit Financial Management | 3 |
| PAD 3143 | Urban and Regional Planning | 3 |

B. Choose four (4) of the following courses 12

Twelve (12) semester credit hours of additional elective hours from the following list:

| | |
|----------|-----------------------------------------|
| ANT 3223 | Anthropology and the Environment |
| ANT 3333 | Human Adaptability |
| ANT 3873 | Food, Culture, and Society |
| ES 4213 | Conservation Biology |
| ANT 4303 | Water, Sustainability, and Health |
| ANT 4333 | Ecology and Evolution of Human Diseases |
| COM 3023 | Foundations of Communication |
| COM 3243 | Persuasion |
| ES 3033 | Environmental Ecology |
| ES 3123 | Introduction to Soils |
| ES 3143 | Watershed Processes |
| ES 3163 | Ornithology |
| ES 3173 | Mammalogy |
| ES 3183 | Entomology |
| ES 3193 | Herpetology |
| ES 3213 | Biology of Flowering Plants |
| ES 3223 | Woody Plants |
| GES 3613 | Conservation of Resources |
| GES 3713 | Weather and Climate |

| | |
|-----------------------------------------------|--------------------------------------------------------|
| GES 3723 | Physiography |
| GES 3743 | Biogeography |
| HIS 4223 | Environmental History of the United States |
| HTH 4543 | Environmental Health and Safety |
| PAD 3003 | Fundraising in Nonprofit Agencies |
| PAD 3023 | Introduction to Urban Management and Policy |
| PAD 3033 | Introduction to Nonprofit Agencies |
| PAD 3053 | Urban Economic Development |
| PAD 3113 | Managing Nonprofit Organizations |
| PAD 3123 | Strategic Planning in the Public and Nonprofit Sectors |
| SOC 3223 | Population Dynamics and Demographic Techniques |
| C. Choose two of the following courses | |
| ES 4953 | Special Studies in Environmental Science |
| ES 4963 | Internship |
| ES 4113 | Field Biology |
| ES 4123 | Desert Biology |
| Total Credit Hours | 90 |

Course Sequence Guide for B.A. Degree in Environmental Studies

This course sequence guide is designed to assist students in completing their UTSA undergraduate Environmental Studies degree requirements. *This is merely a guide and students must satisfy other requirements of this catalog and meet with their academic advisor for individualized degree plans.* Progress within this guide depends upon such factors as course availability, individual student academic preparation, student time management, work obligations, and individual financial considerations. Students may choose to take courses during Summer terms to reduce course loads during long semesters.

B.A. in Environmental Studies – Recommended Four-Year Academic Plan

| First Year | |
|---------------------------------|-----------------------------------------------------|
| Fall | Credit Hours |
| AIS 1203 | Academic Inquiry and Scholarship (core) 3 |
| ES 1123 | Environmental Zoology (Required) 3 |
| ES 1003 | Survey Topics in Environmental Studies 3 |
| WRC 1013 | Freshman Composition I (core) 3 |
| Math Core | 3 |
| Credit Hours 15 | |
| Spring | |
| CHE 1083 | Introduction to the Molecular Structure of Matter 3 |
| ES 1113 | Environmental Botany (core and major) 3 |
| POL 1013 | Introduction to American Politics 3 |
| WRC 1023 | Freshman Composition II (core) 3 |
| Language, Philosophy, & Culture | 3 |
| Credit Hours 15 | |

| Second Year | |
|------------------|-----------------------------------------------------------------------|
| Fall | |
| ENG 2413 | Technical Writing (Required and core) 3 |
| ES 2013 | Introduction to Environmental Science I (Required and science core) 3 |
| ES 2021 | Introduction to Environmental Science I Laboratory 1 |
| ES 1314 | Environmental Statistics 4 |
| American History | 3 |
| Credit Hours 14 | |

| Spring | |
|-----------------|---------------------------------------------------------------|
| COM 2113 | Public Speaking (Required and Core) 3 |
| ECO 2003 | Economic Principles and Issues 3 |
| ES 2023 | Introduction to Environmental Science II (major) 3 |
| ES 2031 | Introduction to Environmental Science II Laboratory (major) 1 |
| ES 1213 | Environmental Geology (major) 3 |
| POL 1133 | Texas Politics and Society (Core) 3 |
| Credit Hours 16 | |

| Third Year | |
|------------------|----------------------------------------------------------|
| Fall | |
| ANT 2053 | Introduction to Cultural Anthropology (Required) 3 |
| ENG 3383 | Writing in Public and Professional Contexts (Required) 3 |
| ES 3203 | Environmental Law (Required) 3 |
| American History | 3 |
| Creative Arts | 3 |
| Credit Hours 15 | |

| Spring | |
|-----------------|--------------------------------------------------------|
| ES 4163 | Renewable Energy (Required) 3 |
| MS 4333 | Project Management 3 |
| PAD 3043 | Public and Nonprofit Financial Management (Required) 3 |
| Elective | 3 |
| Elective | 3 |
| Credit Hours 15 | |

| Fourth Year | |
|--------------------------------------|--------------------------------------------------------|
| Fall | |
| PAD 3143 | Urban and Regional Planning 3 |
| ES 2113 | Fundamentals of Geographic Information Systems (GIS) 3 |
| GES 3753 | Climate Change 3 |
| Elective | 3 |
| Internship, Ind. Study, Field Course | 3 |
| Credit Hours 15 | |

| Spring | |
|---------|------------------------------------|
| ES 4203 | Environmental Assessment (major) 3 |
| ES 4153 | Introduction to Sustainability 3 |

| | | |
|--------------------------------------|--------------------------------------------|-----|
| ES 4133 | Natural Resource Policy and Administration | 3 |
| Elective | | 3 |
| Internship, Ind. Study, Field Course | | 3 |
| Credit Hours | | 15 |
| Total Credit Hours | | 120 |

Bachelor of Science Degree in Multidisciplinary Science

The Bachelor of Science (B.S.) degree in Multidisciplinary Science (MDS) is designed for future secondary science teachers and gives students broad training across the sciences. The MDS degree offers a composite science certification track through the College of Education and Human Development (COEHD), which is designed to prepare students for a career in teaching secondary school science. Students seeking teacher certification should contact the Interdisciplinary Education Advising and Certification Center as early in their educational program as possible, but no later than their fourth semester of study, for information about certificate requirements and admission procedures. Undergraduates seeking elementary teacher certification must complete the Interdisciplinary Studies degree.

The minimum number of semester credit hours required for this degree, including the Core Curriculum requirements, is 120 hours, at least 39 of which must be at the upper-division level. All major and support work must be completed with a grade of "C-" or better.

All candidates seeking this degree must fulfill the Core Curriculum requirements and the degree requirements, which are listed below.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the B.S. degree in Multidisciplinary Science must fulfill University Core Curriculum requirements in the same manner as other students. If courses are taken to satisfy both degree requirements and Core Curriculum requirements, then students may need to take additional courses in order to meet the minimum number of semester credit hours required for this degree.

| | |
|----------------------------------------------------|----|
| Core Curriculum Component Area Requirements (p. 7) | |
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |
| Life and Physical Sciences | 6 |
| Language, Philosophy and Culture | 3 |
| Creative Arts | 3 |
| American History | 6 |
| Government-Political Science | 6 |
| Social and Behavioral Sciences | 3 |
| Component Area Option | 3 |
| Total Credit Hours | 42 |

Gateway Course

Students pursuing the B.S. degree in Multidisciplinary Science must successfully complete the following Gateway Course with a grade of "C-" or better in no more than two attempts. A student who is unable to successfully complete the course within two attempts, including

dropping a course with a grade of "W" or taking an equivalent course at another institution, will be required to change his or her major.

BIO 1414 Biosciences II

Degree Requirements

A. Required science and mathematics courses

| | | |
|--------------------------------------|------------------------------------------------------------------------------------------------|---|
| AST 1033 | Exploration of the Solar System | 3 |
| BIO 1404 | Biosciences I | 4 |
| BIO 1414 | Biosciences II | 4 |
| BIO 2313 | Genetics | 3 |
| BIO 3413 | Physiology | 3 |
| CHE 1103 & CHE 1121 | General Chemistry I and General Chemistry I Laboratory | 4 |
| CHE 1113 & CHE 1131 | General Chemistry II and General Chemistry II Laboratory | 4 |
| ES 2013 & ES 2021 | Introduction to Environmental Science I and Introduction to Environmental Science I Laboratory | 4 |
| ES 2023 | Introduction to Environmental Science II | 3 |
| ES 3033 | Environmental Ecology | 3 |
| ES 3133 | Oceanography | 3 |
| GEO 1103 & GEO 1111 | Physical Geology and Physical Geology Laboratory | 4 |
| GEO 3004 | Rocks, Fossils, and Global Tectonics | 4 |
| MAT 1193 or STA 1053 | Calculus for the Biosciences or Basic Statistics | 3 |
| Select one of the following options: | | 8 |

Option 1

| | | |
|---------------------|------------------------------------------------------------------|--|
| PHY 1603 & PHY 1611 | Algebra-based Physics I and Algebra-based Physics I Laboratory | |
| PHY 1623 & PHY 1631 | Algebra-based Physics II and Algebra-based Physics II Laboratory | |

Option 2

| | | |
|---------------------|-------------------------------------------------------------------------------------------------------------|--|
| PHY 1943 & PHY 1951 | Physics for Scientists and Engineers I and Physics for Scientists and Engineers I Laboratory ¹ | |
| PHY 1963 & PHY 1971 | Physics for Scientists and Engineers II and Physics for Scientists and Engineers II Laboratory ¹ | |

Total Credit Hours 57

¹

Note that the prerequisites for Physics for Scientists are Calculus I and II (MAT 1214 and MAT 1224). These can be included among the elective courses in sciences and mathematics.

Certification Requirements (composite science emphasis)

B. Electives to satisfy certification requirements

| | | |
|-----------|--------------------------------------------------------|---|
| CI 4646 | Clinical Teaching: Grades 7–12 | 6 |
| ESL 3083 | Second Language Teaching and Learning for Grades 7-12 | 3 |
| LTED 3773 | Reading and Writing Across the Disciplines-Grades 7–12 | 3 |
| UTE 1111 | Introduction to STEM Teaching Step 1 | 1 |

| | | |
|--------------------|-------------------------------------------------|----|
| UTE 1122 | Introduction to STEM Teaching Step 2 | 2 |
| UTE 3023 | Perspectives on Science and Mathematics | 3 |
| UTE 3043 | UTeachSA Research Methods | 3 |
| UTE 3203 | Knowing and Learning in Mathematics and Science | 3 |
| UTE 3213 | Classroom Interactions | 3 |
| UTE 4203 | Project-Based Instruction | 3 |
| Total Credit Hours | | 30 |

Students seeking an MDS degree as preparation for a graduate degree in science should follow as closely as possible the degree requirements of their chosen science as those courses are most likely to be required by graduate schools in that field. It is possible through careful planning to achieve a double major in MDS and another science. All MDS students should create a four-year plan through an undergraduate academic advisor as early as possible in their course of study, and continue to check in on a course-by-course basis should those plans change.

B.S. in Multidisciplinary Science with Grades 7–12 Teaching Certification – Recommended Four-Year Academic Plan

First Year

| Fall | | Credit Hours |
|-----------------------|-----------------------------------------|--------------|
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| BIO 1404 | Biosciences I (core and major) | 4 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| UTE 1111 | Introduction to STEM Teaching Step 1 | 1 |
| American History core | | 3 |
| Credit Hours | | 14 |

| Spring | | Credit Hours |
|-----------------------|-------------------------------------------------------------------|--------------|
| BIO 1414 | Biosciences II (core and major) | 4 |
| MAT 1193 or STA 1053 | Calculus for the Biosciences (core and major) or Basic Statistics | 3 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| UTE 1122 | Introduction to STEM Teaching Step 2 | 2 |
| American History core | | 3 |
| Credit Hours | | 15 |

| Summer | | Credit Hours |
|-------------------------------------|----------------------------------------|--------------|
| CS 1173 | Data Analysis and Visualization (core) | 3 |
| PSY 1013 | Introduction to Psychology (core) | 3 |
| Government-Political Science core | | 3 |
| Language, Philosophy & Culture core | | 3 |
| Credit Hours | | 12 |

Second Year

| Fall | | Credit Hours |
|----------|----------------------------------------------------|--------------|
| CHE 1103 | General Chemistry I | 3 |
| CHE 1121 | General Chemistry I Laboratory ¹ | 1 |
| ES 2013 | Introduction to Environmental Science I | 3 |
| ES 2021 | Introduction to Environmental Science I Laboratory | 1 |

| | | |
|--------------------|-------------------------------------------------|----|
| UTE 3203 | Knowing and Learning in Mathematics and Science | 3 |
| Creative Arts core | | 3 |
| Credit Hours | | 14 |

Spring

| | | |
|-----------------------------------|----------------------------------------------|----|
| CHE 1113 | General Chemistry II | 3 |
| CHE 1131 | General Chemistry II Laboratory ¹ | 1 |
| GEO 1103 | Physical Geology | 3 |
| GEO 1111 | Physical Geology Laboratory | 1 |
| UTE 3213 | Classroom Interactions | 3 |
| Government-Political Science core | | 3 |
| Credit Hours | | 14 |

Third Year

| Fall | | Credit Hours |
|------------------------------|----------------------------------------------------------------------------------------------|--------------|
| BIO 3413 | Physiology | 3 |
| ES 2023 | Introduction to Environmental Science II | 3 |
| UTE 3023 | Perspectives on Science and Mathematics | 3 |
| Select one of the following: | | 4 |
| PHY 1603 & PHY 1611 | Algebra-based Physics I and Algebra-based Physics I Laboratory | |
| PHY 1943 & PHY 1951 | Physics for Scientists and Engineers I and Physics for Scientists and Engineers I Laboratory | |
| Credit Hours | | 13 |

Spring

| | | |
|------------------------------|------------------------------------------------------------------------------------------------|----|
| ES 3033 | Environmental Ecology | 3 |
| GEO 3004 | Rocks, Fossils, and Global Tectonics | 4 |
| UTE 3043 | UTeachSA Research Methods | 3 |
| UTE 4203 | Project-Based Instruction | 3 |
| Select one of the following: | | 4 |
| PHY 1623 & PHY 1631 | Algebra-based Physics II and Algebra-based Physics II Laboratory | |
| PHY 1963 & PHY 1971 | Physics for Scientists and Engineers II and Physics for Scientists and Engineers II Laboratory | |
| Credit Hours | | 17 |

Fourth Year

| Fall | | Credit Hours |
|--------------|--------------------------------------------------------|--------------|
| AST 1033 | Exploration of the Solar System | 3 |
| BIO 2313 | Genetics | 3 |
| ES 3133 | Oceanography | 3 |
| ESL 3083 | Second Language Teaching and Learning for Grades 7-12 | 3 |
| LTED 3773 | Reading and Writing Across the Disciplines-Grades 7–12 | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|---------|--------------------------------|-----|
| CI 4646 | Clinical Teaching: Grades 7–12 | 6 |
| | Credit Hours | 6 |
| | Total Credit Hours | 120 |

1

These laboratory courses include a lecture component as indicated on the University Schedule of Classes.

Note: Some courses are only offered once a year: Fall or Spring. Check with the Department of Environmental Science and Ecology for scheduling of courses.

Minor in Environmental Science

The Minor in Environmental Science is open to all majors in the University. To declare a Minor in Environmental Science or obtain advice, students should consult with an undergraduate or Environmental Science advisor. All students pursuing the Minor in Environmental Science must complete 22 semester credit hours of Environmental Science courses including a minimum of 6 hours of upper-division courses. All coursework must be completed with a grade of "C-" or better.

A. 16 semester credit hours of required courses: 16

| | |
|---------|-----------------------------------------------------|
| ES 2013 | Introduction to Environmental Science I |
| ES 2021 | Introduction to Environmental Science I Laboratory |
| ES 2023 | Introduction to Environmental Science II |
| ES 2031 | Introduction to Environmental Science II Laboratory |
| ES 3033 | Environmental Ecology |
| ES 3042 | Environmental Ecology Laboratory |
| ES 3203 | Environmental Law |

B. 6 additional semester credit hours from the following courses: 6

| | |
|---------|--------------------------------------------|
| ES 3123 | Introduction to Soils |
| ES 3143 | Watershed Processes |
| ES 4133 | Natural Resource Policy and Administration |
| ES 4163 | Renewable Energy |
| ES 4203 | Environmental Assessment |
| ES 4213 | Conservation Biology |
| ES 4233 | Restoration Ecology |

Total Credit Hours 22

Department of Mathematics

The Department of Mathematics offers three Bachelor of Science degrees: the B.S. degree in General Mathematics Studies, the B.S. degree in Mathematics, and the B.S. degree in Mathematics of Data and Computing offered as a joint degree with the Department of Computer Science.

The Mathematics degree offers students the opportunity to prepare to provide technical support and conduct research for high-technology industries, government, and private companies. The General Mathematical Studies degree includes a component for those students wishing to obtain state certification to teach mathematics at the secondary level. Both degrees prepare students to pursue advanced graduate study. The department also offers a Minor in Mathematics. Students interested in electives in Statistics, a Minor in Applied Statistics, or a Bachelor of Science degree in Statistics, should refer to the Department of Management Science and Statistics in the College of Business section of this catalog.

- Bachelor of Science Degree in Mathematics (p. 283)
- Bachelor of Science Degree in General Mathematics Studies (p. 285)
- Bachelor of Science Degree in Mathematics of Data and Computing (p. 287)

Bachelor of Science Degree in Mathematics

The minimum number of semester credit hours required for this degree, including the Core Curriculum requirements, is 120. Thirty-nine of the total semester credit hours required for the degree must be at the upper-division level.

All required and elective mathematics, computer science, and statistics courses must be completed with a grade of "C-" or better.

All candidates for this degree must fulfill the Core Curriculum requirements and the mathematics requirements, which are listed in the following pages. In addition, a candidate for the Bachelor of Science degree in Mathematics must complete the course requirements for the concentration declared by the candidate.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the B.S. degree in Mathematics must fulfill University Core Curriculum requirements. If courses are taken to satisfy both degree requirements and Core Curriculum requirements, then students may need to take additional courses in order to meet the minimum number of semester credit hours required for this degree.

MAT 1214 may be used to satisfy the core requirement in Mathematics as well as a major requirement.

Core Curriculum Component Area Requirements (p. 7)

| | |
|-----------------------------------|---|
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |
| Life and Physical Sciences | 6 |
| Language, Philosophy and Culture | 3 |
| Creative Arts | 3 |

| | |
|--------------------------------|-----------|
| American History | 6 |
| Government-Political Science | 6 |
| Social and Behavioral Sciences | 3 |
| Component Area Option | 3 |
| Total Credit Hours | 42 |

Gateway Courses

Students pursuing the B.S. degree in Mathematics must successfully complete each of the following Gateway Courses with a grade of "C-" or better in no more than two attempts. A student who is unable to successfully complete these courses within two attempts, including dropping a course with a grade of "W" or taking an equivalent course at another institution, will be required to change his or her major.

| | |
|----------|-------------|
| MAT 1214 | Calculus I |
| MAT 1224 | Calculus II |

Mathematics Degree Requirements

A. Required Mathematics courses

| | | |
|----------|------------------------------------------------------------------------------------------------|---|
| MAT 1214 | Calculus I (The student who is not prepared to begin MAT 1214 must take MAT 1093 Precalculus.) | 4 |
| MAT 1224 | Calculus II | 4 |
| MAT 1313 | Algebra and Number Systems | 3 |
| MAT 2214 | Calculus III | 4 |
| MAT 2233 | Linear Algebra | 3 |
| MAT 3013 | Foundations of Mathematics | 3 |
| MAT 3213 | Foundations of Analysis | 3 |
| MAT 4213 | Real Analysis I | 3 |

B. Computer Science courses

| | | |
|------------------------------|----------------------------------------------------|-----|
| Select one of the following: | | 3-4 |
| CS 1063 | Introduction to Computer Programming I | |
| CS 1714 | Computer Programming II | |
| CS 2073 | Computer Programming with Engineering Applications | |

C. Required Mathematics/Statistics courses

| | | |
|----------|----------------------------|---|
| MAT 3613 | Differential Equations I | 3 |
| MAT 3633 | Numerical Analysis | 3 |
| MAT 4223 | Real Analysis II | 3 |
| MAT 4233 | Modern Abstract Algebra | 3 |
| MAT 4273 | Topology | 3 |
| STA 3003 | Applied Statistics | 3 |
| STA 3513 | Probability and Statistics | 3 |

D. Upper-division courses in mathematics or statistics

| | |
|--------------------------------------------------------------------------------------------------------------------|---|
| Select 9 semester credits of upper-division courses in mathematics or statistics approved by the student's advisor | 9 |
|--------------------------------------------------------------------------------------------------------------------|---|

E. Electives

| | |
|----------------------------------------------------|-----------|
| Select 20 or 21 semester credit hours of electives | 20-21 |
| Total Credit Hours | 81 |

Course Sequence Guide for B.S. Degree in Mathematics

This course sequence guide is designed to assist students in completing their UTSA undergraduate Mathematics degree requirements. *This is merely a guide and students must satisfy other requirements of this catalog and meet with their academic advisor for individualized degree*

plans. Progress within this guide depends upon such factors as course availability, individual student academic preparation, student time management, work obligations, and individual financial considerations. Students may choose to take courses during Summer terms to reduce course loads during long semesters.

B.S. in Mathematics – Recommended Four-Year Academic Plan

First Year

| | | Credit Hours |
|-----------------------|-----------------------------------------|--------------|
| Fall | | |
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| MAT 1214 | Calculus I (core and major) | 4 |
| MAT 1313 | Algebra and Number Systems | 3 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| American History core | | 3 |
| Credit Hours | | 16 |

Spring

| | | |
|-------------------------------|----------------------------------------------------|--------------|
| MAT 1224 | Calculus II | 4 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| Life & Physical Sciences core | | 3 |
| Select one of the following: | | 3-4 |
| CS 1063 | Introduction to Computer Programming I | |
| CS 1714 | Computer Programming II | |
| CS 2073 | Computer Programming with Engineering Applications | |
| Credit Hours | | 13-14 |

Second Year

Fall

| | | |
|-----------------------------------|----------------|-----------|
| MAT 2214 | Calculus III | 4 |
| MAT 2233 | Linear Algebra | 3 |
| Government-Political Science core | | 3 |
| Life and Physical Sciences core | | 3 |
| Free elective | | 3 |
| Credit Hours | | 16 |

Spring

| | | |
|-----------------------------------|----------------------------|-----------|
| MAT 3013 | Foundations of Mathematics | 3 |
| STA 3003 | Applied Statistics | 3 |
| Creative Arts core | | 3 |
| Government-Political Science core | | 3 |
| Free elective | | 3 |
| Credit Hours | | 15 |

Third Year

Fall

| | | |
|------------------------------------|----------------------------|-----------|
| MAT 3613 | Differential Equations I | 3 |
| STA 3513 | Probability and Statistics | 3 |
| Social & Behavioral Sciences core | | 3 |
| Upper-division MAT or STA elective | | 3 |
| Free elective | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|----------------------------|-------------------------|---|
| MAT 3213 | Foundations of Analysis | 3 |
| MAT 4233 | Modern Abstract Algebra | 3 |
| Component Area Option core | | 3 |

| | | |
|------------------------------------|--------------------|-------|
| Free elective | | 3 |
| Upper-division MAT or STA elective | | 3 |
| Credit Hours | | 15 |
| Fourth Year | | |
| Fall | | |
| MAT 3633 | Numerical Analysis | 3 |
| MAT 4213 | Real Analysis I | 3 |
| MAT 4273 | Topology | 3 |
| Free elective | | 3 |
| Upper-division Free elective | | 3 |
| Credit Hours | | 15 |
| Spring | | |
| MAT 4223 | Real Analysis II | 3 |
| Free elective ¹ | | 2-3 |
| Upper-division MAT or STA elective | | 3 |
| American History core | | 3 |
| Language Philosophy & Culture core | | 3 |
| Credit Hours | | 15-14 |
| Total Credit Hours | | 120 |

1

Only 2 semester credit hours are needed if CS 1714 is taken.

Note: Some courses are only offered once a year: Fall or Spring. Check with the Department of Mathematics for scheduling of courses.

Bachelor of Science Degree in General Mathematics Studies

The minimum number of semester credit hours required for this degree, including the Core Curriculum requirements, is 120. Thirty-nine of the total semester credit hours required for the degree must be at the upper-division level.

Requirements for students pursuing teacher certification are different from degree requirements. In addition to specific course requirements, teacher certification in Texas also requires passing scores on the Texas Success Initiative approved assessment instrument test and acceptable scores on the state-mandated exit competency test. Complete information may be obtained in the Teacher Certification Center at UTSA.

All required and elective mathematics, computer science, and statistics courses must be completed with a grade of "C-" or better.

All candidates for this degree must fulfill the Core Curriculum requirements and the mathematics requirements, which are listed in the following pages. In addition, a candidate for the Bachelor of Science degree in Mathematics must complete the course requirements for the concentration declared by the candidate.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the B.S. degree in General Mathematics Studies must fulfill University Core Curriculum requirements. If courses are taken to satisfy both degree requirements and Core Curriculum requirements, then students may need to take additional courses in order to meet the minimum number of semester credit hours required for this degree.

MAT 1214 may be used to satisfy the core requirement in Mathematics as well as a major requirement.

Core Curriculum Component Area Requirements (p. 7)

| | |
|-----------------------------------|----|
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |
| Life and Physical Sciences | 6 |
| Language, Philosophy and Culture | 3 |
| Creative Arts | 3 |
| American History | 6 |
| Government-Political Science | 6 |
| Social and Behavioral Sciences | 3 |
| Component Area Option | 3 |
| Total Credit Hours | 42 |

Gateway Courses

Students pursuing the B.S. degree in General Mathematics Studies must successfully complete each of the following Gateway Courses with a grade of "C-" or better in no more than two attempts. A student who is unable to successfully complete these courses within two attempts, including dropping a course with a grade of "W" or taking an equivalent course at another institution, will be required to change his or her major.

| | |
|----------|-------------|
| MAT 1214 | Calculus I |
| MAT 1224 | Calculus II |

General Mathematics Studies Degree Requirements

A. Required Mathematics courses

| | | |
|----------|------------------------------------------------------------------------------------------------|---|
| MAT 1214 | Calculus I (The student who is not prepared to begin MAT 1214 must take MAT 1093 Precalculus.) | 4 |
| MAT 1224 | Calculus II | 4 |
| MAT 1313 | Algebra and Number Systems | 3 |
| MAT 2214 | Calculus III | 4 |
| MAT 2233 | Linear Algebra | 3 |
| MAT 3013 | Foundations of Mathematics | 3 |
| MAT 3213 | Foundations of Analysis | 3 |
| MAT 4213 | Real Analysis I | 3 |

B. Support work

3 semester credit hours of approved, supporting coursework that uses mathematics but is in a field other than mathematics. Courses in Computer Science, Statistics, Physics, Engineering or other disciplines may be used to satisfy this requirement.

C. Mathematics and/or Statistics

24 semester credit hours of mathematics and/or statistics

| | | |
|------------------------------------------------------------------------|----------------------------------|---|
| 1. Mathematics | | |
| MAT 3103 | Data Analysis and Interpretation | 3 |
| MAT 3123 | Fundamentals of Geometry | 3 |
| or MAT 4263 | Geometry | |
| MAT 3233 | Modern Algebra | 3 |
| or MAT 4233 | Modern Abstract Algebra | |
| MAT 4113 | Computer Mathematical Topics | 3 |
| MAT 4303 | Capstone Course for Mathematics | 3 |
| 2. 9 approved upper-division credit hours in mathematics or statistics | | |
| | | 9 |

D. Electives

Select 27 semester credit hours of electives. Students seeking teacher certification should use these hours for the required certification courses. Others students should include among these an additional 6 semester credit hours of upper-division mathematics or statistics courses approved by an undergraduate advisor for the Department of Mathematics.

Total Credit Hours 81

Requirements for students pursuing teacher certification are different from degree requirements. In addition to specific course requirements, teacher certification in Texas also requires passing scores on a Texas Success Initiative approved assessment instrument test and acceptable scores on the state-mandated exit competency test. Complete information may be obtained in the Teacher Certification Center at UTSA.

Course Sequence Guide for B.S. Degree in General Mathematics Studies

This course sequence guide is designed to assist students in completing their UTSA undergraduate General Mathematics Studies degree requirements. *This is merely a guide and students must satisfy other requirements of this catalog and meet with their academic advisor for individualized degree plans.* Progress within this guide depends upon such factors as course availability, individual student academic preparation, student time management, work obligations, and individual financial considerations. Students may choose to take courses during Summer terms to reduce course loads during long semesters.

B.S. in General Mathematics Studies – Recommended Four-Year Academic Plan

First Year

| | Credit Hours |
|--------------------------------------------------|---------------------|
| Fall | |
| AIS 1203 Academic Inquiry and Scholarship (core) | 3 |
| MAT 1214 Calculus I (core and major) | 4 |
| MAT 1313 Algebra and Number Systems | 3 |
| WRC 1013 Freshman Composition I (core) | 3 |
| Life & Physical Sciences core | 3 |
| Credit Hours | 16 |

Spring

| | |
|-----------------------------------------|----|
| MAT 1224 Calculus II | 4 |
| WRC 1023 Freshman Composition II (core) | 3 |
| Free elective | 3 |
| Life & Physical Sciences core | 3 |
| Approved support work | 3 |
| Credit Hours | 16 |

Second Year

Fall

| | |
|-------------------------|----|
| MAT 2214 Calculus III | 4 |
| MAT 2233 Linear Algebra | 3 |
| Free elective | 3 |
| American History core | 3 |
| Credit Hours | 13 |

Spring

| | |
|-------------------------------------------|---|
| MAT 3013 Foundations of Mathematics | 3 |
| MAT 3103 Data Analysis and Interpretation | 3 |

| | |
|-----------------------------------|----|
| Government-Political Science core | 3 |
| Free elective | 3 |
| Free elective | 3 |
| Credit Hours | 15 |

Third Year

Fall

| | |
|--------------------------------------------------------------|----|
| MAT 3123 Fundamentals of Geometry or MAT 4263 or Geometry | 3 |
| Free elective | 3 |
| Upper-division free elective | 3 |
| Government-Political Science core | 3 |
| Social & Behavioral Sciences core | 3 |
| Credit Hours | 15 |

Spring

| | |
|-------------------------------------------------------------------|----|
| MAT 3213 Foundations of Analysis | 3 |
| MAT 3233 Modern Algebra or MAT 4233 or Modern Abstract Algebra | 3 |
| Component Area Option core | 3 |
| Upper-division free elective | 3 |
| Upper-division MAT or STA elective | 3 |
| Credit Hours | 15 |

Fourth Year

Fall

| | |
|--------------------------------------------|----|
| MAT 4213 Real Analysis I | 3 |
| MAT 4303 Capstone Course for Mathematics | 3 |
| Free elective | 3 |
| Free elective | 3 |
| Upper-division MAT elective (not MAT 3253) | 3 |
| Credit Hours | 15 |

Spring

| | |
|---------------------------------------|-----|
| MAT 4113 Computer Mathematical Topics | 3 |
| Upper-division MAT or STA elective | 3 |
| American History core | 3 |
| Creative Arts core | 3 |
| Language, Philosophy & Culture core | 3 |
| Credit Hours | 15 |
| Total Credit Hours | 120 |

Note: Some courses are only offered once a year: Fall or Spring. Check with the Department of Mathematics for scheduling of courses.

Course Sequence Guide for B.S. Degree in General Mathematics Studies with teacher certification

This course sequence guide is designed to assist students in completing their UTSA undergraduate Mathematics degree requirements. *This is merely a guide and students must satisfy other requirements of this catalog and meet with their academic advisor for individualized degree plans.* Progress within this guide depends upon such factors as course availability, individual student academic preparation, student time management, work obligations, and individual financial considerations. Students may choose to take courses during Summer terms to reduce course loads during long semesters.

B.S. in General Mathematics Studies with teacher certification – Recommended Four-Year Academic Plan**First Year**

| | | Credit Hours |
|--------------|-----------------------------------------|--------------|
| Fall | | |
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| MAT 1214 | Calculus I (core and major) | 4 |
| MAT 1313 | Algebra and Number Systems | 3 |
| UTE 1111 | Introduction to STEM Teaching Step 1 | 1 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| Credit Hours | | 14 |

| | | |
|-------------------------------------|--------------------------------------|----|
| Spring | | |
| MAT 1224 | Calculus II | 4 |
| UTE 1122 | Introduction to STEM Teaching Step 2 | 2 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| Life & Physical Sciences core | | 3 |
| Language, Philosophy & Culture core | | 3 |
| Credit Hours | | 15 |

| | | |
|-----------------------------------|--|---|
| Summer | | |
| American History core | | 3 |
| Component Area Option core | | 3 |
| Social & Behavioral Sciences core | | 3 |
| Credit Hours | | 9 |

Second Year

| | | Credit Hours |
|-----------------------------------|-------------------------------------------------|--------------|
| Fall | | |
| MAT 2214 | Calculus III | 4 |
| MAT 3013 | Foundations of Mathematics | 3 |
| UTE 3203 | Knowing and Learning in Mathematics and Science | 3 |
| Creative Arts core | | 3 |
| Government-Political Science core | | 3 |
| Credit Hours | | 16 |

| | | |
|-------------------------------|----------------------------------|----|
| Spring | | |
| MAT 2233 | Linear Algebra | 3 |
| MAT 3103 | Data Analysis and Interpretation | 3 |
| UTE 2113 | Functions and Modeling | 3 |
| UTE 3213 | Classroom Interactions | 3 |
| Life & Physical Sciences core | | 3 |
| Credit Hours | | 15 |

| | | |
|-----------------------------------|------------------------------|---|
| Summer | | |
| MAT 4113 | Computer Mathematical Topics | 3 |
| Government-Political Science core | | 3 |
| Credit Hours | | 6 |

Third Year

| | | Credit Hours |
|-------------------------|----------------------------------------------|--------------|
| Fall | | |
| MAT 3123 or MAT 4263 | Fundamentals of Geometry or Geometry | 3 |
| MAT 3233 or MAT 4233 | Modern Algebra or Modern Abstract Algebra | 3 |
| UTE 3023 | Perspectives on Science and Mathematics | 3 |

| | | |
|------------------------------------|--|----|
| American History core | | 3 |
| Upper-division MAT or STA elective | | 3 |
| Credit Hours | | 15 |

| | | |
|--------------------------------------------|-------------------------------------------------------|----|
| Spring | | |
| ESL 3083 | Second Language Teaching and Learning for Grades 7-12 | 3 |
| MAT 3213 | Foundations of Analysis | 3 |
| Upper-division MAT elective (not MAT 3253) | | 3 |
| Upper-division MAT or STA elective | | 3 |
| Credit Hours | | 12 |

Fourth Year

| | | Credit Hours |
|--------------|--------------------------------------------------------|--------------|
| Fall | | |
| MAT 4213 | Real Analysis I | 3 |
| MAT 4303 | Capstone Course for Mathematics | 3 |
| LTED 3773 | Reading and Writing Across the Disciplines-Grades 7-12 | 3 |
| UTE 4203 | Project-Based Instruction | 3 |
| Credit Hours | | 12 |

| | | |
|--------------------|--------------------------------------------|-----|
| Spring | | |
| CI 4616 | Clinical Teaching: Early Childhood–Grade 6 | 6 |
| Credit Hours | | 6 |
| Total Credit Hours | | 120 |

Note: Some courses are only offered once a year: Fall or Spring. Check with the Department of Mathematics for scheduling of courses.

Bachelor of Science Degree in Mathematics of Data and Computing

Note: This program is presently at an advanced stage of review and is available for student enrollment pending all required approvals.

The Bachelor of Science (B.S.) degree in Mathematics of Data and Computing is offered as a joint program with the Department of Computer Science.

The minimum number of semester credit hours required for this degree, including the Core Curriculum requirements, is 120. Thirty-nine of the total semester credit hours required for the degree must be at the upper-division level.

All required and elective mathematics, computer science, and statistics courses must be completed with a grade of "C-" or better.

All candidates for this degree must fulfill the Core Curriculum requirements, the computer science requirements, and the mathematics requirements.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the B.S. degree in Mathematics of Data and Computing must fulfill University Core Curriculum requirements. If courses are taken to satisfy both degree requirements and the Core Curriculum requirements, then students may need to take additional courses in order to meet the minimum number of semester credit hours required for this degree.

MAT 1214 may be used to satisfy the core requirement in mathematics as well as a major requirement.

Core Curriculum Component Area Requirements (p. 7)

| | |
|-----------------------------------|-----------|
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |
| Life and Physical Sciences | 6 |
| Language, Philosophy and Culture | 3 |
| Creative Arts | 3 |
| American History | 6 |
| Government-Political Science | 6 |
| Social and Behavioral Sciences | 3 |
| Component Area Option | 3 |
| Total Credit Hours | 42 |

Gateway Courses

Students pursuing the B.S. degree in Mathematics of Data and Computing must successfully complete each of the following Gateway Courses with a grade of “C-” or better in no more than two attempts. A student who is unable to successfully complete these courses within two attempts, including dropping a course with a grade of “W” or taking an equivalent course at another institution, will be required to change his or her major.

| | |
|----------|-------------------------|
| CS 1714 | Computer Programming II |
| CS 2124 | Data Structures |
| MAT 1214 | Calculus I |
| MAT 1224 | Calculus II |

Mathematics of Data and Computing Degree Requirements

All candidates for the B.S. degree in Mathematics of Data and Computing must complete the following 28 semester credit hours of required courses in computer science, 26 hours of required courses in mathematics (this includes the 3 semester credit hours of the Core Curriculum requirement in mathematics), and 18 hours of upper-division computer science or mathematics coursework.

A. Computer Science courses 28

| | |
|---------|---------------------------------------|
| CS 1083 | Programming I for Computer Scientists |
| CS 1714 | Computer Programming II |
| CS 2124 | Data Structures |
| CS 3343 | Analysis of Algorithms |
| CS 3424 | Systems Programming |
| CS 3443 | Application Programming |
| CS 3743 | Database Systems |
| CS 3844 | Computer Organization |

B. Mathematics courses 23

| | |
|----------|----------------------------|
| MAT 1313 | Algebra and Number Systems |
| MAT 1214 | Calculus I |
| MAT 1224 | Calculus II |
| MAT 2233 | Linear Algebra |
| MAT 3013 | Foundations of Mathematics |
| MAT 3233 | Modern Algebra |
| MAT 3313 | Logic and Computability |

C. Upper Division Computer Science/Mathematics Electives 18

Students must complete 18 hours of upper-division computer science or mathematics electives as approved by the Undergraduate Advisor of Record in either the Computer Science or Mathematics Department.

D. Free Electives 6

| | |
|--------------------|----|
| Total Credit Hours | 75 |
|--------------------|----|

Minor in Mathematics

All students pursuing the Minor in Mathematics must complete 23 semester credit hours. All required and elective mathematics, computer science, and statistics courses must be completed with a grade of “C-” or better.

A. Required courses

| | | |
|------------|----------------------------------------------|-----|
| MAT 1214 | Calculus I | 4 |
| MAT 1224 | Calculus II | 4 |
| MAT 2214 | Calculus III ¹ | 3-4 |
| or CS 3333 | Mathematical Foundations of Computer Science | |
| MAT 2233 | Linear Algebra | 3 |
| MAT 3613 | Differential Equations I ² | 3 |

B. Approved upper-division mathematics electives

| | |
|----------------------------------------------------------------------------------------------|--------------|
| Select a minimum of 6 semester credit hours of approved upper-division mathematics electives | 6 |
| Total Credit Hours | 23-24 |

1

For Computer Science majors, substitute CS 3333 Mathematical Foundations of Computer Science.

2

Computer Science majors may substitute 3 hours of an approved upper-division mathematics elective.

To declare a Minor in Mathematics, obtain advice, or seek approval of substitutions for course requirements, students should consult their academic advisor and the Undergraduate Advisor of Record for the Department of Mathematics.

Department of Physics and Astronomy

The degree programs offered by the Department of Physics and Astronomy reflect its policy of offering the opportunity for a comprehensive education of the highest quality, individualized to the needs and interests of the students. Completion of a Bachelor's degree in Physics allows students entry into one of the highly specialized areas in science and technology, and the ability to apply for positions in industry and government, as well as entry into professional and graduate schools.

- B.S. degree in Physics (p. 289)
- B.A. degree in Physics (p. 291)

Bachelor of Science Degree in Physics

The Bachelor of Science (B.S.) degree in Physics provides opportunities for preparation for careers in industry and governmental agencies and for graduate study in physics or related fields.

The minimum number of semester credit hours required for this degree, including the Core Curriculum requirements, is 120. At least 39 of the total semester credit hours required for the degree must be at the upper-division level. All major and support work courses (including math, chemistry and computer science courses) must be completed with a grade of "C-" or better.

All candidates seeking this degree must fulfill the Core Curriculum requirements and the degree requirements, which are listed below.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the B.S. degree in Physics must fulfill University Core Curriculum requirements in the same manner as other students. The courses listed below satisfy both major requirements and Core Curriculum requirements; however, if these courses are taken to satisfy both requirements, then students may need to take additional courses in order to meet the minimum number of semester credit hours required for this degree.

MAT 1214 may be used to satisfy the core requirement in Mathematics as well as a major requirement. PHY 1943 and PHY 1963 may be used to satisfy the core requirement in Life and Physical Sciences as well as major requirements.

Core Curriculum Component Area Requirements (p. 7)

| | |
|-----------------------------------|-----------|
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |
| Life and Physical Sciences | 6 |
| Language, Philosophy and Culture | 3 |
| Creative Arts | 3 |
| American History | 6 |
| Government-Political Science | 6 |
| Social and Behavioral Sciences | 3 |
| Component Area Option | 3 |
| Total Credit Hours | 42 |

Gateway Courses

Students pursuing the B.S. degree in Physics must successfully complete each of the following Gateway Courses with a grade of "C-" or better in no more than two attempts. A student who is unable to successfully complete these courses within two attempts, including dropping a course with a grade of "W" or taking an equivalent course at another institution, will be required to change his or her major.

| | |
|------------------------|-------------------------------------------------|
| PHY 2103 & PHY 2111 | Modern Physics and Modern Physics Laboratory |
| PHY 2823 | Mathematical Physics I |
| PHY 3203 | Classical Mechanics I |

Degree Requirements

A. Physics and Astronomy courses

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|---|
| 1. Required courses completed with a grade of "C-" or better. | | |
| PHY 1943 & PHY 1951 | Physics for Scientists and Engineers I and Physics for Scientists and Engineers I Laboratory | 4 |
| PHY 1963 & PHY 1971 | Physics for Scientists and Engineers II and Physics for Scientists and Engineers II Laboratory | 4 |
| PHY 2103 & PHY 2111 | Modern Physics and Modern Physics Laboratory | 4 |
| PHY 2823 | Mathematical Physics I | 3 |
| PHY 3203 | Classical Mechanics I | 3 |
| PHY 3293 | Thermal Physics | 3 |
| PHY 3343 | Physics Research Laboratory | 3 |
| PHY 3423 | Electricity and Magnetism | 3 |
| PHY 3443 | Modern Optics | 3 |
| PHY 3513 | Electrodynamics | 3 |
| PHY 3583 | Mathematical Physics II | 3 |
| PHY 4263 | Quantum Mechanics I | 3 |
| PHY 4423 | Quantum Mechanics II | 3 |
| PHY 4983 | Unifying Concepts in Physics | 3 |
| 2. 9 additional approved semester credit hours selected from the following (a maximum of 6 hours from either PHY 4911-3 or PHY 4953 may apply to this requirement): | | 9 |

| | |
|----------|---------------------------------|
| AST 3013 | Fundamentals of Astronomy |
| AST 3023 | Introduction to Astrophysics |
| PHY 3313 | Materials Physics |
| PHY 3453 | Lasers: Theory and Applications |
| PHY 3603 | Cosmology |
| PHY 4013 | Relativity: Special and General |
| PHY 4623 | Nanotechnology |
| PHY 4833 | Molecular Biophysics |
| PHY 4911 | Independent Study |
| PHY 4953 | Special Studies in Physics |
| PHY 4993 | Honors Research |

B. Required courses in the College of Sciences

| | | |
|------------------------------------------|----------------------------------------|---|
| 1. Required courses (excluding physics): | | |
| CHE 1103 | General Chemistry I | 3 |
| CHE 1113 | General Chemistry II | 3 |
| CHE 1121 | General Chemistry I Laboratory | 1 |
| CS 1063 | Introduction to Computer Programming I | 3 |

| | | |
|------------------------------------------------------------|----------------------------------------------------|----|
| or CS 1173 | Data Analysis and Visualization | |
| or CS 2073 | Computer Programming with Engineering Applications | |
| MAT 1214 | Calculus I | 4 |
| MAT 1224 | Calculus II | 4 |
| MAT 2214 | Calculus III | 4 |
| MAT 2233 | Linear Algebra | 3 |
| MAT 3613 | Differential Equations I | 3 |
| 2. Additional approved courses in the College of Sciences. | | 5 |
| Total Credit Hours | | 87 |

Course Sequence Guide for B.S. Degree in Physics

This course sequence guide is designed to assist students in completing their UTSA undergraduate Physics degree requirements. *This is merely a guide and students must satisfy other requirements of this catalog and meet with their academic advisor for individualized degree plans.* Progress within this guide depends upon such factors as course availability, individual student academic preparation, student time management, work obligations, and individual financial considerations. Students may choose to take courses during Summer terms to reduce course loads during long semesters.

B.S. in Physics – Recommended Four-Year Academic Plan

First Year

| Fall | | Credit Hours |
|--------------|-------------------------------------------------------|--------------|
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| CHE 1103 | General Chemistry I | 3 |
| CHE 1121 | General Chemistry I Laboratory ¹ | 1 |
| CS 1063 | Introduction to Computer Programming I | 3 |
| or CS 1173 | or Data Analysis and Visualization | |
| or CS 2073 | or Computer Programming with Engineering Applications | |
| MAT 1214 | Calculus I (core and major) | 4 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| Credit Hours | | 17 |

Spring

| | | |
|--------------|---------------------------------------------------------|----|
| CHE 1113 | General Chemistry II | 3 |
| MAT 1224 | Calculus II | 4 |
| PHY 1943 | Physics for Scientists and Engineers I (core and major) | 3 |
| PHY 1951 | Physics for Scientists and Engineers I Laboratory | 1 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| Credit Hours | | 14 |

Second Year

| Fall | | Credit Hours |
|----------|----------------------------------------------------------|--------------|
| MAT 2214 | Calculus III | 4 |
| MAT 2233 | Linear Algebra | 3 |
| PHY 1963 | Physics for Scientists and Engineers II (core and major) | 3 |
| PHY 1971 | Physics for Scientists and Engineers II Laboratory | 1 |

| | | |
|--------------|------------------------------------------|----|
| POL 1013 | Introduction to American Politics (core) | 3 |
| Credit Hours | | 14 |

Spring

| | | |
|-----------------------|---------------------------|----|
| MAT 3613 | Differential Equations I | 3 |
| PHY 2103 | Modern Physics | 3 |
| PHY 2111 | Modern Physics Laboratory | 1 |
| PHY 2823 | Mathematical Physics I | 3 |
| PHY 3203 | Classical Mechanics I | 3 |
| American History core | | 3 |
| Credit Hours | | 16 |

Third Year

Fall

| | | |
|--------------|--------------------------------------|----|
| PHY 3293 | Thermal Physics | 3 |
| PHY 3423 | Electricity and Magnetism | 3 |
| PHY 3443 | Modern Optics | 3 |
| PHY 3583 | Mathematical Physics II | 3 |
| POL 1133 | Texas Politics and Society (core) | 3 |
| or POL 1213 | or Civil Rights in Texas and America | |
| Credit Hours | | 15 |

Spring

| | | |
|-------------------------------------|-----------------------------|----|
| PHY 3343 | Physics Research Laboratory | 3 |
| PHY 3513 | Electrodynamics | 3 |
| PHY 4263 | Quantum Mechanics I | 3 |
| Language, Philosophy & Culture core | | 3 |
| Social & Behavioral Sciences core | | 3 |
| Credit Hours | | 15 |

Fourth Year

Fall

| | | |
|-------------------------------------------------|----------------------|----|
| PHY 4423 | Quantum Mechanics II | 3 |
| College of Sciences elective | | 3 |
| Upper-division AST or PHY elective ² | | 3 |
| Upper-division AST or PHY elective ² | | 3 |
| American History core | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|-------------------------------------------------|------------------------------|-----|
| PHY 4983 | Unifying Concepts in Physics | 3 |
| College of Sciences elective | | 2 |
| Upper-division AST or PHY elective ² | | 3 |
| Creative Arts core | | 3 |
| Component Area Option core | | 3 |
| Credit Hours | | 14 |
| Total Credit Hours | | 120 |

¹

This laboratory course includes a lecture component as indicated on the University Schedule of Classes.

²

From section A.2. of degree requirements.

Note: Some courses are only offered once a year: Fall or Spring. Check with the Department of Physics and Astronomy for scheduling of courses.

Bachelor of Arts Degree in Physics

The Bachelor of Arts (B.A.) degree in Physics provides opportunities for careers in several professional fields. It is not recommended for students planning to pursue graduate studies in physics or related fields.

The minimum number of semester credit hours required for this degree, including the Core Curriculum requirements, is 120. Thirty-nine of the total semester credit hours required for the degree must be at the upper-division level.

All majors in physics are required to complete all required and elective physics courses with a grade of "C-" or better.

All candidates seeking this degree must fulfill the Core Curriculum requirements and the degree requirements, which are listed below.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the B.A. degree in Physics must fulfill University Core Curriculum requirements in the same manner as other students. The courses listed below satisfy both degree requirements and Core Curriculum requirements; however, if these courses are taken to satisfy both requirements, then students may need to take additional courses in order to meet the minimum number of semester credit hours required for this degree.

MAT 1214 may be used to satisfy the core requirement in Mathematics as well as a major requirement. PHY 1943 and PHY 1963 may be used to satisfy the core requirement in Life and Physical Sciences as well as major requirements.

Core Curriculum Component Area Requirements (p. 7)

| | |
|-----------------------------------|-----------|
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |
| Life and Physical Sciences | 6 |
| Language, Philosophy and Culture | 3 |
| Creative Arts | 3 |
| American History | 6 |
| Government-Political Science | 6 |
| Social and Behavioral Sciences | 3 |
| Component Area Option | 3 |
| Total Credit Hours | 42 |

Gateway Courses

Students pursuing the B.A. degree in Physics must successfully complete each of the following Gateway Courses with a grade of "C-" or better in no more than two attempts. A student who is unable to successfully complete these courses within two attempts, including dropping a course with a grade of "W" or taking an equivalent course at another institution, will be required to change his or her major.

| | |
|------------------------|-------------------------------------------------|
| PHY 2103 & PHY 2111 | Modern Physics and Modern Physics Laboratory |
|------------------------|-------------------------------------------------|

| | |
|----------|------------------------|
| PHY 2823 | Mathematical Physics I |
| PHY 3203 | Classical Mechanics I |

Degree Requirements

A. Physics and Astronomy courses

| | | |
|---------------------------------------------------------------|------------------------------------------------------------------------------------------------------|---|
| 1. Required courses completed with a grade of "C-" or better: | | |
| PHY 1943 & PHY 1951 | Physics for Scientists and Engineers I and Physics for Scientists and Engineers I Laboratory | 4 |
| PHY 1963 & PHY 1971 | Physics for Scientists and Engineers II and Physics for Scientists and Engineers II Laboratory | 4 |
| PHY 2103 & PHY 2111 | Modern Physics and Modern Physics Laboratory | 4 |
| PHY 2823 | Mathematical Physics I | 3 |
| PHY 3203 | Classical Mechanics I | 3 |
| PHY 3293 | Thermal Physics | 3 |
| PHY 3343 | Physics Research Laboratory | 3 |
| PHY 3423 | Electricity and Magnetism | 3 |
| 2. Select two additional courses from the following: | | |
| AST 3013 | Fundamentals of Astronomy | |
| AST 3023 | Introduction to Astrophysics | |
| PHY 3313 | Materials Physics | |
| PHY 3443 | Modern Optics | |
| PHY 3603 | Cosmology | |
| PHY 4013 | Relativity: Special and General | |
| PHY 4263 | Quantum Mechanics I | |

B. Required courses in the College of Sciences

| | | |
|--------------------------------------------------------------|----------------------------------------------------|-----------|
| 1. Required courses (excluding physics): | | |
| CHE 1103 | General Chemistry I | 3 |
| CHE 1113 | General Chemistry II | 3 |
| CHE 1121 | General Chemistry I Laboratory | 1 |
| CS 1063 | Introduction to Computer Programming I | 3 |
| or CS 1173 | Data Analysis and Visualization | |
| or CS 2073 | Computer Programming with Engineering Applications | |
| MAT 1214 | Calculus I | 4 |
| MAT 1224 | Calculus II | 4 |
| MAT 2214 | Calculus III | 4 |
| 2. Additional approved courses from the College of Sciences. | | |
| Total Credit Hours | | 87 |

Course Sequence Guide for B.A. Degree in Physics

This course sequence guide is designed to assist students in completing their UTSA undergraduate Physics degree requirements. *This is merely a guide and students must satisfy other requirements of this catalog and meet with their academic advisor for individualized degree plans.* Progress within this guide depends upon such factors as course availability, individual student academic preparation, student time management, work obligations, and individual financial considerations. Students may choose to take courses during Summer terms to reduce course loads during long semesters.

B.A. in Physics – Recommended Four-Year Academic Plan

First Year

| | | Credit Hours |
|-------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|--------------|
| Fall | | |
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| CHE 1103 | General Chemistry I | 3 |
| CHE 1121 | General Chemistry I Laboratory ¹ | 1 |
| CS 1063 or CS 1173 or CS 2073 | Introduction to Computer Programming I or Data Analysis and Visualization or Computer Programming with Engineering Applications | 3 |
| MAT 1214 | Calculus I (core and major) | 4 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| Credit Hours | | 17 |

Spring

| | | |
|-------------------------------------------|---------------------------------------------------------|----|
| CHE 1113 | General Chemistry II | 3 |
| MAT 1224 | Calculus II | 4 |
| PHY 1943 | Physics for Scientists and Engineers I (core and major) | 3 |
| PHY 1951 | Physics for Scientists and Engineers I Laboratory | 1 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| College of Sciences elective ² | | 2 |
| Credit Hours | | 16 |

Second Year

| | | |
|-----------------------------------|----------------------------------------------------------|----|
| Fall | | |
| MAT 2214 | Calculus III | 4 |
| PHY 1963 | Physics for Scientists and Engineers II (core and major) | 3 |
| PHY 1971 | Physics for Scientists and Engineers II Laboratory | 1 |
| Social & Behavioral Sciences core | | 3 |
| American History core | | 3 |
| Credit Hours | | 14 |

Spring

| | | |
|----------------------------|---------------------------|----|
| PHY 2103 | Modern Physics | 3 |
| PHY 2111 | Modern Physics Laboratory | 1 |
| PHY 2823 | Mathematical Physics I | 3 |
| PHY 3203 | Classical Mechanics I | 3 |
| American History core | | 3 |
| Component Area Option core | | 3 |
| Credit Hours | | 16 |

Third Year

| | | |
|-------------------------------------------|---------------------------|----|
| Fall | | |
| PHY 3293 | Thermal Physics | 3 |
| PHY 3423 | Electricity and Magnetism | 3 |
| College of Sciences elective ² | | 3 |
| College of Sciences elective ² | | 3 |
| Language, Philosophy & Culture core | | 3 |
| Credit Hours | | 15 |

Spring

| | | |
|----------|-----------------------------|---|
| PHY 3343 | Physics Research Laboratory | 3 |
|----------|-----------------------------|---|

| | | |
|-------------------------|---------------------------------------------------------------------------|---|
| POL 1133 or POL 1213 | Texas Politics and Society (core) or Civil Rights in Texas and America | 3 |
|-------------------------|---------------------------------------------------------------------------|---|

| | | |
|-------------------------------------------|---|----|
| College of Sciences elective ² | 3 | |
| College of Sciences elective ² | 3 | |
| Credit Hours | | 12 |

Fourth Year

| | | |
|-------------------------------------------------|------------------------------------------|----|
| Fall | | |
| POL 1013 | Introduction to American Politics (core) | 3 |
| College of Sciences elective ² | 3 | |
| College of Sciences elective ² | 3 | |
| College of Sciences elective ² | 3 | |
| Upper-division AST or PHY elective ³ | 3 | |
| Credit Hours | | 15 |

Spring

| | | |
|-------------------------------------------------|---|-----|
| College of Sciences elective ² | 3 | |
| College of Sciences elective ² | 3 | |
| College of Sciences elective ² | 3 | |
| Upper-division AST or PHY elective ³ | 3 | |
| Creative Arts core | 3 | |
| Credit Hours | | 15 |
| Total Credit Hours | | 120 |

¹

This laboratory course includes a lecture component as indicated on the University Schedule of Classes.

²

At least 18 semester credit hours of College of Sciences electives must be at the upper-division level.

³

From section A.2. of degree requirements.

Note: Some courses are only offered once a year: Fall or Spring. Check with the Department of Physics and Astronomy for scheduling of courses.

- Minor in Astronomy/Astrophysics (p. 292)
- Minor in Physics (p. 293)

Minor in Astronomy/Astrophysics

The Department of Physics and Astronomy offers a Minor in Astronomy/Astrophysics, which serves to increase the value of the student's major concentration. The minor provides a more comprehensive foundation in physics to those wishing to teach science at the middle and high school levels through applications of important physics concepts. Further, it is a key Science, Technology, Engineering and Mathematics (STEM) subject, due to its critical science, technology, and math components, combined with a popular appeal. All students pursuing the Minor in Astronomy/Astrophysics must complete 20 semester credit hours.

A. Required Courses

| | | |
|----------|------------------------------|---|
| AST 3013 | Fundamentals of Astronomy | 3 |
| AST 3023 | Introduction to Astrophysics | 3 |

| | | |
|-----------------------------------------------|------------------------------------------------------------------------------------------------------|----------|
| PHY 1943 & PHY 1951 | Physics for Scientists and Engineers I and Physics for Scientists and Engineers I Laboratory | 4 |
| PHY 1963 & PHY 1971 | Physics for Scientists and Engineers II and Physics for Scientists and Engineers II Laboratory | 4 |
| B. Select two of the following courses | | 6 |
| PHY 3603 | Cosmology | |
| AST 4203 | Stellar Astrophysics | |
| AST 4953 | Special Studies in Astronomy | |
| Total Credit Hours | | 20 |

To declare a Minor in Astronomy/Astrophysics, obtain advice, or seek approval of substitutions for course requirements, students should consult their academic advisor.

Minor in Physics

The Department of Physics and Astronomy also offers a Minor in Physics, which serves to increase the value of the student's major concentration. It also provides a more solid foundation in physics to those wishing to teach science at the middle and high school levels. All students pursuing the Minor in Physics must complete 21 semester credit hours.

Required courses:

| | | |
|------------------------|------------------------------------------------------------------------------------------------------|----|
| PHY 1943 & PHY 1951 | Physics for Scientists and Engineers I and Physics for Scientists and Engineers I Laboratory | 4 |
| PHY 1963 & PHY 1971 | Physics for Scientists and Engineers II and Physics for Scientists and Engineers II Laboratory | 4 |
| PHY 2103 & PHY 2111 | Modern Physics and Modern Physics Laboratory | 4 |
| PHY 3203 | Classical Mechanics I | 3 |
| PHY 3293 | Thermal Physics | 3 |
| PHY 3423 | Electricity and Magnetism | 3 |
| Total Credit Hours | | 21 |

To declare a Minor in Physics, obtain advice, or seek approval of substitutions for course requirements, students should consult their academic advisor.

11. UNIVERSITY COLLEGE

The University College offers students the opportunity to realize their potential for academic success and ensure they have the opportunity to enrich their experience at the University through student development programs. The University College houses the Academic Inquiry and Scholarship, the Writing Program, and the Reserve Officer Training Corps (ROTC) Programs. The University College also offers the Bachelor of Arts degree in Multidisciplinary Studies, the Bachelor of Science degree in Multidisciplinary Studies, and partners with other University offices to offer coursework that is accessible to students from all majors.

- B.A. Degree in Multidisciplinary Studies (p. 294)
- B.S. Degree in Multidisciplinary Studies (p. 295)

Bachelor of Arts Degree in Multidisciplinary Studies

The Bachelor of Arts (B.A.) degree in Multidisciplinary Studies is a multidisciplinary degree which allows students much flexibility in designing degree programs that relate to their personal academic and career goals. Students will complete the University Core Curriculum requirements and take a cohesive set of courses from three different disciplinary areas. The B.A. degree in Multidisciplinary Studies is also offered in a 100 percent online format (<https://online.utsa.edu/>).

The Multidisciplinary Studies major permits an interdisciplinary approach to education, allowing students the opportunity to acquire a well-rounded educational background and problem-solving skills. The objectives of the program are to develop students that have a solid foundation in the content material of three different disciplines and are skilled in communication, critical thinking and analysis, investigating and solving problems, managing tasks, and relating to others. The program allows students to develop academic themes or topics that fall outside the usual disciplinary boundaries. The degree program will provide a vehicle to achieve baccalaureate degrees for those students whose interests lie in multiple areas.

This degree program is meant to encourage and support creativity, innovation, critical thinking, and integrative learning. The multidisciplinary nature of the program is designed to develop students' ability to combine different fields into a structured format. Since the program involves coursework from departments across the University, it offers students opportunities to capitalize upon diverse personal interests and talents through a combination of study and academic experiences appropriate to meet their educational and long-term career goals.

The minimum number of semester credit hours required for this degree is 120, including Core Curriculum requirement hours. Thirty-nine of the 120 total semester credit hours required for the degree must be at the upper-division level.

Students receiving a Bachelor of Arts degree in Multidisciplinary Studies may not receive a double major or a minor.

All candidates seeking this degree must fulfill the Core Curriculum requirements and the degree requirements, which are listed below.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the B.A. degree in Multidisciplinary Studies must fulfill University Core Curriculum requirements in the same manner as other

students. If courses are taken to satisfy both degree requirements and Core Curriculum requirements, then students may need to take additional courses in order to meet the minimum number of semester credit hours required for this degree.

Core Curriculum Component Area Requirements (p. 7)

| | |
|-----------------------------------|-----------|
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |
| Life and Physical Sciences | 6 |
| Language, Philosophy and Culture | 3 |
| Creative Arts | 3 |
| American History | 6 |
| Government-Political Science | 6 |
| Social and Behavioral Sciences | 3 |
| Component Area Option | 3 |
| Total Credit Hours | 42 |

Degree Requirements

All candidates for the B.A. degree in Multidisciplinary Studies must complete the following 78 semester credit hours.

A. Multidisciplinary Studies Foundation Courses

| | |
|----------------------------------------------------------|---|
| Technology Requirement. Select one of the following: | 3 |
| CS 1063 Introduction to Computer Programming I | |
| CS 1083 Programming I for Computer Scientists | |
| IS 1413 Excel for Business Information Systems | |
| Communications Requirement. Select one of the following: | 3 |
| COM 1043 Introduction to Communication | |
| COM 1053 Business and Professional Speech | |
| COM 2113 Public Speaking | |
| ENG 2413 Technical Writing | |

B. Multidisciplinary Studies Fields of Study

All candidates for the degree must select courses to satisfy the requirements of the following three focus areas based on three distinct disciplines: 39

1. Focus Area One: 15 semester credit hours of courses within a single discipline, content area, or certificate program with at least 9 hours at the upper-division level.
2. Focus Area Two: 12 semester credit hours of courses within a single discipline, content area, or certificate program with at least 6 hours at the upper-division level.
3. Focus Area Three: 12 semester credit hours of courses within a single discipline, content area, or certificate program with at least 6 hours at the upper-division level.

Courses selected to satisfy a focus area must be approved by the Multidisciplinary Studies Program Director. Furthermore, the courses used to satisfy each focus area must be completed with at least a 2.00 grade point average. At least one focus area must be selected from a discipline offered by the College of Liberal and Fine Arts or the College of Sciences.

C. Multidisciplinary Studies Courses

| | |
|-------------------------------------------------------|-----------|
| MDS 2013 Introduction to Multidisciplinary Studies | 3 |
| MDS 4983 Senior Seminar for Multidisciplinary Studies | 3 |
| Total Credit Hours | 51 |

Course Sequence Guide for B.A. Degree in Multidisciplinary Studies

This course sequence guide is designed to assist students in completing their UTSA undergraduate Multidisciplinary Studies degree requirements.

This is merely a guide and students must satisfy other requirements of this catalog and meet with their academic advisor for individualized degree plans. Progress within this guide depends upon such factors as course availability, individual student academic preparation, student time management, work obligations, and individual financial considerations. Students may choose to take courses during Summer terms to reduce course loads during long semesters.

B.A. in Multidisciplinary Studies – Four-Year Academic Plan

First Year

| Fall | | Credit Hours |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|--------------|
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| HIS 1043 or HIS 1053 or HIS 2053 | United States History: Pre-Columbus to Civil War Era (core) or United States History: Civil War Era to Present or Texas History | 3 |
| MDS 2013 | Introduction to Multidisciplinary Studies | 3 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| Mathematics core | | 3 |
| | Credit Hours | 15 |

Spring

| | | |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|----|
| HIS 1043 or HIS 1053 or HIS 2053 | United States History: Pre-Columbus to Civil War Era (core) or United States History: Civil War Era to Present or Texas History | 3 |
| CS 1063 or CS 1083 or IS 1413 | Introduction to Computer Programming I or Programming I for Computer Scientists or Excel for Business Information Systems | 3 |
| WRC 1023 | Freshman Composition II (core) | 3 |
| Focus Area 1 lower-division course | | 3 |
| Life & Physical Sciences core | | 3 |
| | Credit Hours | 15 |

Second Year

| Fall | | |
|-------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|----|
| COM 1043 or COM 1053 or COM 2113 or ENG 2413 | Introduction to Communication or Business and Professional Speech or Public Speaking or Technical Writing | 3 |
| POL 1013 | Introduction to American Politics (core) | 3 |
| Focus Area 2 lower-division course | | 3 |
| Focus Area 3 lower-division course | | 3 |
| Life & Physical Sciences core | | 3 |
| | Credit Hours | 15 |

Spring

| | | |
|-------------------------------------|---------------------------------------------------------------------------|----|
| POL 1133 or POL 1213 | Texas Politics and Society (core) or Civil Rights in Texas and America | 3 |
| Focus Area 1 lower-division course | | 3 |
| Focus Area 2 lower-division course | | 3 |
| Creative Arts core | | 3 |
| Language, Philosophy & Culture core | | 3 |
| | Credit Hours | 15 |

Third Year

Fall

| | | |
|-------------------------------------|--------------|----|
| Focus Area 1 upper-division course | | 3 |
| Focus Area 2 upper-division course | | 3 |
| Focus Area 3 lower-division course | | 3 |
| Social and Behavioral Sciences core | | 3 |
| Component Area Option core | | 3 |
| | Credit Hours | 15 |

Spring

| | | |
|------------------------------------|--------------|----|
| Focus Area 1 upper-division course | | 3 |
| Focus Area 2 upper-division course | | 3 |
| Focus Area 3 upper-division course | | 3 |
| Free elective | | 3 |
| Free elective | | 3 |
| | Credit Hours | 15 |

Fourth Year

Fall

| | | |
|------------------------------------|--------------|----|
| Focus Area 1 upper-division course | | 3 |
| Focus Area 3 upper-division course | | 3 |
| Free elective (upper division) | | 3 |
| Free elective | | 3 |
| Free elective (upper division) | | 3 |
| | Credit Hours | 15 |

Spring

| | | |
|--------------------------------|----------------------------------------------|-----|
| MDS 4983 | Senior Seminar for Multidisciplinary Studies | 3 |
| Free elective | | 3 |
| Free elective (upper division) | | 3 |
| Free elective (upper division) | | 3 |
| Free elective (upper-division) | | 3 |
| | Credit Hours | 15 |
| | Total Credit Hours | 120 |

Bachelor of Science Degree in Multidisciplinary Studies

The Bachelor of Science (B.S.) degree in Multidisciplinary Studies allows students to develop a degree program around academic themes or niche areas, such as Artificial Intelligence, Cyber Intelligence, Data Sciences, Geoinformatics, and Neuroscience, that fall outside traditional disciplinary boundaries and helps support student achievement of their personal academic and career goals. Students will complete the University Core Curriculum requirements and take a cohesive set of courses from three different disciplinary areas, one of which must be housed in the College of Sciences or the College of Engineering.

The objectives of the program are to develop students that have a solid foundation in the content material of three different disciplines and are skilled in communication, critical thinking and analysis, investigating and solving problems, managing tasks, and relating to others. The degree program will provide a vehicle for students whose interests lie in multiple areas.

Students selecting the Multidisciplinary Studies major will be expected to achieve the following learning outcomes:

1. Ability to gather information and demonstrate an understanding of concepts and principles from three different fields of study.
2. Ability to apply concepts from three areas of focus and demonstrate their mastery of the knowledge and skills in a capstone course.
3. Ability to show through a final project that they have integrated different areas of study in order to examine a question, problem, or phenomenon.
4. Ability to demonstrate communication and computer competencies.

The minimum number of semester credit hours required for this degree is 120, including Core Curriculum requirement hours. Thirty-nine of the 120 total semester credit hours required for the degree must be at the upper-division level.

Students receiving a Bachelor of Science degree in Multidisciplinary Studies may not receive a double major or a minor.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the B.S. degree in Multidisciplinary Studies must fulfill University Core Curriculum requirements in the same manner as other students. If courses are taken to satisfy both degree requirements and Core Curriculum requirements, then students may need to take additional courses in order to meet the minimum number of semester credit hours required for this degree.

Core Curriculum Component Area Requirements (p. 7)

| | |
|-----------------------------------|-----------|
| First Year Experience Requirement | 3 |
| Communication | 6 |
| Mathematics | 3 |
| Life and Physical Sciences | 6 |
| Language, Philosophy and Culture | 3 |
| Creative Arts | 3 |
| American History | 6 |
| Government-Political Science | 6 |
| Social and Behavioral Sciences | 3 |
| Component Area Option | 3 |
| Total Credit Hours | 42 |

Degree Requirements

All candidates for the B.S. degree in Multidisciplinary Studies must complete the following 78 semester credit hours.

A. Multidisciplinary Studies Foundation Courses

| | |
|------------------------------------------------------|---|
| Technology Requirement. Select one of the following: | 3 |
| CS 1063 Introduction to Computer Programming I | |
| CS 1083 Programming I for Computer Scientists | |
| CS 1173 Data Analysis and Visualization | |
| IS 1413 Excel for Business Information Systems | |

Communications Requirement. Select one of the following: 3

| | | |
|----------|----------------------------------|--|
| COM 1043 | Introduction to Communication | |
| COM 1053 | Business and Professional Speech | |
| COM 2113 | Public Speaking | |
| ENG 2413 | Technical Writing | |

B. Multidisciplinary Studies Fields of Study

All candidates for the degree must select courses to satisfy the requirements of the following three focus areas based on three distinct disciplines: 66

1. Focus Area One: 24 semester credit hours of courses within a single discipline with at least 12 hours at the upper-division level.
2. Focus Area Two: 21 semester credit hours of courses within a single discipline with at least 12 hours at the upper-division level.
3. Focus Area Three: 21 semester credit hours of courses within a single discipline with at least 12 hours at the upper-division level.

Courses selected to satisfy a focus area must be approved by the Multidisciplinary Studies Program Director. Furthermore, the courses used to satisfy each focus area must be completed with at least a 2.00 grade point average. At least one focus area must be selected from a discipline offered by the College of Sciences or the College of Engineering.

C. Multidisciplinary Studies Courses

| | | |
|---------------------------|----------------------------------------------|-----------|
| MDS 2023 | Introduction to Multidisciplinary Studies | 3 |
| MDS 4983 | Senior Seminar for Multidisciplinary Studies | 3 |
| Total Credit Hours | | 78 |

Course Sequence Guide for B.S. Degree in Multidisciplinary Studies

This course sequence guide is designed to assist students in completing their UTSA undergraduate Multidisciplinary Studies degree requirements. *This is merely a guide and students must satisfy other requirements of this catalog and meet with their academic advisor for individualized degree plans.* Progress within this guide depends upon such factors as course availability, individual student academic preparation, student time management, work obligations, and individual financial considerations. Students may choose to take courses during Summer terms to reduce course loads during long semesters.

B.S. in Multidisciplinary Studies – Four-Year Academic Plan

First Year

| | | Credit Hours |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|--------------|
| Fall | | |
| AIS 1203 | Academic Inquiry and Scholarship (core) | 3 |
| HIS 1043 or HIS 1053 or HIS 2053 | United States History: Pre-Columbus to Civil War Era (core) or United States History: Civil War Era to Present or Texas History | 3 |
| CS 1063 or IS 1413 | Introduction to Computer Programming I or Excel for Business Information Systems | 3 |
| WRC 1013 | Freshman Composition I (core) | 3 |
| Mathematics core | | 4 |
| | Credit Hours | 16 |
| Spring | | |
| WRC 1023 | Freshman Composition II (core) | 3 |

| | |
|------------------------------------|----|
| Focus Area 1 lower-division course | 4 |
| Focus Area 1 lower-division course | 4 |
| Focus Area 2 lower-division course | 3 |
| Credit Hours | 14 |

Second Year**Fall**

| | | |
|-------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|---|
| COM 1043 or COM 1053 or COM 2113 or ENG 2413 | Introduction to Communication or Business and Professional Speech or Public Speaking or Technical Writing | 3 |
|-------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|---|

| | |
|------------------------------------|----|
| Focus Area 1 lower-division course | 3 |
| Focus Area 1 lower-division course | 3 |
| Focus Area 2 lower-division course | 4 |
| Credit Hours | 13 |

Spring

| | | |
|------------------------------------|----------------------------------------------|---|
| MDS 2023 | Introduction to Multidisciplinary Studies | 3 |
| POL 1013 | Introduction to American Politics | 3 |
| Focus Area 1 lower-division course | 3 | |
| Focus Area 2 lower-division course | 3 | |
| Focus Area 2 upper-division course | 4 | |
| Credit Hours | 16 | |

Third Year**Fall**

| | | |
|-------------------------|-----------------------------------------------------------------------|---|
| POL 1133 or POL 1213 | Texas Politics and Society or Civil Rights in Texas and America | 3 |
|-------------------------|-----------------------------------------------------------------------|---|

| | |
|------------------------------------|----|
| Focus Area 2 upper-division course | 3 |
| Focus Area 2 upper-division course | 3 |
| Focus Area 3 upper-division course | 3 |
| Life & Physical Sciences core | 3 |
| Credit Hours | 15 |

Spring

| | | |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|---|
| HIS 1043 or HIS 1053 or HIS 2053 | United States History: Pre- Columbus to Civil War Era or United States History: Civil War Era to Present or Texas History | 3 |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|---|

| | |
|------------------------------------|----|
| Focus Area 1 upper-division course | 3 |
| Focus Area 3 upper-division course | 3 |
| Focus Area 3 upper-division course | 3 |
| Life & Physical Sciences core | 3 |
| Credit Hours | 15 |

Fourth Year**Fall**

| | |
|------------------------------------|----|
| Focus Area 2 upper-division course | 4 |
| Focus Area 3 upper-division course | 3 |
| Focus Area 3 upper-division course | 3 |
| Social & Behavioral Sciences core | 3 |
| Creative Arts core | 3 |
| Credit Hours | 16 |

Spring

| | | |
|--------------------------------------|-------------------------------------------------|---|
| MDS 4983 | Senior Seminar for Multidisciplinary Studies | 3 |
| Focus Area 3 upper-division course | 3 | |
| Focus Area 3 upper-division course | 3 | |
| Component Area Option core | 3 | |
| Language, Philosophy, & Culture core | 3 | |
| Credit Hours | 15 | |
| Total Credit Hours | 120 | |

- Certificate in Community Engaged Leadership (p. 297)
- Certificate in Legal Studies (p. 297)
- Certificate in Data Science (p. 298)

Certificate in Community Engaged Leadership

The Certificate in Community Engaged Leadership is open to all majors in the University. The certificate integrates coursework with experiential learning opportunities within UTSA, San Antonio, and Bexar County communities, in order to foster knowledge, understanding, skills, and virtues of community leaders.

Students pursuing the Certificate in Community Engaged Leadership must complete 15 semester credit hours:

A. Required course:

| | | |
|----------|--------------------------|---|
| UCS 4013 | UTSA Advanced Engagement | 3 |
|----------|--------------------------|---|

B. Service-learning/community engaged learning designated electives: 12

12 semester credit hours of electives from service-learning designated courses or non-designated courses with the approval from the faculty, Director of the Center for Civic Engagement, and Associate Dean for Undergraduate Programs in University College.

At least 6 of the 12 semester credit hours of electives must be earned from the service-learning designated courses. Approval of the non-designated courses as electives will be based on the service-learning hours and a requirement to complete a service-learning project.

C. Civic Engagement Summit or UTSA Undergraduate Research Showcase:

Participation in at least one Civic Engagement Summit, UTSA Undergraduate Research Showcase or other approved event.

| | |
|--------------------|----|
| Total Credit Hours | 15 |
|--------------------|----|

Certificate in Legal Studies

The Certificate in Legal Studies is open to all majors in the University. The certificate offers courses to assist students hone their analytical reasoning, logic, and writing skills; give exposure to the law; and gain experiential learning, with the opportunity to develop the American Bar Association (ABA) recommended skills to pursue a legal education.

Students pursuing the Certificate in Legal Studies must complete 15 semester credit hours:

A. Required courses: 9

| | | |
|----------|------------------------------|--|
| PHI 2043 | Introductory Logic | |
| UCS 4933 | Internship in Prelaw Studies | |

11. University College

| | | |
|----------------------------------------------------------------------|--------------------------------------------------------------------|----------|
| | or PAL 4933 Internship in Politics and Law | |
| | or POL 4933 Internship in Political Science | |
| WRC 3013 | Writing Strategies for the Pre-law Student | |
| | or PAL 3023 Legal Research and Writing | |
| B. Elective courses (listed by ABA recommended skills areas): | | 6 |
| 1. Problem Solving | | |
| PAL 4123 | Legal and Philosophical Reasoning | |
| 2. Critical Reading | | |
| ANT 3733 | Political and Legal Anthropology | |
| ECO 3113 | Introduction to Mathematical Economics ¹ | |
| ECO 3123 | Introduction to Econometrics and Business Forecasting ¹ | |
| HON 3513 | Archer: Policy-Making Process | |
| MKT 3013 | Principles of Marketing | |
| PAL 4133 | Legal Analysis and Argumentation | |
| PHI 3213 | Ethics | |
| PHI 4123 | Contemporary Continental Philosophy | |
| 3. Writing and Editing | | |
| ENG 3383 | Writing in Public and Professional Contexts | |
| ENG 3413 | Specialized Professional Writing | |
| ENG 4433 | Advanced Professional Writing | |
| 4. Oral Communication | | |
| COM 3113 | Argumentation and Debate | |
| MGT 3123 | Organizational Communication ¹ | |
| MGT 3253 | Interpersonal Communication ¹ | |
| 5. Research | | |
| HON 3021 | Honors Essay Writing | |
| SOC 3323 | Introduction to Social Research | |
| PAL 3023 | Legal Research and Writing | |
| UCS 4913 | Independent Study in Prelaw | |
| 6. Organization and Management | | |
| EDL 3003 | Introduction to Leadership | |
| 7. Public Service and Promotion of Justice | | |
| HON 3103 | Honors Service | |
| PAL 3113 | Minorities and the Law | |
| HIS 3623 | History of the Civil Rights Movement | |
| GLA 3043 | International Human Rights | |
| 8. Relationship-building and Collaboration | | |
| PSY 4193 | Relationships | |
| PSY 4213 | Social Cognition | |
| 9. Background Knowledge | | |
| HIS 4223 | Environmental History of the United States | |
| 10. Exposure to the Law | | |
| CS 3113 | Principles of Cyber Security | |
| CSM 4633 | Construction Law | |
| CRJ 2623 | Substantive Criminal Law | |
| CRJ 3573 | Restorative Justice | |
| CRJ 4633 | Constitutional Criminal Procedure | |
| ES 3203 | Environmental Law | |
| FIN 3433 | Principles of Real Estate | |
| FIN 4613 | Introduction to International Finance ¹ | |
| GLA 3003 | International Law | |

| | |
|----------|-----------------------------------------------|
| GLA 3733 | National Security Law |
| GLA 4133 | Conflict, Law, and Security in Global Affairs |
| IS 3533 | Cyber Law and Legal System |
| MGT 4643 | Human Resources Law ¹ |
| PAD 3153 | Administrative Law and Policy |
| PAL 3013 | The American Legal Process |
| | or POL 3013 The American Legal Process |
| PAL 3313 | The Supreme Court |
| | or POL 3313 The Supreme Court |
| PAL 3343 | Constitutional Analysis |
| PAL 3413 | Regulatory Law and Enterprise |
| PAL 3513 | Trial and Appellate Advocacy |
| PAL 3583 | Jurisprudence |
| | or POL 3583 Jurisprudence |
| PAL 3843 | Campaign and Election Law |
| | or POL 3843 Campaign and Election Law |
| PAL 3853 | Immigration Law |
| | or POL 3853 Immigration Law |
| PAL 3863 | Contracts |
| PAL 4223 | Torts through the Case Method |
| PAL 4233 | Federal Courts |
| PAL 4323 | Administrative Law and Politics |
| | or POL 4323 Administrative Law and Politics |
| POL 3323 | Constitutional Law I |
| POL 3333 | Constitutional Law II |
| POL 3373 | The Legislative Process |
| SOC 3113 | Criminology |
| SPE 3693 | Special Education Law |

Total Credit Hours 15

Courses may offer skill development in more than one area, but are only listed once.

¹

Students need to complete the proper prerequisites to take these courses.

Certificate in Data Science

The Undergraduate Certificate in Data Science is open to all undergraduate students at UTSA, including non-degree seeking students, regardless of their college or major. Applicants who are currently enrolled in an undergraduate degree program at UTSA have already met University requirements for admission. Applicants who are not currently enrolled in an undergraduate degree program at UTSA will be required to apply for admission to UTSA as a special undergraduate (non-degree-seeking) student and to indicate their intent to seek admission into a certificate program.

The certificate is designed for individuals from all academic disciplines to build analytical and computational foundation to investigate data science problems. This certificate program is created to fill the industry need for more data-science capable professionals and to prepare individuals for a career in data science related fields. Individuals completing this certificate will gain the foundational data science knowledge as well as practical skills in data curation, data analytics, data visualization, data mining, and machine learning. The certificate is administered by the University College in conjunction with the School of Data Science. The

certificate program is also offered in a 100 percent online format (<https://online.utsa.edu/programs/online-certificates/>).

Students pursuing the Undergraduate Certificate in Data Science must complete 15 semester credit hours:

A. Required Courses:

| | | |
|--------------------|-------------------------------------|----|
| DS 4003 | Introduction to Data Science | 3 |
| DS 4013 | Programming for Data Science | 3 |
| DS 4023 | Data Organization and Visualization | 3 |
| DS 4033 | Data Mining and Machine Learning | 3 |
| STA 3003 | Applied Statistics | 3 |
| Total Credit Hours | | 15 |

Academic Inquiry and Scholarship

Academic Inquiry & Scholarship Studies (AIS) courses are designed to orient first-year students to the different fields of study within their Academic Studies. The AIS Studies courses address various academic skills necessary to succeed beyond the first year in college.

Air Force Reserve Officer Training Corps (AFROTC) Program

The Air Force Reserve Officer Training Corps (AFROTC) program trains students to become scholar warrior leaders who make a positive impact in the world. This award-winning program combines traditional college education with military instruction in order to develop exceptional United States Air Force officers. Multiple enrollment options give students an opportunity to participate in AFROTC without initial commitment for military service. This program is for students who want to learn how to be leaders. The AFROTC program requirements are described in detail in the UTSA Undergraduate Catalog.

All students in Air Force ROTC are issued books and uniforms for use in ROTC classes. In addition, most upperclassman cadets enlisted in the Air Force Reserve receive a monthly subsistence allowance. Cadets may apply for Air Force ROTC scholarships, which are available on a competitive basis to those who meet the basic minimum requirements of a 2.5 cumulative grade point average, are a U.S. citizen, pass a physical fitness test, and pass a Department of Defense medical exam. For further information, contact the AFROTC office at 210-458-4624. Walk-ins are also welcome on the first floor of the Graduate Studies/Research Building (GSR), Room 1.220.

UTSA students may enroll in courses that are required in order to become a commissioned officer in the United States Air Force. The Air Force Reserve Officer Training Corps (ROTC) (<http://www1.utsa.edu/afrotc/>) is voluntary and open to all qualified students, male and female. All courses are held on the UTSA campus.

Trinity University, St. Mary's University, University of the Incarnate Word, Our Lady of the Lake University, Texas A&M University-San Antonio, Schreiner University, or any Alamo Colleges student may enroll in Air Force ROTC at UTSA. These students will attend ROTC classes on the UTSA campus.

Nursing students at UT Health San Antonio may also enroll in Air Force ROTC at UTSA.

To obtain a commission as an officer in the United States Air Force, a baccalaureate degree in one of the disciplines offered by UTSA and completion of a Four-Year AFROTC Program is required. The full four-year program may be tailored down to less than four years based on the student's academic progress and the future needs of the Air Force. For complete details on completing AFROTC in less than four years, contact an Air Force ROTC advisor at 210-458-4624. Walk-ins are also welcome on the first floor of the Graduate Studies and Research Building (GSR), Room 1.220.

Credit for aerospace studies courses may be applied toward a baccalaureate degree, but are generally classified as free electives. There is no maximum number of semester credit hours of aerospace studies that may be applied to the degree requirements for each major. Credit for aerospace studies courses awarded by another college or university is accepted by UTSA as credit, within the same limitations as aerospace studies credit earned at UTSA.

Program Requirements

This program does not require a formal application for admission and consists of 16 semester credit hours of aerospace studies. Any student wishing to participate in the freshman- and sophomore-level courses of

Air Force ROTC may enroll for these classes at the same time and in the same manner as for other UTSA courses. The freshman and sophomore courses comprise the General Military Course (GMC). Membership as a cadet in the GMC does not confer any military status or commitment upon the student. During the GMC, students can compete for admission to the Professional Officer Course (POC), which is described below. Cadets in the Four-Year Program attend a paid two-week field training course the summer between their sophomore and junior years.

All students in Air Force ROTC are issued books and uniforms for use in ROTC classes. In addition, all POC students enlist in the Air Force Reserve and receive a monthly subsistence allowance.

A required leadership laboratory graded on a pass/fail basis is conducted in conjunction with all aerospace studies courses. This laboratory offers students the opportunity to learn and practice the skills and techniques required to be an Air Force officer within a realistic Air Force organizational framework. It also provides cadets with opportunities to learn about the conduct of Air Force missions and operations through guest lectures and field trips. Cadets are also required to attend physical fitness training a minimum of two times a week which will help prepare them to pass the required physical fitness test.

Cadets may apply for Air Force ROTC scholarships. Three-and-a-half-, three-, two-and-a-half-, and two-year scholarships are available to cadets who meet the basic minimum requirements (achieving and maintaining a 2.5 grade point average, passing a physical fitness test, and passing a physical). Students with questions are encouraged to come by GSR 1.220 or call an Air Force ROTC scholarship advisor at 210-458-4624.

Minor in Aerospace Studies

This minor is designed to enhance the aerospace studies (Air Force Reserve Officer Training Corps) curriculum. A Minor in Aerospace Studies (ASC) will develop a well-rounded perspective of a future Air Force officer's role and decision-making ability in political, sociological, historical, and geographical arenas.

All students pursuing a Minor in Aerospace Studies must complete 20 semester credit hours.

A. Required core courses

| | | |
|----------|-----------------------------------------------------------------|---|
| ASC 2031 | The Evolution of United States Air Force Air and Space Power I | 1 |
| ASC 2041 | The Evolution of United States Air Force Air and Space Power II | 1 |

B. Additional courses

Select 3 of the following, two of which must be at the upper-division level: 9

| | | |
|----------|----------------------------------------------------------|--|
| ASC 1031 | The Foundation of the United States Air Force I | |
| ASC 1041 | The Foundation of the United States Air Force II | |
| ASC 3013 | Air Force Leadership Studies I | |
| ASC 3023 | Air Force Leadership Studies II | |
| ASC 4013 | National Security Affairs/Preparation for Active Duty I | |
| ASC 4023 | National Security Affairs/Preparation for Active Duty II | |

C. Additional courses

Select 3 of the following, 2 of which must be at the upper-division level: 9

| | | |
|----------|--------------------------|--|
| GES 1023 | World Regional Geography | |
|----------|--------------------------|--|

| | | |
|--------------------|------------------------------------------------|----|
| GES 3314 | Introduction to Geographic Information Systems | |
| GES 3643 | Political Geography | |
| HIS 3543 | History of Modern Warfare | |
| HIS 3823 | History of American Foreign Relations | |
| POL 1213 | Civil Rights in Texas and America | |
| POL 2603 | Introduction to Global Politics | |
| POL 3293 | Political Movements | |
| POL 3403 | European Governments | |
| POL 3433 | Governments and Politics of Southeast Asia | |
| POL 3443 | Governments and Politics of East Asia | |
| POL 3463 | Politics of the Developing World | |
| POL 3493 | Politics of the Middle East | |
| POL 3503 | American Foreign Policy since World War II | |
| POL 3523 | Force in International Politics | |
| POL 3563 | Current Issues in World Politics | |
| PSY 2533 | Social Psychology | |
| Total Credit Hours | | 20 |

To declare a Minor in Aerospace Studies, obtain advice, or seek approval of substitutions for course requirements, students should consult the professor of aerospace studies in the Office of the Associate Provost for Veteran and Military Affairs in conjunction with an advisor in the office of Undergraduate Studies Support and Technology Services.

Army Reserve Officer Training Corps (ROTC) Program

The Army Reserve Officer Training Corps (ROTC) program gives students the opportunity to obtain a commission as an officer in the United States Army. The program offers the option of completing either a four-year program or a two-year program in Military Science while pursuing a baccalaureate or graduate degree in one of the disciplines offered by UTSA. Students who may want to try military science without incurring a military commitment can register for the first- and second-year courses in Military Science.

The Army ROTC program offers competitive scholarships for up to four years to select students. These scholarships provide tuition, fees, book allowance and a monthly subsistence allowance. In addition, students enrolled in Army ROTC courses are furnished, free of charge, complete uniforms, texts, and necessary equipment. For more information, contact the Army ROTC office at 210-458-5628. Walk-ins are also welcome on the first floor of the Graduate School/Research Building (GSR), Room 1.220.

The Army Reserve Officer Training Corps (ROTC) (<http://www.utsa.edu/armyrotc/>) program gives students the opportunity to obtain a commission as an officer in the United States Army. To obtain a commission as an officer in the United States Army, students must complete either the Four-Year Program or the Two-Year Program in Military Science and be a full-time student pursuing a baccalaureate or graduate degree in one of the disciplines offered by UTSA.

All ROTC classes require each enrolled student to participate in physical fitness training and to take the Army Physical Fitness Test each semester. Students enrolled in Army ROTC courses are furnished, free of charge, complete uniforms, texts, and necessary equipment.

Credit for military science courses may be applied toward a baccalaureate degree, but mainly as free electives. There is no maximum number of semester credit hours of military science that may be applied to the degree requirements for each major. Credit for military science courses awarded by another college or university is accepted by UTSA as credit, within the same limitations as military science credit earned at UTSA.

Four-Year Program

This program consists of 23 semester credit hours of military science courses and is offered in two parts: a Basic Course and an Advanced Training Course. Registration is accomplished at the same time and in the same manner as for other UTSA courses. The Basic Course consists of the first- and second-year courses: MSC 1012, MSC 1122, MSC 2012, and MSC 2022, which are designed for beginning students who want to qualify for entry into the Advanced Training Course and those who may want to try military science without incurring a military commitment. A number of popular and challenging extracurricular activities are associated with these courses. Students can qualify for entry into the Advanced Training Course by completing the Leader's Training Course, a paid summer internship program.

Students may compress the Basic Course into one academic year with the approval of the professor of military science. The Basic Course may be waived without credit for students with prior military service and/or junior ROTC.

Two-Year Program

This program consists of the Advanced Training Course, which incorporates the last two years of the Four-Year Program. The Advanced Training Course consists of MSC 3013, MSC 3023, MSC 3033, MSC 4013, and MSC 4023. It is open only to students who have completed the Basic Course or earned placement credit. The Advanced Training Course is designed to qualify a student for a commission as an officer in the United States Army. Students must complete the 6-week paid leadership training (Advanced Camp) in the summer, usually between the junior and senior years. Courses must be taken in sequence unless otherwise approved by the professor of military science. Students receive a stipend each month during the school year.

The Army ROTC program offers competitive scholarships for up to four years to select students. These scholarships provide tuition, fees, book allowance and a monthly subsistence allowance.

Participation in a leadership laboratory is required in conjunction with all courses. The laboratory provides the opportunity to acquire leadership skills and experiences that will enhance a student's ability to perform as an Army officer.

The program requirements for the Basic and Advanced courses are as follows:

| | | |
|--------------------|---------------------------------------------------|----|
| MSC 1012 | Introduction to the Army and Critical Thinking | 2 |
| MSC 1122 | Adaptive Leadership and Professional Competence | 2 |
| MSC 2012 | Leadership and Decision Making | 2 |
| MSC 2022 | Army Doctrine and Team Development | 2 |
| MSC 3013 | Training Management and the Warfighting Functions | 3 |
| MSC 3023 | Applied Leadership in Small Unit Operations | 3 |
| MSC 3033 | American Military History | 3 |
| MSC 4013 | The Army Officer | 3 |
| MSC 4023 | Company Grade Leadership | 3 |
| Total Credit Hours | | 23 |

Minor in Military Management and Leadership

This minor is designed to enhance the military science (Army Reserve Officer Training Corps) curriculum. A Minor in Military Management and Leadership (MSL) will develop a well-rounded perspective of a future Army officer's role and decision-making ability in political, sociological, historical, and geographical arenas.

All students pursuing the minor must complete 21 semester credit hours.

A. Required Courses:

| | | |
|----------|---------------------------------------------------|---|
| MSC 3013 | Training Management and the Warfighting Functions | 3 |
| MSC 3023 | Applied Leadership in Small Unit Operations | 3 |
| MSC 4013 | The Army Officer | 3 |
| MSC 4023 | Company Grade Leadership | 3 |

B. Select 3 of the following: 9

| | | |
|----------|-----------------------------------------|--|
| GES 3643 | Political Geography | |
| HIS 2543 | Introduction to Islamic Civilization | |
| HIS 2553 | Introduction to East Asian Civilization | |
| HIS 3543 | History of Modern Warfare | |

| | | |
|--------------------|---------------------------------------------------------------|----|
| HIS 3823 | History of American Foreign Relations | |
| MGT 3013 | Introduction to Organization Theory, Behavior, and Management | |
| POL 3433 | Governments and Politics of Southeast Asia | |
| POL 3463 | Politics of the Developing World | |
| POL 3493 | Politics of the Middle East | |
| POL 3523 | Force in International Politics | |
| POL 3563 | Current Issues in World Politics | |
| Total Credit Hours | | 21 |

To declare a Minor in Military Management and Leadership, obtain advice, or seek approval of substitutions for course requirements, students should consult the professor of military science in the Office of the Associate Provost for Veteran and Military Affairs in conjunction with an advisor in the office of Undergraduate Studies Support and Technology Services.

Writing Program

Writing Program courses are designed to help students become the most proficient writers possible. The courses stress the writing process, along with purpose, audience, correctness, research techniques, and visual layout. Integrated Reading and Writing is designed to prepare students for success in Freshman Composition. Freshman Composition I focuses primarily on informative academic writing and introduces persuasive writing, while Freshman Composition II focuses on argument and persuasion. Freshman Composition I and II papers emphasize the use of source material and appropriate documentation of that material. All of the classes include an oral component, providing time for students to practice and sharpen their oral presentation skills. These courses prepare students for demands of the academic and professional worlds. Freshman Composition I and II are also enhanced with quantitative literacy. In addition, WRC 3013 Writing Strategies for the Pre-law Student and WRC 4123 Topics in Writing further prepare students for careers in which writing is a critical skill.

12. FIRST YEAR EXPERIENCE

The First Year Experience Program (<http://utsa.edu/fye/>) offers programming for first-year students that is designed to ease the transition from high school to college and facilitate academic and personal success at UTSA. Specifically, the First Year Experience Program provides a Peer Mentor Program, linked-course offerings, and guidance in choosing an appropriate major.

All first-year college students participate in a comprehensive First Year Experience Program designed to help transition to university life. In UTSA's First-Year Experience Program students will participate in a Peer Mentor Program; complete an Academic Inquiry and Scholarship (AIS) course, a Core Curriculum course designed to orient first-year students to the different fields of study within an Academic Pathway while enhancing essential academic skills such as critical thinking and communication skills; have the opportunity to enroll in linked courses; and participate in various campus events designed to enhance the success of first-year students.

13. HONORS COLLEGE

The Honors College

The Honors College is a non-traditional, liberal arts and sciences college at the University of Texas at San Antonio. It recruits and develops high-achieving students. In Honors, students are immersed in a small college culture while having total access to all of the unique resources of one of the nation's top emerging research universities.

Emphasizing student development within a real-world context, UTSA Honors has one of the most experiential honors curricula in the nation. The Honors College uses the seventh largest city in the U.S., San Antonio, as our laboratory. Honors students have the distinct advantages of learning and networking in a vibrant, culturally-rich, and innovative city setting.

Honors students also have the benefit of working with the top students from all disciplines. Our emphasis on student life encourages a family atmosphere and helps students develop lifelong friendships with those who are sure to be tomorrow's leaders.

Mission

The Honors College uses an experiential approach to assist students of all majors to become servant leaders, develop as professionals, and intellectually achieve beyond their GPA. We help our students to emerge as culturally aware global citizens, live engaged and intentional lives, and acquire skills that will help them to flourish.

We genuinely value our community, devoted to seeking new and significant ways to help students gain a deep sense of belonging. We believe in honoring those whose actions uphold the highest standards of virtue and excellence, promoting equity, justice, and fairness; practicing resilience in the face of hardships and adversity; contributing to the well-being of all, human or otherwise, through acting benevolently and kindly; and supporting those who need our help. We are a community that cares.

Our Philosophy

UTSA Honors focuses upon student outcomes. We develop students in order to succeed in what we call the S.P.I.C.E.S. areas. We know that the most successful graduates stand out in six areas:

Service

Professional Development

Intellectual Achievement and Research

Cultural Exploration

Engaged Living

Skill Development

We have intentionally designed our curriculum to help students produce demonstrable achievements and leadership in each of these areas.

Our Ethos

UTSA Honors promotes a "small college feel." We model our ethos after small, private liberal arts colleges. We want our students to feel like they are part of a family. Though our students are exceptional, we privilege collaboration over cutthroat competition, a healthy lifestyle above

unhealthy stress. We ask our students to remain steadfastly committed to living our H.E.R.B.S., always reminding them to be

Honorable

Equitable, Just, and Fair

Resilient

Benevolent

Supportive

We strive to help students understand their learning as a public good and hope to inspire them to use what they learn for the betterment of others.

Our Learning Outcomes

Our Honors curriculum is open to all majors. Our learning outcomes, or C.A.P.A.C.I.T.I.E.S., reflect our emphasis on knowledge discovery and application through personal development and civic engagement.

Creative Courage

Adaptability & Resilience

Project Management

Agency through Accomplishment

Communicating Effectively

Intellectual Dexterity

Team/Independent Learning and Decision Making

Intercultural Confidence

Ethical Reasoning

Self-Reflection and Awareness

Admission and Retention

Admission

Admission to the Honors College is offered to a select number of highly motivated and successful students who wish to take charge of their education and achieve their highest potential at UTSA.

All admissions to the Honors College are on an invitation-only basis. Incoming freshmen and transfer students are automatically considered for Honors College eligibility based on the student's information at the time of application to UTSA. Current UTSA students are automatically considered for Honors College eligibility based on their cumulative grade point average (GPA) and completed credit hours as of the semester prior to invitation. Students admitted to the University of Texas Coordinated Admissions Program (CAP) are ineligible for admission. Admission information is available through the Honors College website (<http://honors.utsa.edu/>).

Retention in the Honors College

Good Academic Standing

Policies on Good Academic Standing in the Honors College vary major to major. Please contact your program administrator or your Honors College Academic Counselor for specific program policies. Note that students need a graduation UTSA grade point average (GPA) of 3.5 or higher to be classified as an Honors College graduate. Students with less than a 3.5

GPA may still be members of the Honors College; for more information, please see your program administrator or Honors College Academic Counselor.

Dismissal

Students who are not in Good Academic Standing as of July 1 may be dismissed, depending on their program requirements. Please contact your program administrator for details.

Probation

Probation is granted at the discretion of the Associate Dean of the Honors College. Except in rare cases, students will be granted no more than two semesters of probation. Please see the Honors College website (<https://honors.utsa.edu/>) for probation procedures.

Benefits and Services

The UTSA Honors College provides the following opportunities to members of the College:

Early Registration

Honors students have early registration benefits, which means they may register for classes on the first day of priority registration.

Dual College Membership

All Honors College students are also members of a degree-granting college. Admission to the Honors College is independent of admission to any other academic unit.

Honors Counseling and Major Advising

In their first year, honors students have an Honors Academic Counselor who helps them start their academic career at UTSA. They also have Honors peer coaches to help them find the best opportunities in which to get involved. After the first year, an advisor in the college of the student's major becomes the primary academic advisor. Honors Academic Counselors continue to help with Honors requirements.

Throughout their time in Honors, students have access to our Honors Counselor team. This group helps students to find and develop study abroad, service learning, professional development, internship, and other S.P.I.C.E.S. opportunities, all the while ensuring that the student stays on track to graduate from Honors.

Honors Scholarships

The Honors College, in conjunction with the UTSA Scholarship Office, annually awards numerous Honors scholarships. Many Honors scholarships are renewable for up to three years for students who maintain the requisite grade point average as determined by the specific scholarship and complete an Honors course each semester. More information on scholarships is available through the Honors College website (<http://honors.utsa.edu/>).

Honors Events

The heart of the honors community is the events. Honors students host many events each year that are funded by honors student fees. These events are social, ceremonial, academic, or sometimes just fun. This is the best way for an Honors student to build their network.

Honors Study Abroad

The Honors College works with UTSA's Office of International Programs to offer opportunities for Honors students to acquire new knowledge and understanding of the people, events, movement, ideas, and objects of

cultures other than their own. Multiple scholarships are available through the International Education Fund and the Honors College.

Professional Networking

Every year honors students have access to many unique professional, academic, and cultural networking opportunities that are not available to other students.

Recognition for Honors Graduation

Members of the Honors College who complete curricular and non-curricular requirements listed in this catalog and maintain the requisite GPA qualify to graduate through the Honors College and to participate in the Honors College Stole & Laurel Ceremony, where they receive an Honors stole to wear with their academic regalia to the official university commencement ceremony. Recognition for Honors at the UTSA Graduation includes a notation on the transcript and diploma and mention in the university commencement bulletin.

Honors College Requirements

To graduate with diploma-level recognition from the Honors College, a student must meet **all** of the following requirements:

- Be accepted and enrolled in the Honors College,
- Declare and complete Undergraduate Bachelor's Degree requirements for any UTSA program under a student's specific catalog of record,
- Have a minimum UTSA grade point average of 3.50 on a 4.00 scale, **and**
- Complete the below-listed Honors College Curricular and Noncurricular Requirements.

Honors College Curriculum Requirements

The UTSA Honors College is committed to students' community engagement, mindful living, and civic engagement, which may best be understood through the S.P.I.C.E.S.. Students are required to actively participate in the S.P.I.C.E.S.: **s**ervice, **p**rofessional development, **i**ntellectual **a**chievement and research beyond the classroom, **c**ultural exploration, **e**ngaged living, and **s**kill development. As such, the UTSA Honors curriculum is designed to help students have the types of experiences that will create lifelong learners and dexterous thinkers. To allow students the ability to take on multiple majors (should they choose to), to potentially graduate early, and to utilize previously acquired credits, our curriculum is intentionally flexible. Our intentional curricular flexibility and malleability also provide students the opportunity to customize their Honors College experience, thus crafting a curriculum that will make them most marketable to graduate schools and potential employers. In fact, our flexibility allows a student to graduate with as few as 4 credit hours of formal HON coursework. Nonetheless, the curriculum and co-curricular requirements are comparable to course equivalencies of 30 or more credit hours.

Noncurricular Requirements:

In addition to the below-mentioned Honors College curricular requirements, all Honors College students must also complete the following Honors noncurricular requirements:

- Students are required to attend college-wide meetings at the beginning of each semester,
- Students must complete either HON 1000 Honors 101 or one semester of HON 1100 Top Scholar: Top Scholar Program, **and**

- Students must attend a minimum of three (3) Honors College Events per semester (see the Honors College website (<http://honors.utsa.edu/>) details).

Curricular Requirements:

All Honors coursework and equivalencies must earn a C- (70%) or better in order to fulfill an Honors College curricular requirement, except Experiential Learning Fair scores, which must be a B- (80%) or better.

I. Required Coursework (8 Credit Equivalencies) 8

Complete all of the following:

HON 2301 Honors: The Civic Ethos

HON 2983 Honors Tutorial I

HON 3984 Honors Tutorial II

OR

HON 3980 Honors Tutorial II (non-credit)

II. Experiences (18-19 Credit Equivalencies) 18-19

Students are required to complete six (6) of the following Honors Experiences. Students may complete up to 2 Experiences in any category (for example, a student who completes HON 3503 twice when topics vary and completes an internship and Peer Coaching will have 4 Experiences in just 2 categories: Engaged Living and Professional Development). Students cannot earn credit for 3 Experiences in any one category without petitioning for credit.

In addition to being able to complete Honors College curricular requirements through Experiences 1-8 through HON coursework, students may opt to meet their Experiences by using specially designated UTSA courses, UTSA co-curricular experiences officially approved by the Honors College, and independently designed co-curricular experiences officially approved by the Honors College. For a complete and current list of approved substitutions and the independent design process, students should refer to the Honors College website and consult with their Honors College Academic Counselor.

Experience 1. First-Year Experience:

AIS 1203 Academic Inquiry and Scholarship

This course must be completed as an honors section specifically. This course is a Core Curriculum requirement for all FTIC (First Time In College) Freshman students, regardless of Dual or AP credits completed. This course is NOT required for Transfer students who have completed 30 or more hours or who transfer in as Core Complete from another institution, nor is it required for UTSA students who completed AIS prior to admission to the Honors College. However, they do have the option of completing an honors AIS 1203 section should they choose to do so.

Experience 2. Service (select one of the following):

HON 3103 Honors Service

HON 3533 Archer: Advocacy and Politics

3 credit hours of any honors section of a course designated as an Honors Service Course or equivalent: when appropriate, honors sections of courses will carry designations that identify experience requirements that they will satisfy. These designations will be publicized to students by the Honors College and in the comments of the published course schedule.

Experience 3. Professional Development (select one of the following):

HON 3263 Honors Professional Development

3 credit hours of any honors section of a course designated as an honors Professional Development Course or equivalent: when appropriate, honors sections of courses will carry designations that identify experience requirements that they will satisfy. These designations will be publicized to students by the Honors College and in the comments of the published course schedule.

HON 4933 Honors Internship

HON 4936 Honors Internship

Experience 4. Intellectual Achievement and Research (select one of the following):

HON 3313 Honors Intellectual Achievement and Research

HON 4993 Honors Thesis

3 credit hours of any Honors section of a course designated as an honors Intellectual Achievement and Research, Thesis Course or equivalent: when appropriate, honors sections of courses will carry designations that identify experience requirements that they will satisfy. These designations will be publicized to students by the Honors College and in the comments of the published course schedule.

Experience 5. Cultural Exploration (select one of the following):

HON 3403 Honors Cultural Exploration

3 credit hours of any honors section of a course designated as an Honors Cultural Exploration Course or equivalent: when appropriate, honors sections of courses will carry designations that identify experience requirements that they will satisfy. These designations will be publicized to students by the Honors College and in the comments of the published course schedule. HON 3401 requires Experience approval in order to count as an Experience; see Honors College website for details.

Experience 6. Engaged Living (select one of the following):

HON 3503 Honors Engaged Living

3 credit hours of any honors section of a course designated as an Honors Engaged Living Course or equivalent: when appropriate, honors sections of courses will carry designations that identify experience requirements that they will satisfy. These designations will be publicized to students by the Honors College and in the comments of the published course schedule.

Experience 7. Skill Development (select one of the following):

HON 3603 Honors Skill Development

3 credit hours of any honors section of a course designated as an Honors Skills Course or equivalent: when appropriate, honors sections of courses will carry designations that identify experience requirements that they will satisfy. These designations will be publicized to students by the Honors College and in the comments of the published course schedule.

Experience 8. Interdisciplinary Seminar:

HON 3223 Honors Seminar in Social & Behavioral Sciences

HON 3233 Honors Seminar in Arts & Humanities

HON 3243 Honors Seminar in Business & the Professions

HON 3253 Honors Seminar in the Sciences

Experience 9. Independent Study:

HON 4913 Honors Independent Study

3 credit hours of Honors Independent Study or equivalent in any discipline

Experience 10. Elective:

Students must complete any 3-credit-hour Honors College course or honors section that does not count towards fulfilling the requirements in the Honors Required Coursework or toward fulfilling the requirements for Experiences 1-9.

Experience 11: Tutorial III

HON 4984 Honors Tutorial III
or

HON 4980 Honors Tutorial III (non-credit)

Experience 12. Double Major/Honors Program; students may complete the following:

Option 1: Complete the requirements for at least two majors at UTSA.

Option 2: Enter UTSA as a graduate of a two-year college honors program.

NOTE

Students pursuing both graduation from the Honors College and an honors program from another UTSA college may count up to 3 experiences earned through their honors program coursework as Honors Experiences.

Total Credit Hours 26-27

Honors College Graduation with Distinction

A student may graduate from the Honors College “With Distinction” by meeting the following conditions:

1. Complete required coursework: 26-27

Complete all above-mentioned curricular and noncurricular requirements for graduating from the Honors College

2. Complete one of the following conditions: 0-7

HON 4984 and an additional Experience

Complete another UTSA college’s honors program

Complete The Archer Program

Total Credit Hours 26-34

Honors College Member Graduates

Students who do not complete the requirements for graduation from the Honors College may graduate as “Members of the Honors College” by having an institutional grade point average of 3.3 upon graduation and being in good standing in the semester of graduation. Students who are Honors College Members in good standing in special programs but not pursuing the Honors College curriculum will also graduate as Honors College Members.

Honors College Programs Open to Non-Honors College Students and Jointly Sponsored Programs

The UTSA Honors College partners with several honors programs on our campus. Those programs are also open to non-Honors College students.

The Archer Program

The Bill Archer Fellowship Program was established by The University of Texas System in conjunction with Former U.S. Representative Bill Archer as a way to bring highly motivated and accomplished students from Texas to Washington, D.C. to participate in varied internships and take part in classes focusing on policy, history, and advocacy. Our students work with organizations such as the United Nations Information Centre, the US Department of State, many offices within the White House and

on the Hill, with federal agencies, and with non-profit organizations. Our selection process is rigorous, and to bring only the best representatives from throughout Texas. Information and application forms can be found on the Bill Archer Fellowship UTSA website (<https://honors.utsa.edu/students/programs/>).

The Legislative Program

Created in September 2004, the UTSA Legislative Scholars Program is a collaborative initiative started between Texas State Representative Ruth Jones McClendon and The University of Texas at San Antonio. Coordinated by the UTSA Honors College, the program provides undergraduate and graduate students with the opportunity to serve as interns in the Texas House of Representatives during regular legislative sessions. Students with an interest in public policy and a commitment to public service, as exemplified by Representative McClendon, are encouraged to apply. Information and application can be found at the UTSA Legislative Scholars website (<http://honors.utsa.edu/students/programs/>).

Developing UTSA Colleges Honors Programs

Several UTSA colleges are developing college honors programs, including the College of Engineering and the College of Sciences. When implemented, they will be available to Honors College students who meet criteria for admission. Students pursuing both graduation from the Honors College and an honors program from another UTSA college may count up to three experiences earned through their honors program coursework as Honors College Experiences. See your Honors Academic Counselor for details when a new college honors program begins that could apply to your plans.

UTSA College of Business Honors Program

Business Honors is available only to students admitted to the Business Honors Program (BHP). Students pursuing B.B.A. majors in the College of Business are eligible to apply and participate. The Business Honors Program provides outstanding students with opportunities to benefit from an enriched first-class education. Business Honors students will take smaller classes taught by some of the best faculty in the College. Additionally, the program is designed to give our students a competitive edge in the job market. Students are required to complete a total of 18 credit hours of business honors coursework as well as experiential learning activities during their undergraduate education.

Information about application forms and deadlines is available on the College of Business website (<https://business.utsa.edu/undergraduate-studies/business-honors-program/>). College of Business students admitted to the Honors College Program have direct admission to the Business Honors Program.

UTSA Citymester

UTSA Citymester is a semester-long academic immersion experience in the San Antonio community. Students will complete a major internship, significant service learning, and engage the issues and life of the nation’s fastest growing city and seventh largest city.

Required coursework:

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| HON 3103 | Honors Service | 3 |
| HON 4403 | Citymester: City Sites | 3 |
| HON 4933 | Honors Internship (Summer) | 3 |

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| HON 4936 | Honors Internship (Spring) | 6 |
| <hr/> | | |
| Total Credit Hours | | 12-15 |

14. ADDITIONAL COURSE FEES

In addition to tuition, additional fees and charges may be assessed for the incidental cost of services of the major pursued or the courses selected by a student. Course descriptions in this catalog will list any Additional Course Fee(s) to be charged for the course. Students should be aware of additional fees and charges incurred by their major or course selection that will be added to the total cost of tuition.

Additional Course Fees are subject to change by the Texas Legislature or The University of Texas System Board of Regents and become effective on the date enacted. The Texas Legislature does not set the specific amount for any particular student fee. The student fees described in this catalog are authorized by state statute; however, the specific fee amounts and the determination to increase fees are made by The University of Texas at San Antonio and The University of Texas System Board of Regents.

Differential Tuition is assessed all students taking upper-division Undergraduate College of Engineering and College of Business courses. For more information on differential tuition, please refer to Tuition (<http://catalog.utsa.edu/policies/tuitionfees/tuition/>) in *UTSA Student Policies*.

| Charge/Fee Name | Code | Amount | Charged Per | Charge/Fee Description |
|----------------------------------------------------------------------|------|--------|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Certification Charge (COEHD) - College of Liberal & Fine Arts Majors | SELS | \$20 | Semester | This charge is assessed all undergraduate College of Liberal and Fine Arts and College of Sciences majors seeking teacher certification to defray costs associated with group advising, individual advising, processing applications for admission to the Program, processing applications for certification to the State Board, outreach via classroom visits and mobile advising at student events. |
| Certification Charge (COEHD) - Graduate Students | SEGR | \$20 | Semester | This charge is assessed graduate students seeking various professional certifications. Services for graduate students are provided only during their final semester. The fee will be attached to EDL 6941-3 for Educational Leadership students and may be assessed for other professional certification courses for principals, school counselors and Master Reading teachers. |
| Certification Charge (COEHD) - Post-Baccalaureate Students | SECC | \$105 | Semester | This charge is assessed all post-baccalaureate students seeking initial teacher certification to defray costs of providing transcript evaluation, group and individual advising, and processing of certification applications to the State Board. |
| College of Architecture, Construction and Planning Programs Fee | SAP1 | \$25 | Course | This fee is assessed students enrolled in courses in the architecture curriculum who use any of the studios under the direction of the College of Architecture, Construction and Planning. This fee is to defray costs of supplies, materials, equipment, and services for students enrolled in Architecture, Interior Design, and Construction Science and Management curriculum. |
| Counseling Support Fee | COUN | \$35 | Course | All students registered in certain counseling department courses are charged this fee to defray costs of services and training designed to prepare counselors. |
| Cyber Security Program Charge | CYBB | \$450 | Credit Hour | This fee is assessed all students enrolled in the fully online B.B.A. in Cyber Security. |
| Dietetics and Nutrition Program Service Charge | DNPS | \$75 | Semester | This charge is assessed all undergraduate and graduate students enrolled in the Coordinated Program in Dietetics (CDP) to defray costs associated with annual student orientation, training for students and off-site preceptors, administrative services to support student internship placement, tracking of practicum/internship hours, and other reports and systems required for ACEND accreditation. |
| Dietetics Teaching Kitchen Fee | DNMF | \$225 | Credit Hour | This fee is assessed all students enrolled in certain Dietetics and Nutrition Program courses to defray costs associated with the purchase of foods, consumable supplies and materials to be used in a kitchen laboratory. |

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| Dietetics and Nutrition Practicum Fee | DNPF | \$20 | Credit Hour | This fee is assessed all students enrolled in certain Dietetics and Nutrition Program courses to defray costs associated with supervision of students at affiliation sites at various locations; including student liability coverage costs associated with the practicum courses, related faculty travel, recruitment and meetings with preceptors, field trips, instructional support materials, recognition events and training for the preceptors. |
| Dietetics and Nutrition Testing Fee | DNTM | \$112 | Credit Hour | This fee is assessed all students enrolled in certain Dietetics and Nutrition Program capstone courses to defray costs associated with the purchase of educational materials for assessing student learning using computer-based testing in preparation for the national credentialing exam and including, but not limited to, the purchase of revised materials and annual subscriptions to online manuals. |
| Digital Learning Fee | DL01 | \$25 | Credit Hour | This fee is assessed each student enrolled in certain hybrid or online courses with a maximum charge of \$150 per semester to defray costs associated with managing, maintaining, upgrading and general operations of the University's Learning Management System (LMS) and online course development activities. |
| Education Assessment Course Fee (COEHD) | LEA1/ LEA2 | \$15/ \$25 | Course | A fee of \$15 per undergraduate course and \$25 per graduate course will be assessed all students registered in certain College of Education and Human Development courses to defray costs of development and maintenance of a collection of professional assessment materials. |
| Education TExES Charge | CETC | \$65 | Semester | This charge is assessed all students pursuing teaching or professional certification through the College of Education and Human Development to defray costs associated with providing materials and services mandated by the Texas Education Agency, to support student success on the Texas Examinations of Educator Standards (TExES). Services offered include individual and group tutorials, workshops and large review sessions, implementation of Practice TExES exams, instructional materials, supplies, and salaries. |
| Educational Field Clinical Instruction Fee - College of Education and Human Development | STF1 | \$75 | Course | This fee will be assessed all students during their semester of student teaching and students in special education practicum settings, counseling practica, and student internships to defray costs associated with providing materials and services associated with field-based courses and practica, to include supervision of student teachers, interns, and students in field placement at both the graduate and undergraduate levels, appreciation items for student teaching supervisors, mileage costs and salaries, training in the use of educational technology, and travel to mandatory state-wide Texas Education Agency training. |
| Educational Field Instruction Fee - KIN | STFK | \$57 | Semester | This fee will be assessed all students during their semester of student teaching and students in special education practicum settings, counseling practica, and student internships to defray costs associated with providing materials and services associated with field-based courses and practica, to include supervision of student teachers, interns, and students in field placement at both the graduate and undergraduate levels, appreciation items for student teaching supervisors, mileage costs and salaries, training in the use of educational technology, and travel to mandatory state-wide Texas Education Agency training. |

14. Additional Course Fees

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| Equipment and Materials Fee - Department of Physics and Astronomy | MEPA | \$18 | Course | This fee is assessed all students registered for certain courses in the Department of Physics and Astronomy to defray costs associated with purchase and maintenance of demonstration equipment, printing supplies, and acquisition of WEBASSIGN to enhance learning and wages. |
| Equipment and Materials Fee - Political Science and Geography, Media Equipment and Materials | MST1 | \$30/ \$35 | Course | A fee of \$30 per undergraduate student and \$35 per graduate student is assessed all students registered for certain courses in the Department of Political Science and Geography to defray costs of the media studio and salaries for tutorial instruction. |
| Equipment and Materials Fee - Political Science and Geography, Geographic Information Systems Materials | GIS1 | \$32/ \$40 | Course | A fee of \$32 per undergraduate student and \$40 per graduate student is assessed all students registered for certain courses in the Department of Political Science and Geography to defray costs of printing equipment and supplies and salaries for tutorial instruction. |
| Facilities Management Program | OFMG | \$550 | Credit Hour | This fee is assessed all students enrolled in the fully online Facilities Management Graduate certificate program. |
| Field Trip Fee - Biology | STFB | \$40 | Course | A supplementary fee is assessed students in certain Biology and Environmental Science and Ecology courses to pay for the expenses of field trips. |
| Field Trip Fee - Environmental Science and Ecology | STFE | \$40 | Course | A supplementary fee is assessed students in certain Biology and Environmental Science and Ecology courses to pay for the expenses of field trips. |
| Foreign Language Multimedia Learning Center Fee | MM01 | \$7 | Course | This fee is assessed each student who registers at UTSA in a foreign language course to defray costs of supplies, printing, equipment and part-time lab helpers in the Multimedia Learning Center. |
| Global Business Skills Charge - College of Business International Programs | BISP | \$10 | Course | This fee will be assessed all students enrolled in certain lower-division undergraduate College of Business classes to defray costs of programs that develop students' global business skills including: programs that give participating students on-campus or U.S.-based access to study, research, or practicums related to global business; programs that immerse participating students in global business environments for study, research or practicums in U.S. or international locations; and, costs to administer programs related to developing global business skills. |
| Graduate Services Charge - College of Architecture, Construction and Planning | GA01 | \$50 | Semester | This charge is assessed all students enrolled in graduate courses of the College of Architecture, Construction and Planning to defray costs associated with recruitment, advising, orientation, assistantships, internships, placement and administrative services. |
| Graduate Services Charge - College of Education and Human Development | GH01 | \$30 | Credit Hour | This charge is assessed all students enrolled in graduate or doctoral courses in the College of Education and Human Development to defray costs associated with advising, orientation, certification, placement, research support, recruitment, professional education, meetings, and other administrative and support services. |
| Graduate Services Charge - College of Engineering | CEGS | \$60/ \$30 | Semester | A charge of \$60 per semester (\$30 per summer session) is assessed all students enrolled in graduate courses of the College of Engineering curriculum to provide additional advising, orientation, and administrative services. |
| Graduate Services Charge – College for Health, Community and Policy | GHC1 | \$25 | Credit Hour | This charge is assessed all students enrolled in graduate courses in the College for Health, Community and Policy (HCAP) to defray cost of hiring graduate assistants; support graduate student travel to present their research at national conferences; orientation, recruiting and reception for new graduate students; support for hiring teaching assistants for grad student summer teaching; and staff support. |

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| Graduate Services Charge - College of Liberal and Fine Arts | GL01 | \$30 | Credit Hour | This charge is assessed all students enrolled in graduate courses of the College of Liberal and Fine Arts to defray costs associated with services to master's and doctoral students including advising, orientation, graduation, certification, placement, research support, professional education meetings, seminars, administrative services, graduate student travel, assistantships, and other support services. |
| Graduate Services Charge - College of Sciences | GS01 | \$30 | Credit Hour | This charge is assessed all students enrolled in graduate or doctoral courses of the College of Sciences curriculum to provide advising, research support, recruitment, professional meetings, assistantships, administrative services, and seminars. |
| Honors Experiential Enrichment Fee | EEHC | \$240 | Fall/Spring Semester | A fee of \$240 per Fall and Spring semester is assessed all students enrolled in the Honors College to defray costs associated with specialized counseling within Honors, specialized advising within student majors, design of new opportunities for study-abroad, purchase of consumables for undergraduate research, faculty training and access to experiential tutorial sequences to improve readiness for graduate school and professional/board exams. |
| Individual Instruction Fee – Music | M001 | \$150 | Credit Hour | This fee is assessed all students in certain Music courses to defray the costs associated with instrument purchases, sponsoring artist teachers, master class and workshops for music majors, better tutoring opportunities for performing ensembles and to establish an opera budget. |
| Installment Tuition Charges | IPP3 | \$16 | Semester | This charge is assessed when a student elects to pay tuition, fees, and charges under the installment payment plan. This charge is normally included in the first installment payment. A \$10 charge is assessed for each delinquent installment payment. |
| Instrument Users Fee (COS) - Department of Environmental Science and Ecology | IUS1 | \$15 | Course | This fee is assessed all students registered in certain Environmental Science and Ecology courses to defray costs of repairing and replacing teaching equipment. |
| Instrument Users Fee (COS) - Department of Biology | IUB1 | \$10 | Course | This fee assessed all students registered in certain Biology courses to defray costs of repairing and replacing teaching equipment. |
| Instrument Users Fee (COS) - Department of Chemistry | IUC1 | \$15 | Course | This fee is assessed all students registered in certain Department of Chemistry courses to defray costs of repairing and replacing teaching equipment and salaries for technicians. |
| Instrument Users Fee (COS) Department of Computer Science | IUCS | \$15 | Credit Hour | This fee is assessed all students registered in certain Department of Computer Science courses to defray costs of hardware and software instruments, peripheral devices, software licenses and maintenance of the computer science lab equipment, and administrative support. |
| Instrument Users Fee (COS) - Department of Geological Sciences | IUE1 | \$15 | Course | This fee is assessed all students registered in certain Department of Geological Sciences courses to defray costs of repairing and replacing teaching equipment. |
| Instrument Users Fee (COS) - Department of Physics and Astronomy | IUP1 | \$20 | Course | This fee is assessed all students registered in certain Physics and Astronomy courses to defray costs of purchase, repair and maintenance of teaching equipment and salaries for technicians. |
| Instrument Users Fee (COLFA) - Department of Music | IUM1 | \$30 | Credit Hour | This fee is assessed all students registered in certain Music courses to defray costs of musical instrument technical training and the replacement and maintenance of musical instruments. |

14. Additional Course Fees

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| International Student Insurance Fee | HIF1/ HIF2/ HIF3 | | | All international students are required to purchase the UT System Student Health Insurance Plan, which covers basic medical expenses for injury and sickness. The plan is in compliance with the United States Information Agency's regulations. The fee is assessed as part of the regular tuition and fee charges. A waiver of this fee is available, provided 1) the student presents proof of coverage by a comparable U.S. health plan, and 2) UTSA approves the comparable health coverage. |
| International Student Program Charge | OIP1 | \$125 | Semester | This charge is assessed all international students to defray costs of programs and services for international students in the Office of International Programs. |
| Internship Fee - College of Education and Human Development | INT1 | \$50 | Credit Hour | This fee is assessed each student enrolled in designated internship courses in the departments of BBL, ILT, ELPS, EDP, COU, KHN, and REGSS. To defray costs associated with the creation, development, coordination, placement, and supervision of students engaged in these internship courses and support administrative cost for an internship coordinator. |
| Internship Fee - Department of Criminal Justice | CJIF | \$65 | Semester | This fee is assessed each student enrolled in Department of Criminal Justice courses to defray costs associated with creating, developing, and implementing internships including salaries and material costs. |
| ISCU Education Abroad Course Fee | ISCU | \$40 | Credit Hour | This fee is assessed all students attending Study-Abroad courses in Urbino, Italy, to defray cost associated with the oversight, administration, program accounting, creation/ adjustment, and on-site management of courses taught in Urbino. |
| Laboratory Fee | L001 | \$2 - \$30 | Course | In certain courses, a laboratory fee, not to exceed the actual cost of materials and supplies and no less than \$2 nor more than \$30, may be charged. When a laboratory fee is charged, the online schedule of classes indicates the associated fee. |
| Learning Resource Fee - Core Curriculum | LRC1 | \$4 | Credit Hour | A fee is assessed each student enrolled in Core Curriculum courses to provide materials, services and administrative support to enhance student success and to defray costs for funding Graduate Assistants, Teaching Assistants and materials to upgrade the student's classroom experience. |
| Learning Resource Fee - Writing Program | LRF1 | \$4 | Credit Hour | A fee is assessed each student enrolled in Writing Program courses to provide materials, services and administrative support to enhance student success and to defray costs for funding Graduate Assistants, Teaching Assistants and materials to upgrade the student's classroom experience. |
| Learning Resource Fee - College of Business | LRB1 | \$15 | Course | A fee is assessed each student enrolled in College of Business undergraduate courses to provide materials, services and administrative support to enhance student success and to defray costs for funding Graduate Assistants, Teaching Assistants and materials to upgrade the student's classroom experience. |
| Learning Resource Fee - College of Education and Human Development | LRH1 | \$20 | Course | A fee is assessed each student enrolled in College of Education and Human Development undergraduate and graduate courses to provide materials, services and administrative support to enhance student success and to defray costs for funding Graduate Assistants, Teaching Assistants and materials to upgrade the student's classroom experience. |
| Learning Resource Fee - College of Engineering | LRE1 | \$20 | Course | A fee is assessed each student enrolled in College of Engineering courses to provide materials, services and administrative support to enhance student success and to defray costs for funding Graduate Assistants, Teaching Assistants and materials to upgrade the student's classroom experience. |

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| Learning Resources Fee - College for Health, Community and Policy | LRHC | \$10 | Course | This fee is assessed all students registered in certain Departments of Kinesiology, Health & Nutrition, Sociology, & Psychology in the College for Health, Community and Policy (HCAP) to defray costs to provide materials & course supplies, individual and/or group advising, hiring supplemental instruction reader/graders, coaching, tutorials, discussions and study skills sessions, reviews and instructional support lab materials. |
| Learning Resource Fee - College of Liberal and Fine Arts | LRLF | \$10 | Course | A fee is assessed each student enrolled in College of Liberal and Fine Arts courses to provide materials, services and administrative support to enhance student success and to defray costs for funding Graduate Assistants, Teaching Assistants and materials to upgrade the student's classroom experience. |
| Learning Resource Fee - College of Sciences | LRS1 | \$15 | Credit Hour | A fee is assessed each student enrolled in College of Sciences courses to provide materials, services and administrative support to enhance student success and to defray costs for funding Graduate Assistants, Teaching Assistants and materials to upgrade the student's classroom experience. |
| Learning Resource Fee - Academic Inquiry (AIS) | LRU1 | \$12 | Credit Hour | A fee is assessed each student enrolled in certain University College courses to provide materials, services and administrative support to enhance student success and to defray costs for funding Graduate Assistants, Teaching Assistants and materials to upgrade the student's classroom experience. |
| Manipulatives Fee - Department of Mathematics | MFSM | \$30/ \$35 | Course | A fee of \$30 per undergraduate course and \$35 per graduate course is assessed all students in certain mathematics courses to defray costs of manipulatives used in courses for pre-service and in-service mathematics teachers and payment of salaries for assistance with manipulatives. |
| Music Course Fee | MC01 | \$25 | Credit Hour | This fee is assessed Music majors and non-Music majors that perform in and/or attend university ensemble concerts, dance minors, and students registered in music courses that are in the core curriculum and thus required to attend university performances. To defray costs of concert quality instruments, custom music chairs, music stands, sheet music, lighting, sound, and storage equipment, residency activities and guest artists/performers. |
| National Student Exchange Program Application Fee | NSEC | \$95 | App. | This fee is assessed students participating in the National Student Exchange program to defray costs associated with the application fee charged by NSE for student participation. |
| Online Multidisciplinary Program Charge | CYMS | \$450 | Credit Hour | This fee is assessed all students enrolled in the fully online Multidisciplinary Studies Program |
| Physical Education - Golf Activity Fee | PAH1 | \$80 | Semester | A fee of \$80 for a semester or summer term is required for physical education golf activity courses to defray costs of equipment for use of driving range. |
| Physical Education - Kinesiology Activity Fee | PAG1 | \$20 | Course | This fee is assessed students in certain Kinesiology courses to defray costs associated with equipment used in the instruction of kinesiology activity classes including golf, tennis, soccer, football, basketball, badminton, volleyball, resistance training and elementary PE activities. Additional expenses include the rental of exercise and sport facilities for course instruction. |
| Physical Education - Kinesiology Supply and Maintenance Fee | KSM1 | \$10 | Course | This fee is assessed all students registered in certain Kinesiology courses to defray costs associated with purchase of disposable or consumable materials and maintenance of equipment in instructional classes. |
| Physical Education - Outdoor Activity Fee | PARC | \$40 | Semester | This fee is assessed all students enrolled in certain Kinesiology courses to defray costs associated with repair and purchase of equipment and transportation. |

14. Additional Course Fees

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| PreClinical & Outbound Clinical Fee | OCTF | \$500 | Semester | This fee is assessed certain COEHD teacher candidates during their clinical teaching semester to defray costs associated with hiring a clinical faculty member to supervise the students and to pay for faculty travel to school sites outside of Bexar county. |
| Professional Affiliation, Accreditation, and Development Fee – College of Education and Human Development | EHPA | \$20 | Semester | To defray costs associated with maintaining affiliations and accreditations with national professional organizations, administrative staff support, professional development of faculty, staff and students associated with various organizations. |
| Professional Affiliation and Development Fee - Department of Social Work | SWPA | \$25 | Semester | This fee is assessed each student enrolled in certain social work courses to defray costs associated with affiliation expenses for professional organizations (accreditation fees, membership, travel, etc.) and professional development for social work graduate students (registration, travel, honorarium, etc.). |
| Professional Development and Enrichment Fee - College of Liberal and Fine Arts | LFPE | \$60 | Semester | This fee is assessed to College of Liberal and Fine Arts students each semester to defray the costs associated with providing student enrichment experiences including experiential learning, immersion/alternative break experiences, and programming to develop marketable skills, professional development & growth, internship & externship support services, and associated personnel & operational costs. |
| Professional Development Charge - College of Business - Undergraduate | BPD1 | \$60 | Semester | This fee is assessed all Sophomore, Junior and Senior College of Business students each semester to defray costs associated with providing personnel, training, and other support for professional development programs, placement, and internship support services. |
| Professional Development Charge - College of Business - Graduate | BPD2 | \$150 | Semester | This fee is assessed all Graduate College of Business Students each semester to defray costs associated with providing personnel, training and other support for professional development programs, placement, and internship support services. |
| Program Charge - Education Abroad Application Fee | SAAF | \$75 | Semester | This fee is assessed all students applying to participate in study abroad and exchange programs. |
| Program Charge - Education Abroad Program Fee | SARF | \$150/ \$75 | Semester | A charge of \$150 per semester is assessed all students registered in for-credit study abroad and exchange programs, and \$75 per semester for research and non-credit programs. |
| Program Charge - Education Abroad Services Health Insurance Fee | SAHF | \$20 | Week | This fee is assessed all students each week they are abroad, while enrolled in a study-abroad program, to defray the costs of insurance, International SOS, and administrative expenses. |
| Program Charge - Honors College | PCHC | \$100 | Fall/Spring Semester | A charge of \$100 per Fall and Spring semester is assessed all students enrolled in the Honors College to defray costs associated with providing services for initiatives of the honors student leadership team, such as enhanced community building opportunities and attendance of conferences and programs to provide extensive experiential learning opportunities for both curricular and non-curricular initiatives. |
| Program Charge - Roadrunner Camp Charge | CAMP | \$125 | Student | This fee is assessed each student attending Roadrunner Camp. |
| School Psychology Support Fee | SPS1 | \$14 | Credit Hour | This fee is assessed all students enrolled in the School Psychology Master's Program to defray costs associated with services and training necessary to prepare School Psychologists for practicum, school-based internships, job placement, and for clinic operations and support. |

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| Studio Art Fee | SAF1 | \$45 | Course | This fee is assessed students enrolled in art (ART) courses in the visual arts curriculum that will use any of the studios under the direction of the Department of Art and Art History to defray costs associated with set up and maintenance of the art studios, instructional exhibitions, wages for graduate assistants and costs of supplies and materials. |
| Supplementary and Special Fees | | Varies | Course | Some art, music, and other courses may require supplementary or special fees. When such fees are assessed, the online schedule of classes indicates the associated fee. |
| Technology Services and Instructional Support Charge - College of Architecture, Construction and Planning | STSA | \$5 | Credit Hour | This fee is assessed all students enrolled in any undergraduate or graduate College of Architecture, Construction and Planning classes to defray costs associated with providing personnel and equipment support for instruction, including both direct and indirect costs. |
| Technology Services and Instructional Support Charge - College of Business | BTSI | \$15 | Course | This fee is assessed all students registered in certain lower division undergraduate College of Business courses to defray costs associated with personnel and equipment support for instruction. |
| Technology Services and Instructional Support Charge - College of Education and Human Development | STSH | \$10 | Credit Hour | This fee is assessed all students registered in College of Education and Human Development courses to defray costs associated with providing personnel and technology support for Web design, procurement, maintenance and support, computer hardware and software, and other support necessary to maintain laboratory operations as well as technology for student needs and distance learning. Will improve services through the conversion of computer labs to Technology Teaching and Learning labs where students will receive integrated and graduated training, develop hands-on expertise in ISTE standards appropriate to their future roles as educators, school counselors, school psychologists and educational leaders. |
| Technology Services and Instructional Support Charge - College of Engineering | STSE | \$10 | Credit Hour | This fee is assessed all students enrolled in any lower-division undergraduate Engineering course to defray costs associated with providing additional personnel, calibration of equipment, computer software/hardware, service contracts, and other laboratory equipment maintenance. |
| Technology Services and Instructional Support Charge - College for Health, Community and Policy | STHC | \$6 | Credit Hour | This fee is assessed all students registered in the College for Health, Community and Policy courses to defray costs to upgrade technology in student labs, purchase software and technology agreements, and to provide new learning resources for distance and collaborative learning. The funds will also support A/V tech fees for student academic programs, meetings and events. |
| Technology Services and Instructional Support Fee - College of Liberal and Fine Arts | STLF | \$6 | Credit Hour | This fee is assessed all students registered in COLFA courses to defray costs associated with providing personnel and technology support for Web design, procurement, maintenance and support, computer hardware and software, personnel, and other support necessary to maintain laboratory/computer technology-based teaching, research, and learning operations. |
| Technology Services and Instructional Support Charge - College of Sciences | STSI | \$7 | Credit Hour | This fee is assessed all students registered in certain College of Sciences courses to defray costs associated with providing additional personnel and equipment support for instruction, technology support for Web design and maintenance, Web accessible course information, support for academic reporting and distance learning, service contracts, and other support necessary to maintain laboratory equipment. |

14. Additional Course Fees

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| Technology Services and Instructional Support Charge - Writing Program | STSF | \$2 | Credit Hour | This fee is assessed all students enrolled in certain Writing Program courses to defray costs associated with providing personnel and equipment support of instructional design incorporating new technologies. |
| Three-Attempt Enrollment Charge | TTEC | \$500.23 | Credit Hour | This charge is assessed all undergraduate students enrolled in the same course for the third and subsequent times to defray revenue lost as a result of nonfunding by the state. |
| Undergraduate Credit Limitation Charge - 45-Hour Limitation | CL45 | \$500.23 | Credit Hour | Resident undergraduate students who initially enrolled from the Fall 1999 Semester through the Summer 2006 Semester and who enroll in courses in excess of 45 semester credit hours above those required for completion of their degree program will be assessed an additional charge of \$500.23 per semester credit hour to defray UTSA's loss of formula funding revenue from the state. Students with questions or who wish to appeal this policy due to extenuating circumstances should contact their advising center. Please refer to "Undergraduate Credit Limitation" in General Academic Regulations. |
| Undergraduate Credit Limitation Charge - 30-Hour Limitation | CL30 | \$500.23 | Credit Hour | Effective Fall 2006, all new undergraduate resident students will be assessed the higher tuition rate of \$500.23 per semester credit hour for hours attempted in excess of 30 semester credit hours above those required for completion of a degree to defray UTSA's loss of formula funding revenue from the state. Students with questions or who wish to appeal this policy due to extenuating circumstances should contact their advising center. Please refer to "Undergraduate Credit Limitation" in General Academic Regulations. |
| Doctoral Credit Limitation Charges | CL99 | \$973.12 | Credit Hour | Doctoral students who enroll in courses in excess of 99 semester credit hours of doctoral work will be assessed an additional charge of \$973.12 per semester credit hour to defray UTSA's loss of formula funding revenue from the state |
| UTSA Card Replacement Charge | YIR1 | \$10 | | This charge is assessed for replacement of a lost and/or stolen student identification card. |
| Writing Materials Fee | LB01/ WRC1 | \$5 | Course | This fee is assessed for composition courses. |

15. COURSE DESCRIPTIONS

Course descriptions may indicate the usual semester(s) in which the course is offered: Fall, Spring, Summer. This is based on past offerings of the course and is not a guarantee the course will be offered during the semester(s) indicated in the description. Please check with the academic department to verify that the course will be offered in a specific semester.

Course descriptions may indicate additional course fees charged for the course. For a description of each fee code, refer to the course fees table (p. 310) in this catalog.

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B

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C

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Academic Inquiry and Scholarship (AIS)

Academic Inquiry and Scholarship (AIS) Courses

AIS 1203. Academic Inquiry and Scholarship. (3-0) 3 Credit Hours.

Academic Inquiry and Scholarship is designed to orient first-year college students to the fields of study within an academic pathway. This course develops critical thinking, communication, social responsibility, and leadership skills. This course also provides an opportunity for students to better understand the core values, cultures, and assumptions within fields of study through involvement in a signature experience within an academic pathway. This course may be applied toward the First Year Experience Core Curriculum requirement. (AIS 1203, AIS 1213, AIS 1223, AIS 1233, AIS 1243, AIS 1253, AIS 1263, and AIS 1273 are equivalent. Credit cannot be earned for more than one of these courses.) Generally offered: Fall. Course Fees: DL01 \$75; LRC1 \$12; LRU1 \$36.

AIS 1213. AIS: Architecture, Construction, and Planning. (3-0) 3 Credit Hours.

Academic Inquiry and Scholarship is designed to orient first-year college students to the fields of study related to architecture, construction, and interior design. This course develops critical thinking, communication, social responsibility, and leadership skills. This course also provides an opportunity for students to better understand the core values, cultures, and assumptions within fields of study through involvement in a signature experience. This course may be applied toward the First Year Experience Core Curriculum requirement. (AIS 1203, AIS 1213, AIS 1223, AIS 1233, AIS 1243, AIS 1253, AIS 1263, and AIS 1273 are equivalent. Credit cannot be earned for more than one of these courses.) Course Fees: LRC1 \$12; LRU1 \$36.

AIS 1223. AIS: Arts and Humanities. (3-0) 3 Credit Hours.

Academic Inquiry and Scholarship is designed to orient first-year college students to the fields of study related to arts and humanities. This course develops critical thinking, communication, social responsibility, and leadership skills. This course also provides an opportunity for students to better understand the core values, cultures, and assumptions within fields of study through involvement in a signature experience. This course may be applied toward the First Year Experience Core Curriculum requirement. (AIS 1203, AIS 1213, AIS 1223, AIS 1233, AIS 1243, AIS 1253, AIS 1263, and AIS 1273 are equivalent. Credit cannot be earned for more than one of these courses.) Course Fees: LRC1 \$12; LRU1 \$36.

AIS 1233. AIS: Business. (3-0) 3 Credit Hours.

Academic Inquiry and Scholarship is designed to orient first-year college students to the fields of study related to business. This course develops critical thinking, communication, social responsibility, and leadership skills. This course also provides an opportunity for students to better understand the core values, cultures, and assumptions within fields of study through involvement in a signature experience. This course may be applied toward the First Year Experience Core Curriculum requirement. (AIS 1203, AIS 1213, AIS 1223, AIS 1233, AIS 1243, AIS 1253, AIS 1263, and AIS 1273 are equivalent. Credit cannot be earned for more than one of these courses.) Course Fees: LRC1 \$12; LRU1 \$36.

AIS 1243. AIS: Engineering, Mathematics, and Sciences. (3-0) 3 Credit Hours.

Academic Inquiry and Scholarship is designed to orient first-year college students to the fields of study related to engineering, mathematics, and physical science. This course develops critical thinking, communication, social responsibility, and leadership skills. This course also provides an opportunity for students to better understand the core values, cultures, and assumptions within fields of study through involvement in a signature experience. This course may be applied toward the First Year Experience Core Curriculum requirement. (AIS 1203, AIS 1213, AIS 1223, AIS 1233, AIS 1243, AIS 1253, AIS 1263, and AIS 1273 are equivalent. Credit cannot be earned for more than one of these courses.) Course Fees: LRC1 \$12; LRU1 \$36.

AIS 1253. AIS: Interdisciplinary Education. (3-0) 3 Credit Hours.

Academic Inquiry and Scholarship is designed to orient first-year college students to the fields of study related to education. This course develops critical thinking, communication, social responsibility, and leadership skills. This course also provides an opportunity for students to better understand the core values, cultures, and assumptions within fields of study through involvement in a signature experience. This course may be applied toward the First Year Experience Core Curriculum requirement. (AIS 1203, AIS 1213, AIS 1223, AIS 1233, AIS 1243, AIS 1253, AIS 1263, and AIS 1273 are equivalent. Credit cannot be earned for more than one of these courses.) Course Fees: LRC1 \$12; LRU1 \$36.

AIS 1263. AIS: Life and Health Sciences. (3-0) 3 Credit Hours.

Academic Inquiry and Scholarship is designed to orient first-year college students to the fields of study related to life and health sciences. This course develops critical thinking, communication, social responsibility, and leadership skills. This course also provides an opportunity for students to better understand the core values, cultures, and assumptions within fields of study through involvement in a signature experience. This course may be applied toward the First Year Experience Core Curriculum requirement. (AIS 1203, AIS 1213, AIS 1223, AIS 1233, AIS 1243, AIS 1253, AIS 1263, and AIS 1273 are equivalent. Credit cannot be earned for more than one of these courses.) Course Fees: LRC1 \$12; LRU1 \$36.

AIS 1273. AIS: Social Sciences and Public Policy. (3-0) 3 Credit Hours.

Academic Inquiry and Scholarship is designed to orient first-year college students to the fields of study related to social science and public policy. This course develops critical thinking, communication, social responsibility, and leadership skills. This course also provides an opportunity for students to better understand the core values, cultures, and assumptions within fields of study through involvement in a signature experience. This course may be applied toward the First Year Experience Core Curriculum requirement. (AIS 1203, AIS 1213, AIS 1223, AIS 1233, AIS 1243, AIS 1253, AIS 1263, and AIS 1273 are equivalent. Credit cannot be earned for more than one of these courses.) Course Fees: LRC1 \$12; LRU1 \$36.

AIS 2913. Independent Study: Advanced Academic Inquiry. (0-0) 3 Credit Hours.

Prerequisite: AIS 1203. Independent reading, research, and writing under the direction of a faculty member. Intensive coverage of the fields of study within an academic pathway and fulfillment of signature experience. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree.

Accounting (ACC)

Accounting (ACC) Courses

ACC 2003. Foundations of Accounting. (3-0) 3 Credit Hours.

A study of accounting as the language of business. The focus is on the use of accounting information for decision making. This course is designed for nonbusiness majors and cannot be applied toward a degree in the College of Business. Generally offered: Fall, Spring. Course Fees: BISP \$10; BTSI \$15; DL01 \$75; LRB1 \$15.

ACC 2013. Principles of Accounting I. (3-0) 3 Credit Hours. (TCCN = ACCT 2301)

An introduction to business external financial reporting designed to create an awareness of the accounting concepts and principles used in preparing the three basic financial statements: the income statement, balance sheet, and statement of cash flow. The course is designed for all business students, whether future users or preparers of accounting information. Generally offered: Fall, Spring, Summer. Course Fees: BISP \$10; BTSI \$15; DL01 \$75; LRB1 \$15.

ACC 2033. Principles of Accounting II. (3-0) 3 Credit Hours. (TCCN = ACCT 2302)

Prerequisite: ACC 2013. An introduction to the determination, development, and uses of internal accounting information needed by business management to satisfy customers while controlling and containing costs. The course is designed for all business students, whether future users or preparers of accounting information. Generally offered: Fall, Spring, Summer. Course Fees: BISP \$10; BTSI \$15; DL01 \$75; LRB1 \$15.

ACC 3023. Intermediate Accounting I. (3-0) 3 Credit Hours.

Prerequisites: A grade of "C-" or better in both ACC 2013 and ACC 2033, successful completion of the Principles of Accounting Competency Exam (refer to Department of Accounting website), and declared major in the College of Business. An in-depth study of promulgated accounting theory and concepts with an emphasis on corporate financial accounting and reporting, with a focus on U.S. GAAP, and exposure to International Financial Reporting Standards (IFRS). Generally offered: Fall, Spring, Summer. Differential Tuition: \$126.

ACC 3033. Intermediate Accounting II. (3-0) 3 Credit Hours.

Prerequisites: A grade of "C-" or better in ACC 3023 and declared accounting major. A continuation of the in-depth study of promulgated accounting theory and concepts with an emphasis on corporate financial accounting and reporting, with a focus on U.S. GAAP, and exposure to International Financial Reporting Standards (IFRS). Generally offered: Fall, Spring, Summer. Differential Tuition: \$126.

ACC 3043. Federal Income Taxation. (3-0) 3 Credit Hours.

Prerequisites: A grade of "C-" or better in ACC 3023 and declared accounting major. A conceptual introduction to the U.S. federal income tax system. Concepts include gross income, statutory deductions, property transactions, and computation of tax liabilities. Generally offered: Fall, Spring, Summer. Differential Tuition: \$126.

ACC 3053. Intermediate Accounting for Finance Majors. (3-0) 3 Credit Hours.

Prerequisites: A grade of "C-" or better in ACC 2013 and ACC 2033. An intermediate accounting course with emphasis on interpretation of general-purpose financial statements and the related disclosure notes as they apply to credit analysis and other aspects of corporate finance. Common and significant accounts/transactions will be analyzed, especially those relating to the financing and equity sections of the financial statements. This course cannot be applied toward an accounting major. This course does not satisfy any of the educational requirements of the Texas State Board of Public Accountancy for qualification to sit for the Uniform Certified Public Accounting Examination. Differential Tuition: \$126.

ACC 3113. Accounting Information Systems. (3-0) 3 Credit Hours.

Prerequisites: ACC 2033 with a grade of "C-" or better, IS 3003, IS 1413 or Microsoft Office Specialist Certification in Excel, and declared accounting major. A study of database management systems as they relate to the accounting function. Topics include database design and applications that focus on accounting, including the entity-relationship model, data modeling, object-oriented design, and database management. Generally offered: Fall, Spring, Summer. Differential Tuition: \$126.

ACC 3123. Cost Analysis. (3-0) 3 Credit Hours.

Prerequisites: A grade of "C-" or better in ACC 2033 and declared accounting major. A study of internal accounting information generation with an emphasis on cost accounting tools to develop, implement, and evaluate strategy; cost accounting methods to determine product cost; and cost management concepts and procedures for making business decisions. Generally offered: Fall, Spring, Summer. Differential Tuition: \$126.

ACC 3163. Quantitative Analysis for Accountants. (3-0) 3 Credit Hours.

Prerequisites: ACC 3113 with a grade of "C-" or better and declared accounting major or approval of Department Chair and Dean of the College of Business. This course will provide a hands-on introduction to data analysis, summarizing and reporting tools, and data manipulation and search functions used by accountants. This is an application-oriented course that will provide students with a knowledge of the most commonly used techniques to successfully analyze, interpret, forecast and present accounting data for improved decision making. Big data analysis will also be covered. This course may not be repeated for credit. Generally offered: Fall, Spring, and Summer. Differential Tuition: \$126.

ACC 4013. Principles of Auditing. (3-0) 3 Credit Hours.

Prerequisites: A grade of "C-" or better in both ACC 3023 and ACC 3113, and declared accounting major. A study of the topic of auditing oriented toward primarily the financial auditing standpoint. The course focuses on the concepts and procedures of auditing applied to the audit of financial statements in accordance with the standards established by the Auditing Standards Board or the Public Company Accounting Oversight Board. Topics also covered include professional ethics, accounting and review services, and the public accounting profession. Generally offered: Fall, Spring, Summer. Differential Tuition: \$126.

ACC 4163. Contemporary Issues in Accounting Practice. (3-0) 3 Credit Hours.

Prerequisite: A grade of "C-" or better in all 3000-level accounting courses, and declared accounting major; must be taken during the final semester in the undergraduate program. A study of corporate valuation, financial statement analysis, and other advanced topics in accounting practice. Generally offered: Fall, Spring, Summer. Differential Tuition: \$126.

ACC 4911. Independent Study. (0-0) 1 Credit Hour.

Prerequisites: A 3.0 College of Business grade point average and permission in writing from the instructor, the Department Chair, and the Dean of the College of Business. See academic advisor for the required forms. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Differential Tuition: \$42.

ACC 4913. Independent Study. (0-0) 3 Credit Hours.

Prerequisites: A 3.0 College of Business grade point average, and permission in writing from the instructor, the Department Chair, and the Dean of the College of Business. See academic advisor for the required forms. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Differential Tuition: \$126.

ACC 4933. Internship in Accounting. (0-0) 3 Credit Hours.

Prerequisites: 12 semester credit hours of upper-division accounting courses including ACC 3033, a 3.0 UTSA grade point average, a 3.0 grade point average in upper-division accounting courses, and permission in writing from the instructor, the Department Chair, and the Dean of the College of Business. See academic advisor for required forms. Provides students with on-the-job training in public, industry, not-for-profit, or governmental accounting units. A written report is required. ACC 4933 may be completed only once for undergraduate degree credit. Credit cannot be earned for both ACC 4933 and ACC 4963. Generally offered: Fall, Spring. Differential Tuition: \$126.

ACC 4953. Special Studies in Accounting. (3-0) 3 Credit Hours.

Prerequisite: Consent of instructor. An organized course offering the opportunity for specialized study of accounting topics not normally or not often available as part of the regular course offerings. ACC 4953 may be completed only once for degree credit. Generally offered: Spring. Differential Tuition: \$126.

Aerospace Studies (ASC)

Aerospace Studies (ASC) Courses

ASC 1031. The Foundation of the United States Air Force I. (1-2) 1 Credit Hour.

A survey course designed to introduce students to the United States Air Force and Air Force Reserve Officer Training Corps. Focuses on mission and organization of the Air Force, officership and professionalism, military customs and courtesies, Air Force opportunities, and an introduction to communication skills. Leadership Laboratory is mandatory for AFROTC cadets and complements the course by providing cadets with followership experiences. Generally offered: Fall.

ASC 1041. The Foundation of the United States Air Force II. (1-1) 1 Credit Hour.

A continuation of ASC 1031, students progress in acquiring skills and demonstrating their proficiency. Leadership Laboratory is mandatory for AFROTC cadets and complements the course by providing cadets with followership experiences. Generally offered: Spring.

ASC 2031. The Evolution of United States Air Force Air and Space Power I. (1-1) 1 Credit Hour.

Examines general aspects of air and space power through a historical perspective. Covers a time period from the first balloons and dirigibles to the space-age systems of the Global War on Terror. Historical examples are provided to extrapolate development of AF distinctive capabilities and missions to demonstrate the evolution of today's USAF air and space power. Examines several fundamental truths associated with war in the third dimension. Reviews importance of AF core values with use of operational examples and historical AF leaders. Stresses development of communication skills. Leadership Laboratory is mandatory for AFROTC cadets and complements the course by providing cadets with followership experiences. Generally offered: Fall.

ASC 2041. The Evolution of United States Air Force Air and Space Power II. (1-1) 1 Credit Hour.

A continuation of ASC 2031, students progress in acquiring skills and demonstrating their proficiency. Leadership Laboratory is mandatory for AFROTC cadets and complements the course by providing cadets with followership experiences. Generally offered: Spring.

ASC 3013. Air Force Leadership Studies I. (3-2) 3 Credit Hours.

A study of leadership, management fundamentals, professional knowledge, Air Force personnel and evaluation systems, leadership ethics, and communication skills required of an Air Force junior officer. Case studies are used to examine Air Force leadership and management situations as a means of demonstrating and exercising practical application of the concepts being studied. Leadership Laboratory is mandatory for AFROTC cadets and complements the course by providing advanced leadership experiences in officer-type activities, giving students the opportunity to apply leadership and management principles. Generally offered: Fall.

ASC 3023. Air Force Leadership Studies II. (3-1) 3 Credit Hours.

A continuation of ASC 3013, students progress in acquiring skills and demonstrating their proficiency. Leadership Laboratory is mandatory for AFROTC cadets and complements the course by providing advanced leadership experiences in officer-type activities, giving students the opportunity to apply leadership and management principles. Generally offered: Spring.

ASC 4013. National Security Affairs/Preparation for Active Duty I. (3-1) 3 Credit Hours.

Examines the national security process, regional studies, advanced leadership ethics, and Air Force doctrine. Special topics of interest focus on the military as a profession, officership, military justice, civilian control of the military, preparation for active duty, and current issues affecting military professionalism. Within the structure, continued emphasis is given to refining communication skills. Leadership Laboratory is mandatory for AFROTC cadets and complements the course by providing advanced leadership experiences in officer-type activities, giving students the opportunity to apply leadership and management principles. Generally offered: Fall.

ASC 4023. National Security Affairs/Preparation for Active Duty II. (3-1) 3 Credit Hours.

Continuation of ASC 4013, students progress in acquiring skills and demonstrating their proficiency. Leadership Laboratory is mandatory for AFROTC cadets and complements the course by providing advanced leadership experiences in officer-type activities, giving students the opportunity to apply leadership and management principles. Generally offered: Spring.

African American Studies (AAS)

African American Studies (AAS) Courses

AAS 2013. Introduction to African American Studies. (3-0) 3 Credit Hours.

Offers an interdisciplinary introduction to major topics in African American Studies. Course materials will address basic contours of the black experience in the United States. Topics that may be investigated include historical, autobiographical, political, cultural, sociological, literary, and/or popular responses to and representation of African Americans in the United States. May be applied toward the Core Curriculum requirement in Language, Philosophy and Culture. Generally offered: Fall, Spring. Course Fees: DL01 \$75; LRC1 \$12; LRH1 \$20; STSH \$30.

AAS 2113. African American Culture, Leadership and Social Issues. (3-0) 3 Credit Hours.

This course examines topics related to twentieth-century African American culture, leadership, and social experiences. The focus of this course includes emphasis on civic engagement, leadership, and/or cultural expression (i.e., music, performance arts, film, visual arts) that informs collective identities, social movements, and/or relevant social issues. May be applied toward the Core Curriculum requirement in Language, Philosophy and Culture. Course Fees: LRC1 \$12; LRH1 \$20; STSH \$30.

AAS 3013. African American Cultural Experiences. (3-0) 3 Credit Hours.

This course examines cultural expressions (e.g., art, music, film, literature, cultural identity) in the African American experience. The substantive and disciplinary emphasis can vary from one semester to another. Course Fees: LRH1 \$20; STSH \$30.

AAS 3113. African American Studies Research Seminar. (3-0) 3 Credit Hours.

This course is designed to introduce students to basic research methods and methodological issues in African American Studies. The course covers methods of social science research, research conceptualization, and research design. Students will become familiar with various methods of data collection, data analysis, and theoretical concepts that pertain to developing critical thinking, analytical, and writing skills. Course Fees: LRH1 \$20; STSH \$30.

AAS 3123. Civil Rights Movement and African American Education. (3-0) 3 Credit Hours.

This course provides an introduction to the period of struggle in American history known as the Civil Rights Movement. The objective is to survey the major historical figures, organizations, locations, strategies and ideas that coalesce to make the history of the movement. The course will analyze the historical trajectory of educational policies with particular emphasis on the Brown v. Board of Education decision in 1954 and its implications over the following 20 years. Course Fees: DL01 \$75; LRH1 \$20; STSH \$30.

AAS 3133. African Americans in Higher Education. (3-0) 3 Credit Hours.

This course explores the history of African Americans in higher education. The course examines especially significant post-secondary issues and topics in the twentieth century, such as access, equity, diversity, student organizations, institutional leadership, and current events. Course Fees: LRH1 \$20; STSH \$30.

AAS 4013. Topics in African American Studies. (3-0) 3 Credit Hours.

This course analyzes historical and contemporary issues and phenomena associated with African Americans. It explores different methodological approaches by inquiring about these issues and phenomena, and presents varying arguments and ideological positions concerning these public-affairs matters. May be repeated for credit when topics vary. Two or more topics courses may be taken concurrently. Generally offered: Fall, Spring. Course Fees: DL01 \$75; LRH1 \$20; STSH \$30.

AAS 4911. Independent Study. (0-0) 1 Credit Hour.

Prerequisites: Permission in writing (form available) from the instructor, the student's advisor, the program director, and Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. A maximum of 3 semester credit hours may be applied to the minor. Course Fee: STSH \$10.

AAS 4912. Independent Study. (0-0) 2 Credit Hours.

Prerequisites: Permission in writing (form available) from the instructor, the student's advisor, the program director, and Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. A maximum of 3 semester credit hours may be applied to the minor. Course Fee: STSH \$20.

AAS 4913. Independent Study. (0-0) 3 Credit Hours.

Prerequisites: Permission in writing (form available) from the instructor, the student's advisor, the program director, and Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. A maximum of 3 semester credit hours may be applied to the minor. Course Fees: LRH1 \$20; STSH \$30.

AAS 4933. Internship in African American Studies. (0-0) 3 Credit Hours.

Prerequisite: Consent of internship coordinator. Supervised experience relevant to African American studies within selected community organizations. A maximum of 3 semester credit hours may be applied to the minor. Course Fees: LRH1 \$20; STSH \$30.

American Studies (AMS)

American Studies (AMS) Courses

AMS 2043. Approaches to American Culture. (3-0) 3 Credit Hours.

Introduces students to a variety of approaches to the study of American culture. Course materials will focus on key concepts such as race and ethnicity, transnationalism and border studies, and gender and sexuality. Students will be encouraged to integrate community-based resources such as local museums, archives, and research centers into course-required projects. May be applied toward the Core Curriculum requirement in Social and Behavioral Sciences. Generally offered: Fall, Spring. Course Fees: LRC1 \$12; LRLF \$10; STLF \$18.

AMS 3013. Early American Culture. (3-0) 3 Credit Hours.

Examines the influences that shaped American culture to the 20th century. Topics may include the impact of colonialism, the Enlightenment, the frontier, industrialism, ethnicity, race, religious reform, and other factors in the development of a distinctive society. Course Fees: LRLF \$10; STLF \$18.

AMS 3023. Modern American Culture. (3-0) 3 Credit Hours.

Examines major trends in American culture during and after the industrial revolution, with special attention to the consequences of urbanization, suburbanization, industrialization, race relations, popular culture, technology, and secularization. Generally offered: Spring. Course Fees: LRLF \$10; STLF \$18.

AMS 3123. Applications of American Studies. (3-0) 3 Credit Hours.

Applications of theories and methods of American Studies to particular areas of U.S. culture. Course addresses concepts of nationalism, citizenship, and nation building, inclusion and exclusion in American society, as well as how American cultural and group identities exist in relation to each other. Generally offered: Fall. Course Fees: LRLF \$10; STLF \$18.

AMS 3243. Studies in Transnationalism. (3-0) 3 Credit Hours.

Exploration of borders, boundaries, crossings, and exchange in American Studies, with special reference to questions of national identity, material culture, transnationalism, and the impacts of globalization. May be repeated for credit when topics vary. Generally offered: Fall. Course Fees: LRLF \$10; STLF \$18.

AMS 3343. Studies in Race and Ethnicity. (3-0) 3 Credit Hours.

The study of historical, social, cultural, and material influences on race and ethnicity. Course will use texts from literature, sociology, history, and other disciplines. May be repeated for credit when topics vary. Generally offered: Fall, Spring. Course Fees: DL01 \$75; LRLF \$10; STLF \$18.

AMS 3443. Studies in Gender and Sexuality. (3-0) 3 Credit Hours.

Examination of topics such as masculine, feminine, gay, lesbian, bisexual, and transgendered definitions of gender and sexuality. Course will use texts from literature, sociology, history, and other disciplines. May be repeated for credit when topics vary. Generally offered: Fall, Spring. Course Fees: DL01 \$75; LRLF \$10; STLF \$18.

AMS 4823. Topics in American Culture. (3-0) 3 Credit Hours.

An in-depth study of a selected issue or topic in American Studies. May be repeated for credit when topics vary. Generally offered: Fall, Spring. Course Fees: LRLF \$10; STLF \$18.

AMS 4913. Independent Study. (0-0) 3 Credit Hours.

Prerequisites: Permission in writing (form available) of the instructor, the student's AMS advisor, the Department Chair, and Dean of the College of Liberal and Fine Arts. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Course Fees: LRLF \$10; STLF \$18.

AMS 4933. Internship in American Studies. (0-0) 3 Credit Hours.

Prerequisite: Consent of AMS program coordinator. Supervised experience relevant to American Studies within selected community organizations. A maximum of 6 semester credit hours may be earned through Internship in American Studies. Must be taken on a credit/no-credit basis. Only 3 semester credit hours can be applied to the major in American Studies.

AMS 4973. Advanced Seminar in American Studies. (3-0) 3 Credit Hours.
Prerequisites: AMS 2043, AMS 3123, and one of the following: AMS 3243, AMS 3343, AMS 3443, or consent of instructor. An in-depth study of a central theme, problem, or topic in American Studies. Focuses on research methods and preparation of senior portfolio required for the major degree. Generally offered: Spring. Course Fees: DL01 \$75; LRLF \$10; STLF \$18.

AMS 4993. Honors Thesis. (0-0) 3 Credit Hours.
Prerequisites: Enrollment limited to candidates for Honors in American Studies during their last two semesters. Supervised research and preparation of an honors thesis. May be repeated once with advisor's approval. Course Fees: LRLF \$10; STLF \$18.

Anthropology (ANT)

Anthropology (ANT) Courses

ANT 1013. Introduction to Anthropology. (3-0) 3 Credit Hours. (TCCN = ANTH 2346)

Course content spans the study of human culture, past and present; its origins, development, and contemporary change; and the exploration of human physical and cultural differences using the paradigm of adaptation. This course fulfills all required learning objectives for the Social and Behavioral Sciences component of the core curriculum. Generally offered: Fall, Spring, Summer. Course Fees: DL01 \$75; LRC1 \$12; LRLF \$10; STLF \$18.

ANT 2033. Introduction to Biological Anthropology. (3-0) 3 Credit Hours. (TCCN = ANTH 2301)

A comprehensive evaluation of human biological diversity and its origins. Topics include anatomy, genetics, primate biology, and the human fossil record. Students will gain critical understanding of key theoretical and methodological issues in this anthropological sub-discipline. This course fulfills all required learning objectives for the Life and Physical Sciences component of the core curriculum. (Formerly titled "Introduction to Physical Anthropology.") Generally offered: Fall, Spring, Summer. Course Fees: DL01 \$75; LRC1 \$12; LRLF \$10; STLF \$18.

ANT 2043. Introduction to Archaeology. (3-0) 3 Credit Hours. (TCCN = ANTH 2302)

This course presents archaeological approaches to understanding human cultures of the past. Students receive instruction in general anthropological concepts and specific archaeological methods and theories. Particular case studies are presented to illustrate several aspects of archaeological practice, and to show how archaeologists develop their understandings of cultural variation and change. The course fulfills all required learning objectives for the Social and Behavioral Sciences component of the core curriculum. Generally offered: Fall, Spring. Course Fees: DL01 \$75; LRC1 \$12; LRLF \$10; STLF \$18.

ANT 2053. Introduction to Cultural Anthropology. (3-0) 3 Credit Hours. (TCCN = ANTH 2351)

This course offers students the opportunity to examine cross-cultural variation in contemporary societies around the world in an anthropological context. It emphasizes ethnographic descriptions to highlight cultural variability in economics, social structures, and ideologies. The course fulfills all required learning objectives for the Social and Behavioral Sciences component of the core curriculum. Generally offered: Fall, Spring. Course Fees: DL01 \$75; LRC1 \$12; LRLF \$10; STLF \$18.

ANT 2063. Language, Thought, and Culture. (3-0) 3 Credit Hours.

This course surveys anthropological approaches to the cross-cultural study of language, emphasizing linkages among language, expressive culture, systems of belief and value, and the production of cultural meaning. The effects of social context upon speech are examined as are relations of inequality and power that shape linguistic interaction. Instruction is also given in the fundamentals of descriptive linguistics. The course fulfills all required learning objectives for the Language, Philosophy, and Culture component of the core curriculum. Generally offered: Fall, Spring. Course Fees: LRC1 \$12; LRLF \$10; STLF \$18.

ANT 3023. Great Discoveries in Archaeology. (3-0) 3 Credit Hours.

This course surveys some of the greatest discoveries made by archaeologists in the last 300 years. Specific archaeological sites and finds illustrate the process of archaeological interpretation, provide insight into past cultures, and help to show how the past influences the present. (Formerly ANT 1103. Credit cannot be earned for both ANT 3023 and ANT 1103.) Course Fees: LRLF \$10; STLF \$18.

ANT 3133. Ritual and Symbol. (3-0) 3 Credit Hours.

Prerequisite: ANT 1013 or ANT 2053 recommended. An examination of rituals—highly stereotyped, stylized, and repetitive acts usually taking place in carefully selected locations and marked by use of material items. Students will be offered a cross-cultural examination of ritual activity from various cultural regions. Attention is also given to the theoretical frames that contribute to a holistic understanding of ritual practice. Course Fees: LRLF \$10; STLF \$18.

ANT 3153. Indians of the Great Plains. (3-0) 3 Credit Hours.

Prerequisite: ANT 1013 or ANT 2053 recommended. An examination of the fundamental cultural transformation and flourishing of Native American societies of the Great Plains following the introduction of the horse. Attention is also given to the subsequent retrenchment under the imposition of Anglo-American dominance, and the recent emergence of new forms of cultural expression within tribal and urban areas. Course Fees: LRLF \$10; STLF \$18.

ANT 3203. Native North Americans. (3-0) 3 Credit Hours.

Prerequisite: ANT 1013 or ANT 2053 recommended. Survey of Native North American cultures from ancient times to the present. Emphasis will be placed on cultural responses to colonialism and European/American intrusion as well as contemporary issues confronting native North Americans in the present day. Course Fees: LRLF \$10; STLF \$18.

ANT 3223. Anthropology and the Environment. (3-0) 3 Credit Hours.

Prerequisite: ANT 1013 or ANT 2053 recommended. Human adaptation to the environment and interaction with it, comparing simple and complex societies in various environmental contexts. (Formerly titled "Cultural Ecology") Course Fees: LRLF \$10; STLF \$18.

ANT 3233. Frauds, Myths, and Mysteries. (3-0) 3 Credit Hours.

This course will critically examine pseudoscience, cult archaeology, and creationism from a scientific perspective. The careful assessment of particular case studies will demonstrate how a strong adherence to professional archaeological methods can uncover facts about the past that are as interesting as myth. Course Fees: LRLF \$10; STLF \$18.

ANT 3253. Archaeology of South America. (3-0) 3 Credit Hours.

Prerequisite: ANT 1013 or ANT 2043 recommended. The origins and development of the native cultures of South America, and their relationships to the cultural areas of Central America and the Caribbean. Emphasis on the variety of cultural forms and cultural evolution. The roles of demography, subsistence systems, militarism, religion, and other factors in the rise of South American cultures may be discussed. Course Fees: LRLF \$10; STLF \$18.

ANT 3263. Archaeology of North America. (3-0) 3 Credit Hours.

Prerequisite: ANT 1013 or ANT 2043 recommended. Survey of prehistoric cultures in North America from earliest times to historic contact. May include discussion of Ice Age mammoth hunters, Eastern mound-building cultures, Southwestern pueblo cultures, and Plains bison hunters. Chronology, sites, settlement and subsistence patterns, and recent research issues may be considered. Course Fees: LRLF \$10; STLF \$18.

ANT 3273. Civilizations of Mexico. (3-0) 3 Credit Hours.

Prerequisite: ANT 1013 or ANT 2043 recommended. Examination of the development of the ancient civilizations of Mexico and Central America: Olmec, Teotihuacan, Toltec, Aztec, and Zapotec, among others. Insights will be drawn from archaeological data, art, hieroglyphic writing, ethnohistoric accounts, and Colonial Period documents. (Formerly titled "Ancient Civilizations of Mesoamerica") Course Fees: LRLF \$10; STLF \$18.

ANT 3293. Research Methods in Archaeology. (3-0) 3 Credit Hours.

Prerequisite: ANT 2043 or ANT 2053 recommended. Focuses on the study, analysis and interpretation of material cultural in archaeological research. Provides hands-on experience using methods and techniques that archaeologists use to study ceramics, lithics, and other types of artifacts and ecofacts. It also provides an overview of data analysis and archaeological report preparation. (Formerly titled "Analytical Methods in Anthropology") Course Fees: LRLF \$10; STLF \$18.

ANT 3303. Nature and Culture in Greater Amazonia. (3-0) 3 Credit Hours.

Prerequisite: ANT 1013 or ANT 2053 recommended. This course examines the historical and contemporary situations of the indigenous peoples of lowland South America, focusing specifically on the Amazon Basin. Consideration will be given to classical ethnographic monographs as well as accounts of the political and ecological challenges that currently face the inhabitants of Greater Amazonia. Course Fees: LRLF \$10; STLF \$18.

ANT 3313. Curing and Killing: The Anthropology of Shamanism. (3-0) 3 Credit Hours.

In this course, we will analyze the practice of shamanism globally with a specific focus on Amazonia. Class materials will include ethnographic case studies, focused articles, and documentary films. The course will examine how peoples in shamanic cultures conceptualize and experience illness, how they diagnose the ailments that afflict them, and how they use shamanic curing to return to a state of health. We will also discuss the psychopharmacology of plants used in shamanism, the roles of shamans in political movements, and how contemporary non-indigenous people in North America and Europe have incorporated shamanic practices, instruments, and hallucinogens into their spiritual traditions. Course Fees: LRLF \$10; STLF \$18.

ANT 3333. Human Adaptability. (3-0) 3 Credit Hours.

Prerequisite: ANT 1013 or ANT 2033 recommended. Examines the biological variability of living populations; includes genetics, anatomy, demography, and change within a physical anthropology framework. (Formerly titled "Physical Anthropology of Human Populations") Course Fees: LRLF \$10; STLF \$18.

ANT 3343. Pacific Island Societies and Cultures. (3-0) 3 Credit Hours.

Prerequisite: ANT 1013 or ANT 2053 recommended. This course examines the geography, prehistory, colonial contact and contemporary society in the Pacific Islands. Drawing on case studies from Hawaii to Papua New Guinea, emphasis is placed on ethnography and the contribution of the area to anthropological thought. (Formerly The Contemporary Pacific.) Course Fees: LRLF \$10; STLF \$18.

ANT 3383. Folklore and Folklife. (3-0) 3 Credit Hours.

Prerequisite: ANT 1013 or ANT 2053 recommended. Examines vernacular arts, crafts, and customs and their function in the maintenance of group identity. National, regional, ethnic, and occupational traditions are investigated. Attention is given to texts such as legends, myths, and ballads, as well as folk performance, clothing, architecture, and foodways. Course Fees: LRLF \$10; STLF \$18.

ANT 3393. Anthropology of Frontiers and Borderlands. (3-0) 3 Credit Hours.

This course asks the questions: what are frontiers and borderlands? How do they matter in our understanding of belonging and being human across time and space? We will use ethnographic and/or archaeological texts to consider how geopolitical, linguistic, and other cultural frontiers and borderlands shape what it means to belong and to be human. This course may be repeated for credit if taught by a different instructor. Course Fees: LRLF \$10; STLF \$18.

ANT 3403. Field Course in Archaeology. (0-0) 3 Credit Hours.

Prerequisite: Consent of instructor. Offers the opportunity to gain intensive training in archaeological field methods: excavation, site survey, mapping, sampling, and interpretation. Additional fees are required. May be repeated for credit with advisor's permission, but not more than 6 semester credit hours may be applied to a major in Anthropology. Generally offered: Summer. Course Fees: LRLF \$10; STLF \$18.

ANT 3406. Field Course in Archaeology. (0-0) 6 Credit Hours.

Prerequisite: Consent of instructor. Offers the opportunity to gain intensive training in archaeological field methods: excavation, site survey, mapping, sampling, and interpretation. Additional fees are required. May be repeated for credit with advisor's permission, but not more than 6 semester credit hours may be applied to a major in Anthropology. Generally offered: Summer. Course Fees: LRLF \$10; STLF \$24.

ANT 3413. The Ethnographic Experience. (3-0) 3 Credit Hours.

Drawing upon the ethnographic experiences of current and historical anthropologists, this course explores field research in cultural anthropology. Ethnographic methods and techniques are discussed, with emphasis on theoretical and ethical considerations. Students may engage in short-term ethnographic projects. Course Fees: LRLF \$10; STLF \$18.

ANT 3453. Public Archaeology. (3-0) 3 Credit Hours.

Prerequisite: ANT 2043. Most archaeologists do not work in universities—they work in government agencies, private firms, NGOs, and museums. This course prepares students for careers in archaeology by discussing these different career paths. It provides concrete skills such as research design, fieldwork planning, budgeting, report writing, public outreach, community engagement, and/or economic impact assessment. Course Fees: LRLF \$10; STLF \$18.

ANT 3503. Human Origins. (3-0) 3 Credit Hours.

Prerequisite: ANT 1013 or ANT 2033 recommended. The fossil record of human emergence and comparative studies of human evolution. Evolution of social organization, technology, and language development to the end of the Ice Age. Course Fees: LRLF \$10; STLF \$18.

ANT 3513. The Human Skeleton. (3-0) 3 Credit Hours.

Prerequisite: ANT 1013 or ANT 2033 recommended. Students are given the opportunity to develop skills in the study and analysis of human osteological remains. Applications of skeletal analysis in a variety of fields are considered, including physical anthropology and archaeological demography. Course Fees: LRLF \$10; STLF \$18.

ANT 3523. Medical Anthropology. (3-0) 3 Credit Hours.

Prerequisite: ANT 1013, ANT 2033, or ANT 2053 recommended. This course explores primary concepts and research questions in medical anthropology by looking at how humans experience and understand health, illness, and healing. Theoretical and methodological approaches will be considered using case studies, with an emphasis on the potential that medical anthropologists have to improve health and wellbeing. Course Fees: LRLF \$10; STLF \$18.

ANT 3543. Museum Studies in Anthropology. (3-0) 3 Credit Hours.

Prerequisite: ANT 1013, ANT 2043, or ANT 2053 recommended. By studying the nature and functioning of museums, past and present, this course will explore major controversies and debates about the politics of memory and visual display. Particular emphasis will be placed upon the role of anthropologists and archaeologists in museum contexts. Methodologically, the course will provide an overview of techniques used in exhibition planning and design as well as in collections management. Course Fees: LRLF \$10; STLF \$18.

ANT 3563. Anthropology of Complementary and Alternative Medicine. (3-0) 3 Credit Hours.

Prerequisite: ANT 2053 recommended. This course examines the concepts of health and healing across cultures with an emphasis on non-biomedical healing systems. It explores historical and ethnographic case studies of afflictions and the cross-cultural, non-conventional modalities for treatment and healing. Additionally the course surveys the cultural strategies and complexities of the role of the healer in various cultures. Course Fees: LRLF \$10; STLF \$18.

ANT 3603. Sex, Gender, and Culture. (3-0) 3 Credit Hours.

Prerequisite: ANT 1013 or ANT 2033 recommended. Examination of the biological and cultural sources of differences between men and women. Course Fees: LRLF \$10; STLF \$18.

ANT 3656. Field Course in Anthropology. (0-0) 6 Credit Hours.

Prerequisite: Consent of instructor. Offers the opportunity to gain intensive training in anthropological field methods in cultural and/or biological anthropology. Additional fees are required. May be repeated for credit with advisor's permission, but not more than 6 semester credit hours may be applied to a major in anthropology. Generally offered: Summer. Course Fees: LRLF \$10; STLF \$24.

ANT 3663. Hunters and Gatherers - Past and Present. (3-0) 3 Credit Hours.

Prerequisite: ANT 1013 or ANT 2043 recommended. Hunter-gatherer societies are frequently referred to in discussions of what it means to be human. Their knowledge of the environment and capacity for sharing have long captured our imagination. This course examines the lifeways of hunters and gatherers from around the world in both ethnographic and archaeological contexts. It considers examples of societies from the Arctic to Tropical Rainforests and explores such research topics as hunter-gatherer sharing, mobility, subsistence, and warfare among others. Course Fees: LRLF \$10; STLF \$18.

ANT 3713. Anthropology of Material Culture. (3-0) 3 Credit Hours.

Prerequisite: ANT 2043 or ANT 2053 recommended. This course surveys the role of material culture in human social systems of the past and present. Archaeological, historical, and ethnographic case studies are used to illustrate how the material world is variously woven into the fabric of culture. (Formerly titled "Material Culture Systems") Course Fees: LRLF \$10; STLF \$18.

ANT 3733. Political and Legal Anthropology. (3-0) 3 Credit Hours.

Prerequisite: ANT 1013 or ANT 2053 recommended. Comparative political and legal systems; forms of authority, legitimacy, and power. Major trends in anthropological thought are explored with emphasis on the political uses of myth, symbol, and ritual. Law and judicial processes are examined in Western and non-Western societies. Course Fees: LRLF \$10; STLF \$18.

ANT 3803. Media, Power, and Public Culture. (3-0) 3 Credit Hours.

Prerequisite: ANT 1013 or ANT 2053 recommended. Film and media images facilitate the production, consumption, and circulation of ideas and practices in the United States and cross-culturally. The course traces the history and meaning of various communication technologies and their impact on culture. It will examine print, film, television, new digital media and the Internet, asking how these are used to create and perpetuate dominant cultural forms as well as how these are appropriated and used by people on the margins as critique and resistance. In an increasingly media-dominated world—mass advertising, indigenous film as political resistance, politics as media campaigns, DVD productions by gangs and terrorist organizations—understanding the relationship between media and culture is a critical dimension of the professional knowledge of our future. Course Fees: LRLF \$10; STLF \$18.

ANT 3823. Applied Anthropology. (3-0) 3 Credit Hours.

Prerequisite: ANT 1013 or ANT 2053 recommended. Applied anthropology uses anthropological theories and methods to help solve real-world problems. Through case studies, this course will explore how, where and why applied anthropology is conducted in each subfield of the discipline. Course materials and assignments will help students identify and develop anthropological skills and experiences relevant to their career aspirations. Course Fees: LRLF \$10; STLF \$18.

ANT 3843. Primates of the World. (3-0) 3 Credit Hours.

This course offers a broad survey of the social behavior and ecology of the living primates. It begins with a survey of primate taxonomy, drawing distinctions among prosimians, monkeys, and apes. The course concludes with consideration of what the study of nonhuman primates can tell us about human evolution. (Formerly Introduction to Primate Diversity.) Course Fees: DL01 \$75; LRLF \$10; STLF \$18.

ANT 3853. Modern Ape Behavior, Ecology, and Cognition. (3-0) 3 Credit Hours.

Modern apes show considerable diversity in their behavioral and morphological adaptations. This course focuses on the major theoretical approaches to understanding the biological variation within this primate group. The question of whether great apes exhibit culture is also discussed. Course Fees: LRLF \$10; STLF \$18.

ANT 3863. The Evolution of Human Nature. (3-0) 3 Credit Hours.

A central concept in the evolution of human behavior is the idea that our brains, like our bodies, have been shaped by natural selection. The extent to which this factor influences the diverse behavior of modern humans is a topic of considerable debate. This course takes a critical look at different attempts to explain human behavior based on adaptive design. Course Fees: LRLF \$10; STLF \$18.

ANT 3873. Food, Culture, and Society. (3-0) 3 Credit Hours.

This course explores the relationship between food and culture in diverse societies by examining food, food practices, and production, as well as the meanings associated with food. Topics include issues of identity, class, food habits, global food systems, and world hunger. Generally offered: Summer. Course Fees: LRLF \$10; STLF \$18.

ANT 3883. Death and Dying. (3-0) 3 Credit Hours.

Prerequisite: ANT 1013, ANT 2043, or ANT 2053 recommended. Cross-cultural approaches to death, dying, and bereavement with a focus on either contemporary or prehistoric cultures depending on instructor's emphasis. When exploring contemporary cultures, attention will be given to the emotional, social and ethical issues of dying, and the social organization of death and dying. When exploring prehistoric groups, attention will be given to conceptualizing death through diverse funerary practices, body treatment of the deceased, and religious principles involved with death. In both cases, the course seeks to provide a comparative understanding of death and its wider social implications. May be repeated once with advisor's approval when topic varies. Course Fees: LRLF \$10; STLF \$18.

ANT 3893. Primate Behavior and Ecology. (3-0) 3 Credit Hours.

Nonhuman primates in their natural habitats, including biogeography, feeding and ranging behavior, structure and social organization of groups in relation to environment, and primates as members of communities. (Formerly Primate Ecology.) Course Fees: LRLF \$10; STLF \$18.

ANT 3903. Introduction to Linguistics. (3-0) 3 Credit Hours.

Basic principles of analysis and description of the structure of language, including sound system, word order, and meaning. Also, overview of selected subfields of linguistics, such as historical linguistics, sociolinguistics, language acquisition, and bilingualism. (Same as ENG 3343 and LNG 3813. Credit cannot be earned for ANT 3903 and ENG 3343 or LNG 3813.) Course Fees: LRLF \$10; STLF \$18.

ANT 3933. Anthropology of Superheroes. (3-0) 3 Credit Hours.

This course will examine the world of superheroes as both an imagined universe and a fan culture. Superheroes are not simply characters in illustrated books, but reflections of our own ideas about what it does and does not mean to be human, offering dystopic/utopic reflections of our own reality and imagined future. Ultimately, our goal is to discover what an anthropology of superheroes potentially can be. The course will delve into classic anthropological concepts including: Gender, Ethnicity, Nature vs. Culture, Utopia/Dystopia, media studies, ritual, creativity, etc. while considering comic and real world superheroes. Course Fees: LRLF \$10; STLF \$18.

ANT 3963. The Evolution of Sex. (3-0) 3 Credit Hours.

Prerequisite: ANT 2033 recommended. Why is there sex? This course explores the evolution of sexual reproduction as an alternative to asexual cloning that is found in most organisms. We will explore why sexual reproduction evolved, its costs and benefits, and the diversity of sexual strategies across all kingdoms of life. It concludes by examining the sexual behavior of humans and our closest primate relatives. Topics will include sexual selection, mating systems, same-sex behavior, and the evolution of monogamy. Course Fees: LRLF \$10; STLF \$18.

ANT 4013. Maya Civilization. (3-0) 3 Credit Hours.

Prerequisite: ANT 1013 or ANT 2043 recommended. Examination of the development of Maya civilization in Mexico and Central America. Insights will be drawn from archaeological data, art, hieroglyphic writing, ethnohistoric accounts, and Colonial Period documents. Course Fees: LRLF \$10; STLF \$18.

ANT 4023. Histories of Anthropology. (3-0) 3 Credit Hours.

Prerequisite: ANT 2033, ANT 2043, ANT 2053, or ANT 2063 recommended. This course examines the history of anthropology as a distinct field, including considerations of historical figures, institutions and relationships among subfields. Emphasis will be placed on changes in theoretical and methodological orientations as they emerge in specific historical contexts. Course Fees: LRLF \$10; STLF \$18.

ANT 4113. Archaeology of Texas. (3-0) 3 Credit Hours.

Prerequisite: ANT 2043 or ANT 3263 recommended. Detailed review of prehistoric and historic aboriginal cultures of Texas and adjacent areas; current trends in Texas archaeology; examination of artifacts; and field trips to local prehistoric sites. Course Fees: LRLF \$10; STLF \$18.

ANT 4123. Archaeology of the American Southwest. (3-0) 3 Credit Hours.

Prerequisite: ANT 2043 or ANT 3263 recommended. Consideration of the prehistoric cultures in the American Southwest and northern Mexico from the earliest occupations to European contact. Paleo-Indian, Archaic, Mogollon, Anasazi, and Hohokam occupations are reviewed with a consideration of recent research directions and theory. Course Fees: LRLF \$10; STLF \$18.

ANT 4213. Witchcraft and Magic: Anthropological Perspectives. (3-0) 3 Credit Hours.

This course introduces the historical and contemporary treatment of witchcraft and magic from a socio-cultural perspective. It draws on anthropological models which are applied to Western European, African, Pacific, and other cultural areas to amplify the adaptive, rational, and political contexts for why and how witchcraft and magic exist. Course Fees: LRLF \$10; STLF \$18.

ANT 4233. Primate Conservation. (3-0) 3 Credit Hours.

Prerequisite: ANT 2033 or ANT 3843 recommended. Analysis of the conservation status of the world's nonhuman primates, and the specific threats to their survival. Includes examination of issues relating to the anthropology of conservation, such as human-nonhuman primate resource competition, anthropogenic habitat alteration related to land use and development, and efforts to achieve community-based conservation. (Formerly Conservation of Primates in Global perspective.) Course Fees: LRLF \$10; STLF \$18.

ANT 4243. Ethnographic Film. (3-0) 3 Credit Hours.

Prerequisite: ANT 1013 or ANT 2053 recommended. Critique of major ethnographic films, concentrating on field methodology, production values, and the issue of representation. Course Fees: LRLF \$10; STLF \$18.

ANT 4273. The Anthropology of Oil. (3-0) 3 Credit Hours.

Prerequisite: ANT 1013 or ANT 2053 recommended. This course explores the social, cultural, and political-economic significance of oil, the most important industrial commodity of the world. Case studies will be drawn from books, articles, and films that describe the importance of oil at the level of its production, distribution, and consumption in the United States and around the world. Course Fees: LRLF \$10; STLF \$18.

ANT 4303. Water, Sustainability, and Health. (3-0) 3 Credit Hours.

Drawing on environmental and medical anthropology, this course explores how anthropologists study issues related to water, sustainability, and health and how these are shaped by political, economic, and ecologic factors over time. This course introduces students to several of the key theoretical frameworks through which anthropologists examine struggles around water and the human consequences of water scarcity. Course Fees: LRLF \$10; STLF \$18.

ANT 4333. Ecology and Evolution of Human Diseases. (3-0) 3 Credit Hours.

Prerequisite: ANT 2033 recommended. Ecological, evolutionary, and biocultural aspects of human disease. Topics include the ecology of infectious/parasitic disease pathogens and their human hosts, the evolution of human host-pathogen interactions, the impact of cultural and demographic change in human populations, and the effects of global environmental change on human disease patterns. Generally offered: Spring. Course Fees: LRLF \$10; STLF \$18.

ANT 4363. Primate Evolutionary Biology. (3-0) 3 Credit Hours.

Prerequisite: ANT 2033 recommended. This course evaluates the evolutionary history of the nonhuman primates. Examination will include information gained from fossil and genetic data as well as from modern phylogenetic methods. Course Fees: LRLF \$10; STLF \$18.

ANT 4413. Genes, Health, and Ancestry. (3-0) 3 Credit Hours.

Prerequisite: ANT 2033 recommended. What's in your genes? Consumer genomics and DNA testing have made genetic data cheap and largely available to everyone. But how accurate are those results? And what can DNA really tell us about our ancestry and our health? This course is a journey into the promises, pitfalls and limitations of genetics in understanding human diversity, ancestry and health. It explores how technological advancements have improved our understanding of human evolution and adaptation, and have also led to new concerns about personal privacy and bioethics. We will explore the potential and misapplications of genetic testing and gene editing and we will discuss the role of science in society. (Formerly Genes and Human Diversity.) Course Fees: LRLF \$10; STLF \$18.

ANT 4911. Independent Study. (0-0) 1 Credit Hour.

Prerequisites: Permission in writing (form available) from the instructor, the student's advisor, the Department Chair, and Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Course Fees: LRLF \$10; STLF \$6.

ANT 4913. Independent Study. (0-0) 3 Credit Hours.

Prerequisites: Permission in writing (form available) from the instructor, the student's advisor, the Department Chair, and Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Course Fees: LRLF \$10; STLF \$18.

ANT 4933. Internship in Anthropology. (0-0) 3 Credit Hours.

Prerequisite: Consent of internship coordinator. Supervised experience relevant to anthropology within selected community organizations. A maximum of 6 semester credit hours may be earned through Internship in Anthropology. Must be taken on a credit/no-credit basis. Course Fees: LRLF \$10; STLF \$18.

ANT 4936. Internship in Anthropology. (0-0) 6 Credit Hours.

Prerequisite: Consent of internship coordinator. Supervised experience relevant to anthropology within selected community organizations. A maximum of 6 semester credit hours may be earned through Internship in Anthropology. Must be taken on a credit/no-credit basis. Course Fees: LRLF \$10; STLF \$36.

ANT 4953. Special Studies in Anthropology. (3-0) 3 Credit Hours.

An organized course offering the opportunity for specialized study not normally or not often available as part of the regular course offerings. Special Studies may be repeated for credit when the topics vary, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. Course Fees: LRLF \$10; STLF \$18.

ANT 4983. Anthropology Honors Research. (0-0) 3 Credit Hours.

Prerequisite: Enrollment limited to candidates for Department Honors with approval of the Department faculty. Supervised individual research and preparation of a major paper in support of Department Honors. May be repeated once with advisor's approval. Course Fees: LRLF \$10; STLF \$18.

ANT 4993. Honors Thesis. (0-0) 3 Credit Hours.

Prerequisites: Enrollment limited to candidates for University Honors in Anthropology and consent of the Honors College. Supervised research and preparation of an honors thesis. May be repeated once with advisor's approval. Course Fees: LRLF \$10; STLF \$18.

Architecture (ARC)

Architecture (ARC) Courses

ARC 1113. Introduction to the Built Environment. (3-0) 3 Credit Hours. (TCCN = ARCH 1311)

Prerequisites: Completion of or concurrent enrollment in ARC 1213 and ARC 1313. An introduction to the design and construction of the built environment. Includes consideration of professional practice, ethics, interior design, landscape architecture, planning, urbanism and construction. May be applied toward the core curriculum requirement in Language, Philosophy and Culture. (Formerly COA 1113. Credit cannot be earned for both ARC 1113 and COA 1113). Course Fees: LRC1 \$12; SAP1 \$25; STSA \$15.

ARC 1133. Construction Material and Concepts. (3-0) 3 Credit Hours.

Introduction to concepts and skills fundamental to structure, construction, building enclosure, sustainability, and interior environments. Analysis and selection of materials, components, and assemblies. Introduction to the historic role of materials in architectural and interior design. (Formerly ARC 2213 and COA 1133. Credit cannot be earned for ARC 1133 and either ARC 2213 or COA 1133.) Course Fees: SAP1 \$25; STSA \$15.

ARC 1151. Introduction to Architecture and Design. (1-0) 1 Credit Hour.

A lecture course introducing ideas and concepts associated with architectural and interior design. Course Fees: SAP1 \$25; STSA \$5.

ARC 1213. Design I. (0-8) 3 Credit Hours. (TCCN = ARCH 1303)

Introduction to design through a focus on design literacy and the creative conceptualization through direct engagement with materials and processes of making. Introduction to architectural design processes, materials, precedents, and architectural ideas. Projects investigate basic issues fundamental to design and experience of human environments. (Formerly ARC 1214 and COA 1213. Credit cannot be earned for more than one of the following: ARC 1214, ARC 1213, or COA 1213.) Course Fees: SAP1 \$25; STSA \$15.

ARC 1224. Design II. (1-8) 4 Credit Hours.

Prerequisites: ARC 1213 and ARC 1313. Introduction to design as a broadly creative process that stresses creative and conceptual development through representational visualization. Explores the role of spatial experience, context, program, architectural form, circulation, elements, materials, human factors, color, and light in the design of human environments. Introduction to spatial types and ordering systems, architectural precedents, architectural conventions, and critical thought pertaining to design of the built environment. Includes a weekly lecture. (Formerly ARC 1223. Credit cannot be earned for both ARC 1223 and ARC 1224.) Course Fees: SAP1 \$25; STSA \$15.

ARC 1313. Design Visualization. (0-8) 3 Credit Hours.

Prerequisites: Completion of or concurrent enrollment in ARC 1113 and ARC 1213. Introductory exploration of graphic processes and techniques utilized in the design and construction of the built environment for the representation, visualization, analysis, and presentation of the designed environment. (Formerly COA 1313. Credit cannot be earned for both ARC 1313 and COA 1313.) Course Fees: SAP1 \$25; STSA \$15.

ARC 1513. Great Buildings and Cities of the World. (3-0) 3 Credit Hours. Introducing buildings and places that exemplify timeless architectural concepts and design strategies considered enduring contributions to the cultural heritage of the world. Examples from Africa, Asia, Europe, and the Americas are presented within the context of diverse cultures and express a variety of different aesthetic, political, and religious values. The course draws from diverse sources from high culture and vernacular sources span from antiquity to the present. May be applied toward the core curriculum requirement in Creative Arts. Course Fees: LRC1 \$ 12; SAP1 \$25; STSA \$15.

ARC 2133. Principles of Architectural Structures. (3-0) 3 Credit Hours. Prerequisite: Enrollment as an ARC or IDE major. An introduction to the principles of architectural structures as related to architectural design. Includes consideration of spatial, structural, and aesthetic issues of building structural systems, and introduces structural behavior, forces and responses in structural systems. Course Fees: DL01 \$75; SAP1 \$25; STSA \$15.

ARC 2156. Drawing and Modeling Studio. (0-14) 6 Credit Hours. Prerequisite: Enrollment as an ARC or IDE major. Architectural design through the agency of model building and drawing. Course focuses on the design of buildings (including consideration of structure, material, space, and form) responsive to the site and context. Course Fees: SAP1 \$25; STSA \$30.

ARC 2166. Digital Design Studio. (0-14) 6 Credit Hours. Prerequisites: Enrollment as an ARC or IDE major. Architectural design through the agency of digital design media. Course focuses on the design of buildings (including consideration of structure, material, space, and form) responsive to the site and context. Course Fees: SAP1 \$25; STSA \$30.

ARC 2233. Principles of Environmental Systems. (3-0) 3 Credit Hours. Prerequisite: Enrollment as an ARC or IDE major. Introduction to the design of environmentally responsive buildings and the natural and artificial systems that support them. Includes consideration of topics such as, embodied energy, active and passive heating and cooling, indoor air quality, solar orientation, daylighting and artificial illumination, acoustics, and building services systems. Course Fees: SAP1 \$25; STSA \$15.

ARC 2413. History of Architecture I. (3-0) 3 Credit Hours. (TCCN = ARCH 1301) Introduction to the history of architecture, urbanism, and material culture from prehistory to the 15th century. Explores the varied ways in which architecture reflects and shapes social, religious, and political concerns in the Western and non-Western world. May be applied toward the core curriculum requirement in Creative Arts. Generally offered: Fall, Spring. Course Fees: LRC1 \$12; SAP1 \$25; STSA \$15.

ARC 2423. History of Architecture II. (3-0) 3 Credit Hours. (TCCN = ARCH 1302) Introduction to the history of architecture, urbanism, and material culture from the 15th to the 20th century. Explores the varied ways in which architecture reflects and shapes social, religious, and political concerns in the Western and non-Western world. Generally offered: Spring. Course Fees: SAP1 \$25; STSA \$15.

ARC 2513. Digital Design Media. (2-2) 3 Credit Hours. Prerequisites: Enrollment as an ARC or IDE major and consent of instructor. Introduction to 2-dimensional and 3-dimensional digital design media. Addresses design skills, principles, techniques, procedures, and knowledge of how digital media impacts the design process, profession, and design culture. Generally offered: Fall. Course Fees: SAP1 \$25; STSA \$15.

ARC 3113. Advanced Design Visualization. (0-6) 3 Credit Hours. Prerequisite: Enrollment as an Architecture or an Interior Design major or permission of instructor. Advanced exploration of graphic processes and techniques utilized in the design and construction of built environment for the representation, analysis, visualization, and/or presentation of the designed environment. May be repeated for credit when topics vary. Generally offered: Fall, Spring. Course Fees: SAP1 \$25; STSA \$15.

ARC 3433. Topics in Architecture and Thought. (3-0) 3 Credit Hours. Prerequisites: Enrollment as an Architecture or Interior Design major and consent of instructor. A lecture/seminar course that provides students the opportunity to explore a variety of architectural ideas, concepts, theories, approaches, or topics related to architectural design. May be repeated for credit when topics vary. Generally offered: Fall, Spring. Course Fees: DL01 \$75; SAP1 \$25; STSA \$15.

ARC 3613. History of Modern Architecture. (3-0) 3 Credit Hours. Prerequisites: WRC 1013 and WRC 1023. Study of the social, aesthetic, theoretical, technical, cultural, and professional forces that form, shape, and communicate modern architecture. Completion of ARC 2413 and ARC 2423 is recommended for Architecture and Interior Design majors. Generally offered: Fall, Spring. Course Fees: SAP1 \$25; STSA \$15.

ARC 4143. Architecture Topics. (3-0) 3 Credit Hours. Prerequisites: ARC 2156 and ARC 2166 or consent of instructor. A course exploring issues in architecture. May be repeated for credit when topics vary. Course Fees: SAP1 \$25; STSA \$15.

ARC 4156. Building Design Studio. (0-14) 6 Credit Hours. Prerequisites: ARC 2156, ARC 2166, and ARC 2233. Architectural design with emphasis on building technology, materials, assemblies, tectonics, structure, environmental systems, and the inter-relationship of building and environment. Course may be repeated for credit. No more than 24 credit hours of ARC 4156 may count towards the degree. Course Fees: SAP1 \$25; STSA \$30.

ARC 4183. Environmental Systems. (2-2) 3 Credit Hours. Prerequisites: ARC 2156, ARC 2166, and ARC 2233. Advanced issues in the design of environmentally responsive buildings and the natural and artificial systems that support them, such as embodied energy, active and passive heating and cooling, indoor air quality, solar orientation, daylighting and artificial illumination, acoustics, and building services systems. Includes the use of appropriate performance assessment tools. Course Fees: SAP1 \$25; STSA \$15.

ARC 4213. Furniture Design and Construction. (0-8) 3 Credit Hours. Prerequisite: ARC 2156, ARC 2166, or consent of instructor. Focuses on essential elements of furniture design and construction, emphasizing relations to architectural space, human factors, and the use of materials, connections, and finishes. Course Fees: SAP1 \$25; STSA \$15.

ARC 4223. Topics in Design Computing. (2-2) 3 Credit Hours. Prerequisite: ARC 2513 or consent of instructor. Theory-based seminar course exploring critical, spatial and philosophical issues relative to the impact of digital technologies within the field of architecture. Involves some usage of 2-D and 3-D digital media. Course Fees: SAP1 \$25; STSA \$15.

ARC 4233. Computer Projects in Design. (2-2) 3 Credit Hours. Prerequisite: ARC 2513 or consent of instructor. Project-driven lecture/laboratory course exploring advanced issues associated with 3-D modeling, animation, photo-realistic visualization, and computer-aided manufacturing. Considers the role these processes play in architectural and interior design. (Same as IDE 4233. Credit cannot be earned for both ARC 4233 and IDE 4233.) Course Fees: SAP1 \$25; STSA \$15.

ARC 4246. Systems Studio. (0-14) 6 Credit Hours.

Prerequisite: ARC 4156 (taken twice). Advanced architectural design studio addressing the theoretical and practical issues of considerate and responsible design and detailing of a small building from the ground up. Addresses the whole building in terms of its integration with the site and climate, its structural, environmental, daylighting, and envelope systems as well as accessibility, life safety, and vertical circulation. Course Fees: SAP1 \$25; STSA \$30.

ARC 4283. Architectural Structures. (2-2) 3 Credit Hours.

Prerequisites: ARC 2156 and ARC 2166. Advanced study of architectural structures; considers the physical principles that govern classical statics and strength of materials. Graphical and mathematical design of structural systems. Consideration of the role of structural articulation in the design of buildings. Course Fees: SAP1 \$25; STSA \$15.

ARC 4333. Practicum/Internship. (0-0) 3 Credit Hours.

Prerequisites: ARC 2156 and ARC 2166 and consent of instructor. Offers students majoring in architecture or interior design a supervised professional practice experience with public agencies or private firms. Individual conferences and written reports required. Generally offered: Summer. Course Fees: SAP1 \$25; STSA \$15.

ARC 4816. International Studies Studio. (0-14) 6 Credit Hours.

Prerequisites: ARC 2156 and ARC 2166 or consent of instructor. An architecture or planning studio associated with a study abroad program. (Formerly titled "Study Abroad: Studio.") (Same as IDE 4816. Credit cannot be earned for both ARC 4816 and IDE 4816.) Generally offered: Fall, Spring. Course Fees: SAP1 \$25; STSA \$30.

ARC 4823. International Studies Theory Seminar. (3-0) 3 Credit Hours.

Prerequisites: ARC 2156 and ARC 2166 or consent of instructor. A lecture/seminar course associated with a study abroad program; involves field trips. (Formerly titled "Study Abroad: History/Theory.") (Same as IDE 4823. Credit cannot be earned for both ARC 4823 and IDE 4823.) Generally offered: Spring. Course Fees: SAP1 \$25; STSA \$15.

ARC 4833. International Studies Drawing Seminar. (0-8) 3 Credit Hours.

Prerequisites: ARC 2156 and ARC 2166 or consent of instructor. A drawing course associated with a study abroad program; involves field trips. (Formerly titled "Study Abroad: Observational Drawing.") (Same as IDE 4833. Credit cannot be earned for both ARC 4833 and IDE 4833.) Generally offered: Fall, Spring. Course Fees: SAP1 \$25; STSA \$15.

ARC 4843. International Studies History Seminar. (3-0) 3 Credit Hours.

Prerequisites: ARC 2156 and ARC 2166 or consent of instructor. A lecture/seminar course associated with a study abroad program; involves field trips. (Same as IDE 4843. Credit cannot be earned for both ARC 4843 and IDE 4843.) Course Fees: SAP1 \$25; STSA \$15.

ARC 4911. Independent Study. (0-0) 1 Credit Hour.

Prerequisites: Permission in writing (form available) of the instructor, the student's advisor, the Department Chair, and the Dean of the College in which the course is offered. Scholarly research under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, may apply to a bachelor's degree. Course Fees: SAP1 \$25; STSA \$5.

ARC 4913. Independent Study. (0-0) 3 Credit Hours.

Prerequisites: Permission in writing (form available) of the instructor, the student's advisor, the Department Chair, and the Dean of the College in which the course is offered. Scholarly research under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, may apply to a bachelor's degree. Course Fees: SAP1 \$25; STSA \$15.

ARC 4916. Independent Study. (0-0) 6 Credit Hours.

Prerequisites: Permission in writing (form available) of the instructor, the student's advisor, the Department Chair, and the Dean of the College in which the course is offered. Scholarly research under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, may apply to a bachelor's degree. Course Fees: SAP1 \$25; STSA \$30.

ARC 4953. Special Studies in Architecture. (3-0) 3 Credit Hours.

Prerequisite: Consent of instructor. An organized course offering the opportunity for specialized study not normally or often available as part of the regular course offerings. Special studies may be repeated for credit when the topics vary, but not more than 3 semester credit hours for ARC 4953 or 12 hours for ARC 4956, regardless of discipline, will apply to a bachelor's degree. Course Fees: SAP1 \$25; STSA \$15.

ARC 4956. Special Studies in Architecture. (0-14) 6 Credit Hours.

Prerequisite: Consent of instructor. An organized course offering the opportunity for specialized study not normally or often available as part of the regular course offerings. Special studies may be repeated for credit when the topics vary, but not more than 3 semester credit hours for ARC 4953 or 12 hours for ARC 4956, regardless of discipline, will apply to a bachelor's degree. Course Fees: SAP1 \$25; STSA \$15.

Art (ART)

NOTE: Due to the instructional format of studio/laboratory classes, auditors will not be approved for ART courses.

Art (ART) Courses

ART 1003. Two Dimensional Foundations. (0-6) 3 Credit Hours. (TCCN = ARTS 1311)

Prerequisite: Art or Art History majors only. A grade of "C-" or better must be earned in this course to satisfy the prerequisite for subsequent courses in the Art major. Exploration of the visual structure and organization of two dimensional surfaces using a variety of media, with an emphasis on the development of creative and critical skills. This course may not be applied to Core Curriculum requirements. (Formerly titled "Design: Two Dimensional.") Generally offered: Fall, Spring. Course Fees: LRLF \$10; SAF1 \$45; STLF \$18.

ART 1013. Three Dimensional Foundations. (0-6) 3 Credit Hours. (TCCN = ARTS 1312)

Prerequisite: Art or Art History majors only. A grade of "C-" or better must be earned in this course to satisfy the prerequisite for subsequent courses in the Art major. Exploration of the visual structure and organization of multidimensional forms in a variety of materials, with an emphasis on the development of creative and critical skills. This course may not be applied to Core Curriculum requirements. (Formerly titled "Design: Three Dimensional.") Generally offered: Fall, Spring. Course Fees: LRLF \$10; SAF1 \$45; STLF \$18.

ART 1023. Digital Arts Foundations. (0-6) 3 Credit Hours.

Prerequisite: Art or Art History majors only. A grade of "C-" or better must be earned in this course to satisfy the prerequisite for subsequent courses in the Art major. Exploration of digital approaches, technology and programs, with an emphasis on the development of creative and critical skills as applied to the making of fine art. This course may not be applied to Core Curriculum requirements. Generally offered: Fall, Spring. Course Fees: LRLF \$10; SAF1 \$45; STLF \$18.

ART 1103. Introduction to Visual Arts. (3-0) 3 Credit Hours. (TCCN = ARTS 1301)

A course utilizing images and text designed to offer the general university student an introductory understanding of the broad range of history, interpretations and approaches comprising and applied to the field of visual art. May be applied to the Creative Arts Core Curriculum requirement for non-art majors. This course is designed for non-art majors and cannot be used to fulfill any of the major requirements for the B.A. in Art, the B.A. in Art History and Criticism, or the B.F.A. Generally offered: Fall, Spring. Course Fees: DL01 \$75; LRC1 \$12; LRLF \$10; SAF1 \$45; STLF \$18.

ART 1143. Art for Non-Art Majors. (0-6) 3 Credit Hours. (TCCN = ARTS 1325)

An introduction to the history, fundamental principles, materials, and methods of visual art. Individual course sections will be devoted to the study of a specific art discipline such as drawing, painting, photography, or printmaking. May be repeated for credit when topics vary. May not be applied to the degree requirements for a major in art. Generally offered: Fall, Spring, Summer. Course Fees: DL01 \$75; LRLF \$10; SAF1 \$45; STLF \$18.

ART 1213. Drawing I. (0-6) 3 Credit Hours. (TCCN = ARTS 1316)

Prerequisite: This course is restricted to Art and Art History majors. A grade of "C-" or better must be earned in this course to satisfy the prerequisite for subsequent courses in the Art major. Introduction to fundamental principles, materials, and techniques using a variety of drawing media. Emphasizes drawing from observation as a means to develop perceptual and technical skills for visual expression. Includes perspective and other systems of spatial organization. This course may not be applied to Core Curriculum requirements. Generally offered: Fall, Spring. Course Fees: LRLF \$10; SAF1 \$45; STLF \$18.

ART 1223. Drawing II. (0-6) 3 Credit Hours. (TCCN = ARTS 1317)

Prerequisite: ART 1213; Art or Art History majors only. A grade of "C-" or better must be earned in this course to satisfy the prerequisite for subsequent courses in the Art major. Continued experience with fundamental principles, materials, and techniques emphasizing drawing from observation. Experiences in a variety of media provide opportunities for further development of perceptual and technical skills for visual expression. This course may not be applied to Core Curriculum requirements. Generally offered: Fall, Spring. Course Fees: LRLF \$10; SAF1 \$45; STLF \$18.

ART 2113. Painting: Basic. (0-6) 3 Credit Hours. (TCCN = ARTS 2316)

Prerequisites: ART 1003 and ART 1223. Instruction in basic painting concepts, skills, and materials with an emphasis on the use of oil paint and oil mediums. Generally offered: Fall, Spring. Course Fees: LRLF \$10; SAF1 \$45; STLF \$18.

ART 2223. New Media: Basic. (0-6) 3 Credit Hours.

Prerequisite: ART 1003. This course emphasizes the exploration of new methods and means of art making with contemporary media, and builds upon traditional art processes and concepts. It is an introduction to the essentials of using digital tools in time-based media, providing an opportunity to learn a broad range of skills and techniques such as the fundamentals of sound and moving image production, projection, and multimedia installation. Basic digital concepts covered include Mac OSX operating system techniques, digital capturing of A/V media, non-linear editing, storage and backup of media files, and file conversions. Generally offered: Fall, Spring. Course Fees: LRLF \$10; SAF1 \$45; STLF \$18.

ART 2313. Photography: Basic. (0-6) 3 Credit Hours. (TCCN = ARTS 2356)

Prerequisites: ART 1003 and ART 1023. This introductory level course will offer instruction on 35mm camera controls and black & white and color image development in both digital and analog darkroom environments. This course covers digital darkroom, in-house printing, file management, documentation of 2-D and 3-D artwork, online publishing and digital montage primarily through the use of Adobe software in addition to analog film processing and black & white printing. Projects emphasize both aesthetic and conceptual development through the introduction of historic and contemporary photographic genres. Students must have access to both digital and film SLR cameras; some cameras are available through the Visual Resource Center to students enrolled in this course. Transfer students who have not had access to both digital and analog darkroom techniques will need to enroll in this course prior to proceeding to Photography Intermediate and Advanced Topics (ART 3513 and ART 4533). (Formerly ART 2513.) Generally offered: Fall, Spring. Course Fees: LRLF \$10; SAF1 \$45; STLF \$18.

ART 2413. Printmaking: Basic. (0-6) 3 Credit Hours. (TCCN = ARTS 2333)

Prerequisites: ART 1003 and ART 1213. Introduction to printmaking processes, concepts, and materials. Generally offered: Fall, Spring. Course Fees: LRLF \$10; SAF1 \$45; STLF \$18.

ART 2613. Sculpture: Basic. (0-6) 3 Credit Hours. (TCCN = ARTS 2326)

Prerequisites: ART 1013 and ART 1223. Instruction in basic sculptural concepts and materials. Generally offered: Fall, Spring. Course Fees: LRLF \$10; SAF1 \$45; STLF \$18.

ART 2713. Ceramics: Basic. (0-6) 3 Credit Hours. (TCCN = ARTS 2346)

Prerequisite: ART 1013. Students will be given the opportunity to learn basic ceramic concepts and techniques including wheel throwing, slab building, coil construction, and glazing, to create vessel and sculptural forms. Emphasis is placed on technical execution and the use of the material for personal expression. Students will also participate in team loading, unloading, and firing kilns. Lectures/presentations provide a general introduction to historical and contemporary ceramic artists and influences. Generally offered: Fall, Spring, Summer. Course Fees: LRLF \$10; SAF1 \$45; STLF \$18.

ART 3023. Color Theory and Practice. (0-6) 3 Credit Hours.

Prerequisites: ART 1003, ART 1013, and ART 1213. Exploration of color theories and the practical use of color in its many different aspects including additive, subtractive, and 3-dimensional color; color mixing; interactions of color and light; color symbolism; and creative applications in various art media. Course format consists of lectures, student presentations, and assigned studio projects. Generally offered: Fall, Spring. Course Fees: LRLF \$10; SAF1 \$45; STLF \$18.

ART 3033. Contemporary Studio: Concepts and Practice. (0-6) 3 Credit Hours.

Prerequisite: Satisfactory completion of 9 semester credit hours of any three 2000-level art courses, and 6 semester credit hours of AHC courses. Interdisciplinary studio projects generated from lectures, readings and discussion, focusing on critical and cultural issues from Modern and Contemporary Art. Projects encourage collaborative efforts and nontraditional solutions and focus on conceptual development. Required of all B.A. in Art and B.F.A. degree candidates. Generally offered: Fall, Spring. Course Fees: LRLF \$10; SAF1 \$45; STLF \$18.

ART 3113. Painting II. (0-6) 3 Credit Hours.

Prerequisites: ART 1003, ART 1023, ART 1223, and ART 2113. Continued study of the methods and materials of painting connecting color, form, and composition to image and idea development. This course emphasizes the use of oil paint and oil mediums. Transfer students who have not had experience with oil paint must enroll in this course before proceeding to Painting III. May be repeated once for credit with instructor permission. Generally offered: Fall, Spring. Course Fee: LRLF \$10; SAF1 \$45; STLF \$18.

ART 3133. Painting III. (0-6) 3 Credit Hours.

Prerequisite: ART 3113 or consent of instructor. Structured advanced painting projects that present a variety of approaches to painting with an aim to furthering both competence and an individual viewpoint in relation to historical and contemporary issues. Although a variety of media may be used at the instructor's discretion, all students must have had previous experience using oil paint. Transfer students who have not had experience with oil paint must enroll in ART 3113. Sections focusing on a special topic such as abstraction or the figure will occasionally be offered. May be repeated for credit. Generally offered: Fall, Spring. Course Fees: LRLF \$10; SAF1 \$45; STLF \$18.

ART 3223. Drawing: Figure. (0-6) 3 Credit Hours.

Prerequisite: ART 1223. Study of the human figure and its historical and contemporary implications for the artist, including anatomical and structural dynamics, gesture, narrative, and issues concerning the body as subject. May be repeated for credit. Generally offered: Fall, Spring. Course Fees: LRLF \$10; SAF1 \$45; STLF \$18.

ART 3233. Drawing: Intermediate. (0-6) 3 Credit Hours.

Prerequisite: ART 1223. Structured drawing projects assigned with an emphasis on the interrelationship of drawing and space. Explores a range of spatial models including observational, abstract, and physical. May be repeated once for credit. Generally offered: Fall, Spring. Course Fees: LRLF \$10; SAF1 \$45; STLF \$18.

ART 3513. Photography: Intermediate. (0-6) 3 Credit Hours.

Prerequisite: ART 2313. This course builds on technical knowledge through the introduction of 35mm and medium film formats as well as black & white techniques and laboratory procedures. The course provides further conceptual exploration of photography as a fine art medium through projects that explore historic and contemporary genres. Students must have access to a 35mm analog (film) SLR camera. Transfer students who have not had experience with traditional darkroom must enroll in this course before proceeding to Photography: Advanced Topics. Generally offered: Fall, Spring. Course Fees: LRLF \$10; SAF1 \$45; STLF \$18.

ART 4033. Studio Art Problems. (0-6) 3 Credit Hours.

Prerequisite: Satisfactory completion of 9 semester credit hours of any three 2000-level basic art courses, and consent of instructor. An advanced exploration of visual art ideas and practices using various media, materials, and processes. Occasionally may be devoted to a specific topic of study. May be repeated for credit when topics vary. Generally offered: Fall, Spring. Course Fees: LRLF \$10; SAF1 \$45; STLF \$18.

ART 4133. Painting / Drawing IV. (0-6) 3 Credit Hours.

Prerequisites: ART 3133 or ART 4233 and consent of instructor. Development of an individual direction in painting or drawing (including mixed media, hybrid forms, and experimental approaches) emphasizing the successful synthesis of material, technical, formal and conceptual qualities specific to each student's work. Additional emphasis is given to the understanding and articulation of historical and contemporary issues in the theory and practice of painting and drawing. Other course work, such as reading and/or writing assignments may be required to complement individual studio work. Students repeating ART 4133 will be required to demonstrate an advanced and expanded performance building on their accomplishments in prior sections of ART 4133. Permission of instructor is required for enrollment in this course. Admission is based on student's demonstrated ability to undertake the development of a focused and proficient body of work with dedicated time in the studio environment. May be repeated for credit. Generally offered: Fall, Spring. Course Fees: LRLF \$10; SAF1 \$45; STLF \$18.

ART 4233. Drawing: Advanced. (0-6) 3 Credit Hours.

Prerequisites: ART 3233 and consent of instructor. Diverse topics with an emphasis on contemporary drawing practices such as drawing and the body, drawing and duration, and drawing and site. May be repeated for credit. (Formerly titled "Drawing III.") Generally offered: Summer. Course Fees: LRLF \$10; SAF1 \$45; STLF \$18.

ART 4313. New Media. (0-6) 3 Credit Hours.

Prerequisite: ART 2223. The focus of this course is on new media as an extension of fine arts practice. Depending on the term topic, there may be instruction in static and/or non-static electronic media, including various forms such as digital print, Web, video, animation, and sound. Students will be encouraged to use digital and other new media tools experimentally to create original electronically generated art that amplifies and extends image making beyond traditional techniques. ART 4313 may be repeated for credit. Specific UTSA Department of Art and Art History degree plans require students to take this course multiple times, up to 15 credit hours (including Internship and Independent Study where the work falls primarily in the discipline of New Media). Students are expected to enroll in varying sections of ART 4313 in order to expand their knowledge of diverse new media: New Media: Video; New Media: Sound; New Media: Animation; New Media: Web. Students will be required to demonstrate an advanced and expanded performance, which includes execution of artwork, progression in digital media literacy and writing ability, building on their accomplishments in prior sections of ART 4313. This process of developing a refined skill set is time consuming and individualized to each student, as are the benchmarks of material, process and conceptual success that characterize each student's work. Students taking ART 4313 for additional credit will be evaluated on an increased mastery of the skill sets defined above in the learning outcomes of this course. Increased mastery of skills will include but not be limited to: The exploration of an additional area of digital media not used in prior semesters; The experimentation with, and the refinement of, an additional process(es) not used in prior semesters; Improved personal standard of quality demonstrated by a refinement in the sophistication of conceptual, material and process success that characterize the student's work; A demonstrated improvement of the student's ability or skill to formulate and verbally articulate his or her developing artistic direction measured against performance in prior semesters as well as over the course of the semester; An increased and more specific understanding of the history of new media especially directed towards the interests and investigations of the student. (Formerly titled "Multimedia Art.") Generally offered: Fall, Spring. Course Fees: LRLF \$10; SAF1 \$45; STLF \$18.

ART 4433. Printmaking. (0-6) 3 Credit Hours.

Prerequisites: ART 1023 and ART 2413. An emphasis on the development of a personal vision and individual approach to the use of the medium, including experimentation in multiple processes. ART 4433 may be repeated for credit. Specific UTSA Department of Art and Art History degree plans require students to take this course multiple times up to 15 credit hours (including Internship and Independent Study where the work falls primarily in the discipline of printmaking). Students enrolling in ART 4433 will be required to demonstrate an advanced and expanded performance building on their accomplishments in prior sections of ART 4433. This process of developing a refined skill set is time consuming and individualized to each student as are the benchmarks of material, process and conceptual success that characterize each student's work. Students taking ART 4433 for additional credit will be evaluated on an increased mastery of the skill sets defined above in the learning outcomes of this course. Increased mastery of skills will include but not be limited to: The exploration of an additional material(s) not used in prior semesters; The experimentation with, and the refinement of, an additional process(es) not used in prior semesters; Improved personal standard of quality demonstrated by a refinement in the sophistication of conceptual, material and process success that characterize the student's work; A demonstrated improvement of the student's ability or skill to formulate and verbally articulate his or her developing artistic direction measured against performance in prior semesters as well as over the course of the semester; An increased and more specific understanding of the history of printmaking especially directed towards the interests and investigations of the student. Generally offered: Fall, Spring. Course Fees: LRLF \$10; SAF1 \$45; STLF \$18.

ART 4533. Photography: Advanced Topics. (0-6) 3 Credit Hours.

Prerequisites: ART 2313 and ART 3513. Emphasis on the development of a personal voice through exploration of advanced photographic techniques, and concepts as well as self-defined projects. Students will build knowledge and understanding of photography as a fine art medium. Topics may include: Non-Silver and Alternative Processes; Controlled Lighting; Advanced Black and White; Image-Based Performance, Intervention, and Installation; Advanced Color and Digital Darkroom; Primitive Technologies—Pinhole and Toy Cameras. Transfer students who have not had experience with both digital and traditional darkroom techniques covered in ART 2313 and ART 3513 must enroll in these courses before proceeding to Photography: Advanced Topics. While each offered topic may be repeated once for credit, students who chose photography as their emphasis area should take a minimum of four of the offered topics. ART 4533 may be repeated for credit. Specific UTSA Department of Art and Art History degree plans require students to take this course multiple times up to 15 credit hours (including Internship and Independent Study where the work falls primarily in the discipline of Photography). Students enrolling in ART 4533 will be required to demonstrate an advanced and expanded performance building on their accomplishments in prior sections of ART 4533. This process of developing a refined skill set is time consuming and individualized to each student as are the benchmarks of material, process and conceptual success that characterize each student's work. Students taking ART 4533 for additional credit will be evaluated on an increased mastery of the skill sets defined above in the learning outcomes of this course. Increased mastery of skills will include but not be limited to: The exploration of an additional material(s) not used in prior semesters; The experimentation with, and the refinement of, an additional processes(s) not used in prior semesters; Improved personal standard of quality demonstrated by a refinement in the sophistication of conceptual, material and process success that characterize the student's work; A demonstrated improvement of the student's ability or skill to formulate and verbally articulate his or her developing artistic direction measured against performance in prior semesters as well as over the course of the semester; An increased and more specific understanding of the history of photography especially directed towards the interests and investigations of the student. (Formerly titled "Photography.") Generally offered: Fall, Spring, Summer. Course Fees: LRLF \$10; SAF1 \$45; STLF \$18.

ART 4673. Sculpture. (0-6) 3 Credit Hours.

Prerequisites: ART 1003, ART 1023, and ART 2613. An emphasis on the development of a personal vision and individual approach to the use of the medium. ART 4673 may be repeated for credit. Specific UTSA Department of Art and Art History degree plans require students to take this course multiple times up to 15 credit hours (including Internship and Independent Study where the work falls primarily in the discipline of Sculpture). Students enrolling in ART 4673 will be required to demonstrate an advanced and expanded performance building on their accomplishments in prior sections of ART 4673. This process of developing a refined skill set is time consuming and individualized to each student as are the benchmarks of material, process and conceptual success that characterize each student's work. Students taking ART 4673 for additional credit will be evaluated on an increased mastery of the skill sets defined above in the learning outcomes of this course. Increased mastery of skills will include but not be limited to: The exploration of an additional material(s) not used in prior semesters; The experimentation with, and the refinement of, an additional processes(s) not used in prior semesters; Improved personal standard of quality demonstrated by a refinement in the sophistication of conceptual, material and process success that characterize the student's work; A demonstrated improvement of the student's ability or skill to formulate and verbally articulate his or her developing artistic direction measured against performance in prior semesters as well as over the course of the semester; An increased and more specific understanding of the history of sculpture especially directed towards the interests and investigations of the student. Generally offered: Fall, Spring. Course Fees: LRLF \$10; SAF1 \$45; STLF \$18.

ART 4753. Ceramics. (0-6) 3 Credit Hours.

Prerequisites: ART 1003, ART 1013, and ART 2713. An exploration of advanced techniques and processes including large-scale ceramic sculpture, the use of armatures, and clay body and glaze development. Emphasis is placed on technical execution and the use of the material for personal expression. Readings, lectures, and presentations are designed to broaden the students' historical and contemporary reference. ART 4753 may be repeated for credit. Specific UTSA Department of Art and Art History degree plans require students to take this course multiple times up to 15 credit hours (including Internship and Independent Study where the work falls primarily in the discipline of Ceramics). Students enrolling in ART 4753 will be required to demonstrate an advanced and expanded performance building on their accomplishments in prior sections of ART 4753. This process of developing a refined skill set is time consuming and individualized to each student, as are the benchmarks of material, process and conceptual success that characterize each student's work. Students taking ART 4753 for additional credit will be evaluated on an increased mastery of the skill sets defined above in the learning outcomes of this course. Increased mastery of skills will include but not be limited to: The exploration of an additional material(s) not used in prior semesters; The experimentation with, and the refinement of, an additional processes(s) not used in prior semesters; Improved personal standard of quality demonstrated by a refinement in the sophistication of conceptual, material and process success that characterize the student's work; A demonstrated improvement of the student's ability or skill to formulate and verbally articulate his or her developing artistic direction measured against performance in prior semesters as well as over the course of the semester; An increased and more specific understanding of the history of ceramics especially directed towards the interests and investigations of the student. Generally offered: Fall, Spring, Summer. Course Fees: LRLF \$10; SAF1 \$45; STLF \$18.

ART 4833. Internship in the Visual Arts. (0-0) 3 Credit Hours.

Prerequisite: Consent of instructor. Students will participate in projects on an individual basis. The practical application of art methods and principles in such projects as providing special art programs or exhibition assistance to organizations and providing technical studio assistance for artists. Students must confer with instructor during the semester prior to enrolling in order to formulate the content of the internship. May be repeated for credit. (Formerly titled "Practicum in the Visual Arts.") Generally offered: Summer. Course Fees: LRLF \$10; SAF1 \$45; STLF \$18.

ART 4913. Independent Study. (0-0) 3 Credit Hours.

Prerequisite: Enrollment contingent upon completion and approval of Independent Study form. Independent studio projects produced under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. This course may be used only under extraordinary conditions when a self-directed student needs special instruction in an area of studio art not offered within normal course offerings. Generally offered: Fall, Spring. Course Fees: LRLF \$10; SAF1 \$45; STLF \$18.

ART 4953. Special Studies in Art. (0-6) 3 Credit Hours.

Prerequisite: Consent of instructor. An organized course offering the opportunity for specialized study not normally or not often available as part of the regular course offerings. Special Studies may be repeated for credit when topics vary, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. Generally offered: Fall, Spring. Course Fees: LRLF \$10; SAF1 \$45; STLF \$18.

ART 4973. B.A. Senior Seminar. (0-6) 3 Credit Hours.

Prerequisites: B.A. in Art students must have completed ART 3033 and must have completed application for graduation; must be taken in the last semester of degree completion. This course is a capstone experience for all students receiving the B.A. in Art and Art History. Students will prepare a final project in the form of a portfolio or written research project, with faculty approval. Various other course activities can include guest speakers, field trips, professional practices and life after graduation strategies. Students that need specialized studio access to complete portfolio pieces must be concurrently enrolled in the advanced section of the appropriate studio specialization in order to use the facilities. This course is only offered in the Fall and Spring semesters. Course Fees: DL01 \$75; LRLF \$10; SAF1 \$45; STLF \$18.

ART 4983. B.F.A. Senior Seminar and Exhibition. (0-6) 3 Credit Hours.

Prerequisites: ART 3033 and must have completed application for graduation. This course prepares the student in the professional concerns of aesthetics, art practices, and exhibition. The student will prepare work for a group exhibition in consultation with both the class instructor and a faculty advisor from his or her studio area of specialization. Students must be concurrently enrolled in the advanced section of their specialization in order to access the studio facilities and realize the final project. This course is only offered in the Fall and Spring semesters. Course Fees: LRLF \$10; SAF1 \$45; STLF \$18.

Art History and Criticism (AHC)

Art History and Criticism (AHC) Courses

AHC 1113. Survey of Art and Architecture from Prehistoric Times to 1350. (3-0) 3 Credit Hours. (TCCN = ARTS 1303)

A critical and historical study of art and architecture as it developed from Paleolithic times to 1350 in the various civilizations of Europe, the Near East, and the New World. Course will include selected readings from related fields. May be applied to the Creative Arts Core Curriculum requirements for art and non-art majors. Generally offered: Fall, Spring, Summer. Course Fees: DL01 \$75; LRC1 \$12; LRLF \$10; STLF \$18.

AHC 1123. Survey of Art and Architecture in Europe and the New World from 1350 to 1750. (3-0) 3 Credit Hours. (TCCN = ARTS 1304)

A critical and historical study of art and architecture as it developed from the Renaissance in Europe and the period of the Aztecs and Incas in the New World to 1750. Course will include selected readings from related fields. May be applied to the Creative Arts Core Curriculum requirement for art and non-art majors. Generally offered: Fall, Spring. Course Fees: DL01 \$75; LRC1 \$12; LRLF \$10; STLF \$18.

AHC 1133. Survey of Modern Art. (3-0) 3 Credit Hours.

A critical and historical study of modern art from 1750 to the present. Course will include selected readings from related fields. May be applied to the Creative Arts Core Curriculum requirement for art and non-art majors. Generally offered: Fall, Spring. Course Fees: LRC1 \$12; LRLF \$10; STLF \$18.

AHC 3113. Contemporary Art. (3-0) 3 Credit Hours.

Prerequisite: 3 semester credit hours of lower-division art history. History, theory, and criticism of the visual arts of the United States and Europe from 1960 to the present. (Formerly AHC 4113. Credit cannot be earned for both AHC 3113 and AHC 4113.) Generally offered: Fall, Spring, Summer. Course Fees: LRLF \$10; STLF \$18.

AHC 3423. Arts of Ancient Mesoamerica. (3-0) 3 Credit Hours.

Prerequisite: 3 semester credit hours of lower-division art history. A critical and historical study of art and architecture in Mexico and Central America before the Spanish conquest (1600 BC-1521 AD). (Formerly titled "Pre-Columbian Art and Architecture of Mesoamerica" and "Arts of Ancient America.") Course Fees: LRLF \$10; STLF \$18.

AHC 3523. Latin American Art. (3-0) 3 Credit Hours.

Prerequisite: 3 semester credit hours of lower-division art history. A critical and historical study of art from the independence period to the present. Course Fees: DL01 \$75; LRLF \$10; STLF \$18.

AHC 4333. Topics in Art History and Criticism. (3-0) 3 Credit Hours.

Prerequisite: 3 semester credit hours of lower-division art history passed with a grade of "C-" or better. Focus on a specific period, medium, or theoretical and critical issue within the history and criticism of art. May be repeated for credit when topics vary. Generally offered: Fall, Spring, Summer. Course Fees: DL01 \$75; LRLF \$10; STLF \$18.

AHC 4913. Independent Study. (0-0) 3 Credit Hours.

Prerequisite: Permission in writing (departmental form available) of the instructor, the student's advisor, the Department Chair, and the Dean of the College in which the course is offered. Independent reading, research, discussion and/or critical writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Course Fees: LRLF \$10; STLF \$18.

AHC 4933. Art Gallery and Museum Internship. (0-0) 3 Credit Hours.

Prerequisite: Permission in writing (departmental form available). Supervised experience related to preparation and installation of exhibitions in gallery and museum settings. Students must confer with instructor during the semester prior to enrolling in order to formulate the content of the internship. May be repeated once for a total of 6 credit hours. Enrollment limited to juniors and seniors with declared major or minor in Art History and Criticism. Generally offered: Spring. Course Fees: LRLF \$10; STLF \$18.

Astronomy (AST)

NOTE: All prerequisites for Astronomy (AST) courses must be completed with a grade of "C-" or better.

Astronomy (AST) Courses

AST 1013. Introduction to Astronomy. (3-0) 3 Credit Hours. (TCCN = ASTR 1303)

Prerequisite: MAT 1023 or MAT 1073. A descriptive course including the development of astronomy, its methods, and the motions, laws, and evolution of the solar system. Topics include general properties and types of stars, unusual stellar objects such as quasars and black holes, galaxies, evolution, and cosmology. Occasional evening viewing sessions are held. May apply toward the Core Curriculum requirement in Life and Physical Sciences. Generally offered: Fall, Spring, Summer. Course Fees: LRC1 \$12; LRS1 \$45; MEPA \$18; STSI \$21.

AST 1031. Introduction to Astronomy Laboratory. (1-2) 1 Credit Hour. (TCCN = ASTR 1103)

Prerequisite: Completion of or concurrent enrollment in AST 1013, or consent of instructor. This course is an introduction to practical observational techniques, using the school's telescopes as well as student-built classical instruments and exercises in the use of the telescope and certain other astronomical instruments, including simple observations, measurements, and photography. Topics include in-class projects on spectroscopy, stellar positions, solar heating, planetary motions, solar and astrophotography, star clusters, galaxies, and cosmology. Generally offered: Fall, Spring. Course Fees: LRC1 \$4; LRS1 \$15; MEPA \$18; STSI \$7.

AST 1033. Exploration of the Solar System. (3-0) 3 Credit Hours. (TCCN = ASTR 1304)

Prerequisite: MAT 1023 or MAT 1073. A descriptive course of modern studies of the solar system, including a survey of the properties of the planets and smaller bodies (asteroids and comets) and current theories of the origin of planetary systems. Topics include results from the latest satellite, robotic, and human exploration of space, origin of life in the solar system, existence of other planetary systems, possibilities of space colonization, and the search for extraterrestrial life (techniques and possibilities of communication with other intelligences). May apply toward the Core Curriculum requirement in Life and Physical Sciences. Generally offered: Fall, Spring. Course Fees: LRC1 \$12; LRS1 \$45; MEPA \$18; STSI \$21.

AST 3013. Fundamentals of Astronomy. (3-0) 3 Credit Hours.

Prerequisites: PHY 1963 (or PHY 1923 in previous catalogs) and MAT 1224 (or MAT 1193 and STA 1403) completed with a grade of "C-" or better. This is a one-semester introductory survey course on modern astronomy for science and engineering majors. Students need to be comfortable with solving problems and using math as a tool to help master the course material. Students concerned about their problem-solving and math skills should consider taking AST 1013 instead, which is intended for non-science majors. Among the topics covered are the celestial sphere, basic orbit theory, stellar parameters, binary stars and light curves, and basic introduction to stellar spectral classification. (Formerly AST 2063. Credit cannot be earned for both AST 3013 and AST 2063.) Generally offered: Summer. Differential Tuition \$150.

AST 3023. Introduction to Astrophysics. (3-0) 3 Credit Hours.

Prerequisite: AST 3013 or consent of instructor. Topics include an introduction to stellar structure and evolution, stellar atmospheres, collapsed stars, galactic structure, introduction to cosmology, etc. (Formerly AST 3003 and PHY 4003. Credit cannot be earned for more than one of the following: AST 3003, AST 3023 or PHY 4003.) Differential Tuition: \$150. Course Fee: MEPA \$18.

AST 4203. Stellar Astrophysics. (3-0) 3 Credit Hours.

Prerequisite: AST 3023 or consent of instructor. Topics include properties and evolution of stars, stellar atmospheres, stellar spectra, nuclear reactions, stellar models, equations of state, radiative transfer, nucleosynthesis in stars, supernovae, and degenerate stars. Differential Tuition \$150.

AST 4953. Special Studies in Astronomy. (3-0) 3 Credit Hours.

Prerequisites: AST 3023 and consent of instructor. An organized course offering the opportunity for specialized study not normally or not often available as part of the regular course offerings. Special Studies may be repeated for credit when the topics vary, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. Differential Tuition: \$150.

Bicultural Bilingual Studies (BBL)

Bicultural Bilingual Studies (BBL) Courses

BBL 2003. Language, Culture, and Society. (3-0) 3 Credit Hours. (TCCN = ANTH 2351)

The interdisciplinary study of language in its cultural and social contexts, with emphasis on linguistically diverse communities. Topics include language and ethnicity, language and gender, language and social class, language acquisition, oral and written language, and language variation and change. May be applied toward the Core Curriculum requirement in Social and Behavioral Sciences. Generally offered: Spring. Course Fees: LRC1 \$12; LRH1 \$20; STSH \$30.

BBL 2023. Latino Cultural Expressions. (3-0) 3 Credit Hours. (TCCN = HUMA 1311)

An introductory overview of Hispanic visual, performing, and folk arts from their origins in the Iberian peninsula, through the later blending of cultures and their parallelism during revolutionary periods, to contemporary Latino expressions in the United States. May be applied toward the Core Curriculum requirement in Creative Arts. (Same as MAS 2023. Credit cannot be earned for both BBL 2023 and MAS 2023.) Generally offered: Fall, Spring. Course Fees: DL01 \$75; LRC1 \$12; LRH1 \$20; STSH \$30.

BBL 2033. Multiculturalism in the Southwest. (3-0) 3 Credit Hours.

A panoramic study of the concept of culture and the social dynamics of exchange among those ethnic groups that determine the multicultural milieu of the Southwest. Examination of cultural differences and similarities among all peoples of the region and the role of multiculturalism in politics, education, economics, religion, and everyday life. (Same as MAS 2033. Credit cannot be earned for both BBL 2033 and MAS 2033.) Course Fees: DL01 \$75; LRH1 \$20; STSH \$30.

BBL 2123. Diversity in Early Childhood. (3-0) 3 Credit Hours.

Study of diversity within early childhood contexts including culture, language, traditions, beliefs, family structure, socioeconomic background, ability, and national origin within the U.S. and the world. (Same as ECE 2123. Credit cannot be earned for both BBL 2123 and ECE 2123.) Course Fees: LRH1 \$20; STSH \$30.

BBL 2243. Bilingual Families, Communities, and Schools: National and Transnational Experiences. (3-0) 3 Credit Hours. (TCCN = ANTH 2351)

Examines families, communities, and schools to support the achievement of Latinx bilingual children. Explores the historical, political, and social factors influencing access to a quality education for immigrant learners. Topics include: citizenship, cultural preservation, and biculturalism. May be applied toward the Core Curriculum requirement in Social and Behavioral Sciences. Course Fees: LRC1 \$12; LRH1 \$20; STSH \$30.

BBL 3013. Language Analysis and Bilingualism. (3-0) 3 Credit Hours.

Survey of concepts in descriptive and contrastive linguistics; analysis of language contact phenomena, including cross-linguistic transfer, language alternation, and bilingualism. Offered in Spanish and English. Generally offered: Spring, Summer. Course Fees: LRH1 \$20; STSH \$30.

BBL 3033. Mexican Americans in the Southwest. (3-0) 3 Credit Hours.

Historical foundations of the United States–Mexico biculturalism in the Southwest. An examination of the historical forces that created and shaped the Mexican American people as a bicultural community. Attention is given to Mexican American contributions in arts, economics, literature, and politics. (Same as MAS 3033. Credit cannot be earned for both BBL 3033 and MAS 3033.) Generally offered: Fall, Spring. Course Fees: LRH1 \$20; STSH \$30.

BBL 3043. Social Psychological Considerations in Mexican American Communities. (3-0) 3 Credit Hours.

A cross-cultural and social psychological study of human development, interethnic communication, stereotyping, learning styles, or other topics relevant to the bicultural setting. (Same as MAS 3043. Credit cannot be earned for both BBL 3043 and MAS 3043.) Course Fees: LRH1 \$20; STSH \$30.

BBL 3053. Foundations of Bilingual Studies. (3-0) 3 Credit Hours.

Investigation of the philosophies and theories of schooling in bilingual societies, with focus on language policy and the sociological, psychological, and legal aspects involved. A minimum of six hours of field experience is required. (Formerly BBL 4023. Credit cannot be earned for both BBL 3053 and BBL 4023.) Generally offered: Fall, Spring. Course Fees: LRH1 \$20; STF1 \$75; STSH \$30.

BBL 3063. Historical Legacies: Chicanas/os in Education. (3-0) 3 Credit Hours.

This course presents key texts that are central to the study of Chicanas/os in education. This course critically examines the historical legacies and contemporary experiences of Chicana/o children and youth in U.S. educational institutions. The course will present various theoretical perspectives that problematize the pervasive history of educational inequality and patterns of academic attainment and achievement throughout the educational pipeline. Special attention will be given to the pervasive history of segregation, tracking, language oppression, and assimilationist ideologies and practices, as well as the current struggles for educational justice in Chicana/o schools and communities. (Same as MAS 3063. Credit cannot be earned for both BBL 3063 and MAS 3063.) Course Fees: LRH1 \$20; STSH \$30.

BBL 3123. Mexican American Culture. (3-0) 3 Credit Hours.

A survey of Mexican American cultural distinctiveness in the areas of biculturalism, cultural production, and social organization. Topics may include family and kinship, folklore, health, language, music, and religion. (Formerly BBL 3023. Same as MAS 3123. Credit can be earned for only one of the following: BBL 3023, BBL 3123, or MAS 3123.) Generally offered: Fall, Spring, Summer. Course Fees: LRH1 \$20; STSH \$30.

BBL 3133. Language Development in Bilinguals. (3-0) 3 Credit Hours.

A study of bilingual language development in its social and cultural contexts. Emphasis on factors affecting successful bilingual language development in schools and communities. Generally offered: Fall, Spring. Course Fees: LRH1 \$20; STSH \$30.

BBL 3143. Children's Literature for Bilingual Learners. (3-0) 3 Credit Hours.

Designed to familiarize students with oral and written children's literature in bilingual programs. Focus is on bilingual students' affective, linguistic, and literacy needs through appropriate instruction with authentic literature. Emphasis on Mexican American cultural experiences as well as universal themes. Taught in Spanish and English. Field experience required. Generally offered: Fall, Summer. Course Fees: LRH1 \$20; STSH \$30.

BBL 3403. Cultural and Linguistic Equity for Schooling. (3-0) 3 Credit Hours.

Examination of sociolinguistic and sociocultural principles central to culturally diverse settings, including the classroom. Topics include educational equity, segregated schooling, the achievement gap, hegemony, and social dominance theory. Various pedagogical practices will be explored to identify culturally inclusive responses. Field experience required. (Formerly titled "Cultural and Linguistic Diversity in a Pluralistic Society.") Generally offered: Fall, Spring, Summer. Course Fees: DL01 \$75; ISCU \$120; LRH1 \$20; STF1 \$75; STSH \$30.

BBL 3823. Reading Comprehension in Bilingual Settings. (3-0) 3 Credit Hours.

Prerequisites: Admission to the Teacher Certification Program, ECE 3143, ECE 3313, and ECE 3603. Concurrent enrollment in CI 4353, CI 4403, and ECE 4203 is required. May not be taken concurrently with CI 4303, ECE 4143, and LTED 4833. Study of the reading comprehension process, including how textual, reader, psychological, contextual, and cultural factors affect understanding of text. Emphasis is placed on cognitive reading strategies for comprehending narrative and expository text. Emphasis is also placed on strategies for teaching and evaluating vocabulary, comprehension, and thinking skill in the content areas. This course must be completed with a grade of "B-" or better for students to enroll in Block C courses. For EC-6 generalists, this course must be completed with a grade of "B-" or better for it to serve as a prerequisite for CI 4616 Clinical Teaching: Early Childhood-Grade 6. Restricted course; advisor code required for registration. Field experience required. BBL 3823 is primarily taught in Spanish. (Credit cannot be earned for both LTED 3823 and BBL 3823.) Course Fees: LRH1 \$20; STF1 \$75; STSH \$30.

BBL 4003. Spanish for Bilingual Instructional Delivery. (3-0) 3 Credit Hours.

Designed to improve the Spanish proficiencies of bilingual classroom teachers. Study of the grammar, writing conventions, and vocabulary for effective communication and instructional delivery in a formal bilingual classroom setting. Taught in Spanish. Generally offered: Fall, Spring, Summer. Course Fees: LRH1 \$20; STSH \$30.

BBL 4013. Advanced Spanish for Bilingual Teaching and Learning. (3-0) 3 Credit Hours.

Prerequisite: BBL 4003 or departmental permission. Advanced study of formal academic Spanish for future bilingual educators. Extensive practice in reading and creating authentic didactic materials, instructional delivery, and effective communication with Spanish-speaking parents and community members. Taught in Spanish. Generally offered: Summer. Course Fees: LRH1 \$20; STSH \$30.

BBL 4033. Assessment, Learning, and Motivation in Bicultural-Bilingual Classrooms. (3-0) 3 Credit Hours.

Prerequisites: Admission to a Bilingual Generalist Teacher Certification Program; BBL 3053, LTED 3823, and successful completion of the ALPS (Assessment of Language Proficiency in Spanish) sequence. Must be taken concurrently with BBL 4063, BBL 4073, and BBL 4403 for Bilingual Generalist EC-6 Teacher Certification majors. Must be taken concurrently with BBL 4063 and BBL 4073 for Bilingual Generalist 4-8 Teacher Certification majors. A survey of learning and motivation theory and examination of evaluation and assessment procedures in bicultural-bilingual settings, including formal and informal assessment of language proficiency and learning for instructional purposes. The appropriate use of standardized tests with language minority populations will be included. Field experience is required. Taught in Spanish and English. Generally offered: Fall, Spring. Course Fees: LEA2 \$15; LRH1 \$20; STF1 \$75; STSH \$30.

BBL 4043. Dual Language Education in Early Childhood. (3-0) 3 Credit Hours.

Appropriate bilingual programs and pedagogical strategies for young children. Special emphasis on immersion programs and the effects on children's development. Course Fees: LRH1 \$20; STF1 \$75; STSH \$30.

BBL 4063. Bilingual Approaches to Content-Based Learning. (3-0) 3 Credit Hours.

Prerequisites: Admission to a Bilingual Generalist Teacher Certification Program; BBL 3053, LTED 3823, and successful completion of the ALPS (Assessment of Language Proficiency in Spanish) sequence. Must be taken concurrently with BBL 4033, BBL 4073, and BBL 4403 for Bilingual Generalist EC-6 Teacher Certification majors. Must be taken concurrently with BBL 4033 and BBL 4073 for Bilingual Generalist 4-8 Teacher Certification majors. An investigation of appropriate first language usage in bilingual classrooms, focusing on the different content areas, appropriate terminology for native language instruction, and the study of languages distribution strategies. Field experience required. Taught in Spanish. Generally offered: Fall, Spring. Course Fees: LRH1 \$20; STF1 \$75; STSH \$30.

BBL 4073. Language Arts in a Bicultural-Bilingual Program. (3-0) 3 Credit Hours.

Prerequisites: Admission to a Bilingual Generalist Teacher Certification Program; BBL 3053, LTED 3823, and successful completion of the ALPS (Assessment of Language Proficiency in Spanish) sequence. Must be taken concurrently with BBL 4033, BBL 4063, and BBL 4403 for Bilingual Generalist EC-6 Teacher Certification majors. Must be taken concurrently with BBL 4033 and BBL 4063 for Bilingual Generalist 4-8 Teacher Certification majors. An examination of theories, instructional strategies, texts and materials for biliteracy development in the elementary bilingual classroom. Emphasis on the integrated use of listening, speaking, reading, and writing in content area teaching. Field experience required. Taught in Spanish. Generally offered: Fall, Spring. Course Fees: LRH1 \$20; STF1 \$75; STSH \$30.

BBL 4353. Approaches to Teaching Science EC-6. (2-2) 3 Credit Hours.

Prerequisites: Admission to the Teacher Certification Program; BBL 3053, IDS 2403, IDS 2413, IDS 3201, and IDS 3211. A study of pedagogical approaches, materials, and resources designed to support children's meaningful exploration, discovery, and construction of basic concepts and skills in EC-Grade 6. Emphasis in the course will be on the interrelatedness of science in the daily lives of students, unifying concepts and processes common to all sciences, development of effective learning environments for science both inside and outside of the classroom, planning and implementation of inquiry-based science lessons, assessment of student learning, and the use of an integrated approach to teaching. Restricted course; advisor code required for registration. Field experiences required. (Same as CI 4353 and C&I 4353. Credit can only be earned for one of the following: BBL 4353, C&I 4353, or CI 4353.) Generally offered: Fall, Spring. Course Fees: LRH1 \$20; STF1 \$75; STSH \$30.

BBL 4403. Approaches to Teaching Mathematics EC-6. (3-0) 3 Credit Hours.

Prerequisites: Admission to Bilingual Generalist EC-6 Teacher Certification Program; BBL 3053, LTED 3823, and successful completion of the ALPS (Assessment of Language Proficiency in Spanish) sequence. Must be taken concurrently with BBL 4033, BBL 4063, and BBL 4073 for Bilingual Generalist EC-6 Teacher Certification majors. This course involves the study of instructional methods and materials that support diverse children's meaningful exploration, discovery, and development of basic concepts and skills in mathematics from EC-Grade 6. Emphasizing a constructivist approach to the teaching and learning of mathematics, this course also advances the use of technology to facilitate mathematics understanding. Attention will be given to understanding the interrelatedness of mathematics and other content areas, creating effective learning environments, planning and implementing lesson plans to meet the differentiated needs of a wide variety of learners, and assessing student learning in mathematics. Restricted course; advisor code required for registration. Field experiences required. (Same as C&I and CI 4403. Credit can only be earned for one of the following: BBL 4403, C&I 4403, or CI 4403.) Generally offered: Fall, Spring. Course Fees: LRH1 \$20; STF1 \$75; STSH \$30.

BBL 4913. Independent Study. (0-0) 3 Credit Hours.

Prerequisites: Permission in writing (form available) from the instructor, the student's advisor, and the Department Chair in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Course Fee: STSH \$30.

BBL 4953. Special Studies in Bilingual and Bicultural Studies. (3-0) 3 Credit Hours.

Prerequisite: Consent of instructor. An organized course offering the opportunity for specialized study not normally or not often available as part of the regular course offerings. Special Studies may be repeated for credit when the topics vary, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. To apply credit earned in BBL 4953 toward a minor, consent of the academic advisor is required. Course Fees: LRH1 \$20; STSH \$30.

Biology (BIO)

NOTE: All prerequisites for Biology (BIO) courses must be completed with a grade of "C-" or better.

Biology (BIO) Courses

BIO 1033. Drugs and Society. (3-0) 3 Credit Hours. (TCCN = PHED 1346)
An examination of licit and illicit drugs and their biosocial effects. Topics include pharmacology of alcohol, stimulants, hallucinogens, addiction, and abuse. May be applied toward the Core Curriculum requirement in Social and Behavioral Sciences. Generally offered: Fall, Spring. Course Fees: LRC1 \$12; LRS1 \$45; STSI \$21.

BIO 1053. Introductory Microbiology. (3-0) 3 Credit Hours. (TCCN = BIOL 2320)

Prerequisite: BIO 1233 or BIO 1404. A general study of microorganisms, their characteristics, isolation, growth, and importance in nature, industry, public health, and human disease. (Formerly AHS 1053. Credit cannot be earned for both BIO 1053 and AHS 1053. BIO 1053 cannot substitute for BIO 3713.) Generally offered: Fall, Spring. Course Fees: LRS1 \$45; STSI \$21.

BIO 1061. Introductory Microbiology Laboratory. (0-3) 1 Credit Hour. (TCCN = BIOL 2120)

Prerequisites: BIO 1233 or BIO 1404, and completion of or concurrent enrollment in BIO 1053. Course provides basic microbiology lab skills and procedures, with emphasis on the growth, identification, and control of microbes of concern to health-care professionals. Immunodeficient and pregnant students must contact the Coordinator, Microbiology Teaching Labs, for additional instructions prior to the class start date. (Formerly AHS 1061. Credit cannot be earned for both BIO 1061 and AHS 1061. BIO 1061 cannot substitute for BIO 3722.) Generally offered: Fall, Spring, Summer. Course Fees: IUB1 \$10; L001 \$30; LRS1 \$15; STSI \$7.

BIO 1233. Contemporary Biology I. (3-0) 3 Credit Hours. (TCCN = BIOL 1308)

This is the first course in a two-part introduction to the science of biology for non-majors. This course focuses on the chemical basis of life, principles of inheritance, principles of evolution and biodiversity. May be applied toward the Core Curriculum requirement in Life and Physical Sciences. May not be applied to a B.S. degree in Biology or B.S. degree in Microbiology and Immunology. Generally offered: Fall, Spring. Course Fees: LRC1 \$12; LRS1 \$45; STSI \$21.

BIO 1243. Contemporary Biology II. (3-0) 3 Credit Hours. (TCCN = BIOL 1309)

This is the second course in a two-part introduction to the science of biology for non-majors. This course focuses on evolution, animal and plant physiology, and ecology. May be applied toward the Core Curriculum requirement in Life and Physical Sciences. May not be applied to a B.S. degree in Biology or the B.S. degree in Microbiology and Immunology. Generally offered: Fall, Spring, Summer. Course Fees: DL01 \$75; LRC1 \$12; LRS1 \$45, STSI \$21.

BIO 1404. Biosciences I. (3-4) 4 Credit Hours. (TCCN = BIOL 1406)

Prerequisite: Completion of or concurrent enrollment in one of the following: STA 1053, MAT 1023, MAT 1073, or higher. This is the first course in a two-part introduction to the science of biology for students majoring in biology or interested in pre-health professions. Topics include biochemistry, cell biology, genetics and molecular biology. The course includes 3 hours of lecture and a mandatory 3.5-hour laboratory per week. May be applied toward the Core Curriculum requirement in Life and Physical Sciences. (Formerly BIO 1113 and BIO 1203. Credit cannot be earned for both BIO 1404 and BIO 1113 or BIO 1203.) Generally offered: Fall, Spring, Summer. Course Fees: IUB1 \$10; L001 \$30; LRC1 \$16; LRS1 \$60; STSI \$28.

BIO 1414. Biosciences II. (3-4) 4 Credit Hours. (TCCN = BIOL 1407)

Prerequisites: BIO 1404 and completion of or concurrent enrollment in one of the following: STA 1053, MAT 1023, MAT 1073, or higher. This is the second course in a two-part introduction to the science of biology for students majoring in biology or interested in pre-health professions. Topics include evolutionary biology, biotic diversity, plant structure and function, and ecology. The course includes 3 hours of lecture and a mandatory 3.5-hour laboratory per week. May be applied toward the Core Curriculum requirement in Life and Physical Sciences. (Formerly BIO 1143, BIO 1223 and BIO 1413. Credit cannot be earned for more than one of the following: BIO 1143, BIO 1223, BIO 1413, BIO 1414, or ES 2013.) Generally offered: Fall, Spring, Summer. Course Fees: IUB1 \$10; L001 \$30; LRC1 \$16; LRS1 \$60; STSI \$28.

BIO 2003. Biology of Human Reproduction. (3-0) 3 Credit Hours.

An in-depth look at human reproductive anatomy, physiology, and behavior. Topics to be considered include anatomy, sex differentiation, neuroendocrine physiology, conception and development, birth control, and sexually transmitted diseases. (Formerly BIO 1023. Credit cannot be earned for both BIO 2003 and BIO 1023.) Generally offered: Spring. Course Fees: LRS1 \$45; STSI \$21.

BIO 2043. Nutrition. (3-0) 3 Credit Hours. (TCCN = BIOL 1322)

Prerequisite: BIO 1233 or BIO 1404. In-depth study of nutrient classes in foods: their ingestion, digestion, absorption and utilization by the human body. Clinical consequences of nutrient deficiency or excess, and Medical Nutrition Therapy to complement management of disease. (Formerly AHS 2043. Same as NDT 2043. Credit cannot be earned for more than one of the following courses: AHS 2043, BIO 2043, or NDT 2043.) Generally offered: Fall, Spring, Summer. Course Fees: LRS1 \$45; STSI \$21.

BIO 2051. Human Anatomy and Physiology Laboratory I. (0-3) 1 Credit Hour. (TCCN = BIOL 2101)

Prerequisite: BIO 1233 or BIO 1404. Concurrent enrollment in BIO 2053 is recommended. This laboratory supplements the BIO 2053 lecture. It is the first of a two-course laboratory sequence that uses both dissections of representative organisms and laboratory experimentation to study human anatomical systems and physiological processes. (Credit cannot be earned for both BIO 2051 and BIO 2091. BIO 2051 cannot substitute for BIO 3422.) Generally offered: Fall, Spring, Summer. Course Fees: IUB1 \$10; L001 \$30; LRS1 \$15; STSI \$7.

BIO 2053. Human Anatomy and Physiology I. (3-0) 3 Credit Hours. (TCCN = BIOL 2301)

Prerequisite: BIO 1233 or BIO 1404. Concurrent enrollment in BIO 2051 is recommended. This is the first of a two-course sequence that provides an integrative study of the anatomy and physiology of the human body with an emphasis on the structure/function interrelationships between organ systems. Topics covered include cell and tissue biology, the integumentary, skeletal, muscular, and nervous systems. (Credit cannot be earned for both BIO 2053 and BIO 2083. BIO 2053 cannot substitute for BIO 3413.) Generally offered: Fall, Spring, Summer. Course Fees: LRS1 \$45; STSI \$21.

BIO 2061. Human Anatomy and Physiology Laboratory II. (0-3) 1 Credit Hour. (TCCN = BIOL 2102)

Prerequisite: BIO 2051. Concurrent enrollment in BIO 2063 is recommended. This laboratory supplements the BIO 2063 lecture. It is the second of a two-course laboratory sequence that uses both dissections of representative organisms and laboratory experimentation to study human anatomical systems and physiological processes. (Credit cannot be earned for both BIO 2061 and BIO 2111. BIO 2061 cannot substitute for BIO 3422.) Generally offered: Fall, Spring, Summer. Course Fees: IUB1 \$10; L001 \$30; LRS1 \$15; STSI \$7.

BIO 2063. Human Anatomy and Physiology II. (3-0) 3 Credit Hours. (TCCN = BIOL 2302)

Prerequisite: BIO 2053. Concurrent enrollment in BIO 2061 is recommended. This is the second of a two-course sequence that provides an integrative study of the anatomy and physiology of the human body with an emphasis on the structure/function interrelationships between organ systems. Topics covered include the endocrine, digestive, respiratory, cardiovascular, lymphatic/immune, renal and reproductive systems. Human growth and development will also be covered. (Credit cannot be earned for both BIO 2063 and BIO 2103. BIO 2063 cannot substitute for BIO 3413.) Generally offered: Fall, Spring, Summer. Course Fees: LRS1 \$45; STSI \$21.

BIO 2313. Genetics. (3-0) 3 Credit Hours. (TCCN = BIOL 2316)

Prerequisites: BIO 1414 and completion or concurrent enrollment in one of the following: MAT 1093 (or higher) or STA 1053. Principles governing transmission of hereditary factors in plants and animals, with emphasis on molecular, biochemical, and population genetics. Generally offered: Fall, Spring, Summer. Course Fees: LRS1 \$45; STSI \$21.

BIO 2362. Molecular Genetics Laboratory. (1-4) 2 Credit Hours.

Prerequisites: BIO 1414, CHE 1103, and completion or concurrent enrollment in MAT 1093 or higher. A study of techniques used to investigate the inheritance of genetic information at the molecular level. Students will gain an understanding of the structure, function and regulation of genes. Techniques will include; nucleic acid biochemistry, molecular cloning mutagenesis and bioinformatics. (Formerly BIO 2322. Credit cannot be earned for both BIO 2362 and BIO 2322. Generally offered: Fall, Spring, Summer. Course Fees: L001 \$30; LRS1 \$30; STSI \$14.

BIO 2953. Special Topics in Biology. (3-0) 3 Credit Hours.

An organized course offering the opportunity for specialized study not normally or not often available as part of the regular course offerings. Special Topics may be repeated for credit when the topics vary, but not more than 6 semester credit hours will apply to a bachelor's degree, regardless of discipline. No more than 6 semester credit hours of BIO 2953, BIO 4951, or BIO 4953 can be applied to a Bachelor of Science degree in Biology or Microbiology and Immunology. Course Fees: LRS1 \$45; STSI \$21.

BIO 3013. Introduction to Clinical Medicine and Pathology. (3-0) 3 Credit Hours.

Prerequisite: BIO 2313. Introduction to concepts of human disease, diagnosis, and underlying pathology. Generally offered: Fall. Differential Tuition: \$150.

BIO 3043. UTeachSA Research Methods. (3-0) 3 Credit Hours.

Prerequisite: This course is only open to students who are participating in the UTeachSA teacher preparation program. Students design and carry out independent inquiries, which they write up and present in the manner that is common in the scientific community. Inquiries incorporate mathematics and the various science disciplines to solve research problems. Only 6 semester credit hours of BIO 3043, BIO 4911-3, BIO 4923 and BIO 4993, in any combination, can be taken as BIO electives. Additional research hours of these courses (excluding Independent Study) may be taken as free electives, for a maximum of 12 research hours being applied to the bachelor's degree. (Credit cannot be earned for both BIO 3043 and UTE 3043.) Generally offered: Fall. Spring. Differential Tuition \$150.

BIO 3123. Comparative Vertebrate Anatomy. (3-0) 3 Credit Hours.

Prerequisite: BIO 2313. A comparative analysis of developmental and adult anatomy of vertebrates (including human). Emphasis is placed on phylogenetic relationships between form, function and evolution. (Formerly BIO 2123. Credit cannot be earned for both BIO 2123 and BIO 3123.) Generally offered: Spring. Differential Tuition: \$150.

BIO 3213. Animal Behavior. (3-0) 3 Credit Hours.

Prerequisite: BIO 2313 or consent of instructor. This course will introduce various approaches to the study of animals and their behavior in natural habitats. The course will examine basic principles derived from studying the evolution, ecology and development of animals, and use these principles to explain how and why animals behave as they do in particular situations. Generally offered: Fall, Summer. Spring. Differential Tuition \$150.

BIO 3263. The Woody Plants. (2-3) 3 Credit Hours.

Prerequisite: BIO 2313 and junior or senior status: a minimum of 60 semester credit hours. A study of the woody plants emphasizing the characteristics of family, genus, and species. Includes identification of the common woody plants. Leaf, stem, and flower morphology, anatomy, and collecting techniques. Lecture, laboratory, and fieldwork will be included as part of the course. (Same as ES 3223. Credit cannot be earned for both BIO 3263 and ES 3223.) Generally offered: Fall. Differential Tuition: \$150. Course Fee: STFB \$40.

BIO 3273. Biology of Flowering Plants. (2-3) 3 Credit Hours.

Prerequisite: BIO 2313 and junior or senior status: a minimum of 60 semester credit hours. A study of the wildflowers of Texas emphasizing identification of the more common wildflowers, as well as family characteristics, flower anatomy, plant morphology, and plant-collecting techniques will be included. Lecture, laboratory, and fieldwork will be included as part of the course. (Same as ES 3213. Credit cannot be earned for both BIO 3273 and ES 3213.) Generally offered: Spring. Spring. Differential Tuition \$150.

BIO 3283. Principles of Ecology. (3-0) 3 Credit Hours.

Prerequisite: BIO 1414. A study of the interaction of organisms with their environment, with focus on ecological principles, adaptations of organisms, environmental pollution, and principles of conservation. (Credit cannot be earned for both BIO 3283 and ES 3033.) Generally offered: Fall, Spring, Summer. Differential Tuition: \$150.

BIO 3292. Principles of Ecology Laboratory. (0-6) 2 Credit Hours.

Prerequisites: BIO 1414 and completion of or concurrent enrollment in BIO 3283. A field-oriented course emphasizing modern ecological techniques, including examinations of plant and animal populations and measurement of selected chemical and physical parameters. (Credit cannot be earned for both BIO 3292 and ES 3042.) Generally offered: Fall, Spring, Summer. Differential Tuition: \$150. Course Fees: IUB1 \$10; L001 \$30; STFB \$40.

BIO 3323. Evolution. (3-0) 3 Credit Hours.

Prerequisite: BIO 2313. A discussion of theories and possible mechanisms for evolutionary changes at various levels of organization. Generally offered: Spring. Differential Tuition: \$150.

BIO 3333. Plants and Society. (3-0) 3 Credit Hours.

Prerequisite: BIO 2313. The importance of plants and plant-derived products to human health and wellbeing through the provision of food, pharmaceuticals, and other important natural products. (Formerly BIO 2343. Credit cannot be earned for both BIO 3333 and BIO 2343.) Generally offered: Spring. Spring. Differential Tuition \$150.

BIO 3343. Plant Cell Biology. (3-0) 3 Credit Hours.

Prerequisite: BIO 2313. A comprehensive study of the molecular structures and functions of plant cells and their integration into the whole plant system. (Formerly titled "Plant Sciences.") Generally offered: Spring. Spring. Differential Tuition \$150.

BIO 3362. Molecular Biochemistry Laboratory. (1-4) 2 Credit Hours.

Prerequisites: BIO 2362, CHE 1103, and completion or concurrent enrollment in MAT 1093 or higher. A study of the microscopic, biochemical and molecular techniques used to investigate biochemical reactions and the structure and function of proteins in cells and tissues. Techniques will include; protein extraction, protein characterization, enzyme kinetics, chromatography, western blotting, Immunofluorescence and bioinformatics. (Credit cannot be earned for both BIO 3362 and any of the following: BIO 3522, BIO 3822, or BME 3114.) Generally offered: Fall, Spring, Summer. Differential Tuition: \$100. Course Fees: IUB1 \$10; L001 \$30.

BIO 3382. Sophomore Research Initiative Peer Mentor. (0-0) 2 Credit Hours.

Prerequisites: BIO 3362, completion of the Sophomore Research Initiative, and instructor consent. Student will be a peer mentor for students in the Sophomore Research Initiative (SRI) in a laboratory in which they were previously enrolled, and which they completed with a grade of "A" or "B". Students will work under the guidance of a graduate teaching assistant or laboratory coordinator. Besides assisting in the laboratory, students will be expected to attend group meetings associated with the laboratory, help with setup of the laboratories and complete a written assignment at the end of the semester. Students will not have any student grading responsibility. Cannot be repeated for credit. Differential Tuition: \$100. Course Fees: IUB1 \$10; L001 \$30.

BIO 3413. Physiology. (3-0) 3 Credit Hours.

Prerequisite: BIO 2313. This course is designed to develop the skills and competencies needed by students to understand the dynamic physiological processes underlying the maintenance of homeostatic balance in animals. Topics to be covered include endocrine, neural, muscular, cardiopulmonary and renal physiology. (BIO 2103 or BIO 3153 cannot substitute for BIO 3413.) Generally offered: Fall, Spring, Summer. Differential Tuition: \$150.

BIO 3422. Physiology Laboratory. (1-5) 2 Credit Hours.

Prerequisite: Completion or concurrent enrollment in BIO 3413. Basic understanding of the physiological processes in living systems employing methods and instruments of biological research. (BIO 2111 cannot substitute for BIO 3422.) Generally offered: Fall, Spring, Summer. Differential Tuition: \$100. Course Fees: DL01 \$50; IUB1 \$10; L001 \$30.

BIO 3433. Neurobiology. (3-0) 3 Credit Hours.

Prerequisite: BIO 1414. Anatomy and physiology of nervous systems; the mechanisms of neuronal functions. Generally offered: Fall, Spring. Differential Tuition: \$150.

BIO 3442. Neurobiology Laboratory. (0-4) 2 Credit Hours.

Prerequisite: BIO 1414 and completion of or concurrent enrollment in BIO 3433. A laboratory course emphasizing principles presented in BIO 3433. Generally offered: Fall, Spring. Differential Tuition: \$100. Course Fees: IUB1 \$10; L001 \$30.

BIO 3453. Neuroscience and Our Future. (3-0) 3 Credit Hours.

Prerequisite: BIO 2313. A discussion of the implications of recent Neuroscience discoveries. Students will use available literature and their own powers of reason to separate fact from fantasy, and determine what future applications of Neuroscience may be possible. Generally offered: Spring. Differential Tuition: \$150.

BIO 3513. Biochemistry. (3-0) 3 Credit Hours.

Prerequisites: BIO 2313 and CHE 3643. Introduction to biochemistry: amino acids, protein structure, enzymes, lipids, metabolism, nucleic acid structure, bioenergetics, and carbohydrates. (Credit cannot be earned for both BIO 3513 and CHE 4303.) Generally offered: Fall, Spring, Summer. Differential Tuition: \$150.

BIO 3522. Biochemistry Laboratory. (1-4) 2 Credit Hours.

Prerequisites: BIO 2313, CHE 2603, CHE 2612, and completion of or concurrent enrollment in BIO 3513. Basic biochemical laboratory techniques: Protein assay, centrifugation, protein purification, chromatography, electrophoresis, western blotting, and enzyme kinetics. This laboratory includes an online component. (Credit cannot be earned for both BIO 3522 and BIO 3362.) Generally offered: Fall, Spring, Summer. Differential Tuition: \$100. Course Fees: DL01 \$50; IUB1 \$10; L001 \$30.

BIO 3623. Neuropsychopharmacology. (3-0) 3 Credit Hours.

Prerequisite: BIO 2313. BIO 3433 is recommended. A study of the pharmacology of drugs that affect the function of the central nervous system. Topics include drug-receptor interactions, drugs of abuse, and drugs used to treat mental illness. Generally offered: Fall. Differential Tuition: \$150.

BIO 3663. Human Embryology. (3-0) 3 Credit Hours.

Prerequisite: BIO 2313. Development of the human embryo from fertilization to the birth of the fetus. The origin of various tissues and organs will be followed during development. Environmental and genetic factors that can alter development will be discussed. Generally offered: Fall. Differential Tuition: \$150.

BIO 3713. Microbiology. (3-0) 3 Credit Hours.

Prerequisite: BIO 1414. Concurrent enrollment in BIO 2313 and BIO 3722 is recommended. A comprehensive study of microorganisms, including their composition, morphology, growth, metabolism, classification, ecology, and significance in disease. (BIO 1053 cannot substitute for BIO 3713. Credit cannot be earned for both BIO 3713 and ES 3103.) Generally offered: Fall, Spring, Summer. Differential Tuition: \$150.

BIO 3722. Microbiology Laboratory. (0-6) 2 Credit Hours.

Prerequisites: BIO 1414, and completion of or concurrent enrollment in BIO 3713. Basic microbiology techniques with emphasis on microscopy; cell staining and characterization; species isolation techniques; bacterial cultivation, nutrition, and physical requirements; and the physical and chemical control of microbes. Immunodeficient and pregnant students must contact the Coordinator, Microbiology Teaching Labs, for additional instructions prior to the class start date. (BIO 1061 cannot substitute for BIO 3722. Credit cannot be earned for both BIO 3722 and ES 3112.) Generally offered: Fall, Spring, Summer. Differential Tuition: \$100. Course Fees: IUB1 \$10; L001 \$30.

BIO 3743. Bacteriology. (3-0) 3 Credit Hours.

Prerequisite: BIO 2313 and BIO 3713. BIO 3722 is recommended. A study of the phylogeny of prokaryotes; structure and function of prokaryotic cells; ecology and physiological diversity of prokaryotes; growth and control of microorganisms; genetics of bacteria and bacteriophages; bacteria as agents of disease; antibacterials and other chemotherapeutics; human applications of microbiology, microbial genomics and principles of microbial biotechnology. Generally offered: Fall. Differential Tuition: \$150.

BIO 3813. Cell Biology. (3-0) 3 Credit Hours.

Prerequisite: BIO 2313. BIO 3513 is recommended. A study of cellular molecules and metabolic processes; synthesis and regulation of macromolecules; differential gene expression; membranes and organelles; cytoskeleton; cell cycle and growth of normal and neoplastic cells. (Credit cannot be earned for both BIO 3813 and BME 3114.) Generally offered: Fall, Spring, Summer. Differential Tuition: \$150.

BIO 3822. Cell Biology Laboratory. (1-4) 2 Credit Hours.

Prerequisites: BIO 2313 and either BIO 2362 or CHE 1131, and completion of or concurrent enrollment in BIO 3813. A study of the microscopic, biochemical and molecular approaches used to investigate cellular structure and function, including the principles involved in the techniques, their practical application, and analysis of the data generated. This laboratory includes an online component. (Credit cannot be earned for both BIO 3822 and either of the following: BIO 3362 or BME 3114.) Generally offered: Fall, Spring, Summer. Differential Tuition: \$100. Course Fees: DL01 \$50; IUB1 \$10; L001 \$30.

BIO 3913. Molecular Biology. (3-0) 3 Credit Hours.

Prerequisite: BIO 2313; BIO 3513 is recommended. A study of nucleotides, DNA, replication, recombination, RNA, transcription, genetic code, translation, genomes, and chromosomes. Generally offered: Fall, Spring. Differential Tuition: \$150.

BIO 3933. Principles of Cancer Biology. (3-0) 3 Credit Hours.

Prerequisite: BIO 2313. BIO 3813 is recommended. A study of the underlying molecular and cellular biology involved in carcinogenesis, the roles of oncogenes and tumor suppressor genes in cancer development and progression, and modern technologies in cancer screening, diagnosis, treatments and prevention. Upon completion of the class, students should have gained a basic understanding of the mechanisms by which tumors arise and progress to cancer, potential therapeutic targets in cancer treatments, and an individual's actions that are expected to decrease the chances of cancer development. Generally offered: Fall. Spring. Differential Tuition \$150.

BIO 4033. Conservation Biology. (3-0) 3 Credit Hours.

Prerequisite: BIO 2313 and BIO 3283. The class topics will include studying the nature of the biosphere, threats to its integrity, and ecologically sound responses to these threats. Also included will be the origin and preservation of biotic diversity, how the rich variety of plant and animal life around us arose, how it has been maintained by natural processes, and how we can prevent its destruction. (Same as ES 4213. Credit cannot be earned for both BIO 4033 and ES 4213.) Generally offered: Fall. Differential Tuition: \$150.

BIO 4043. Desert Biology. (2-3) 3 Credit Hours.

Prerequisite: BIO 2313 and junior or senior status: a minimum of 60 semester credit hours, or consent of instructor. A study of the deserts of the world with an emphasis on U.S. deserts. Adaptations of plants and animals and their responses to desert conditions, as well as examinations of desert climatic patterns, geology, and natural history. Lecture, laboratory, and fieldwork will be included. (Same as ES 4123. Credit cannot be earned for both BIO 4043 and ES 4123.) Generally offered: Summer. Spring. Differential Tuition \$150.

BIO 4053. Wildlife Biology. (3-0) 3 Credit Hours.

Prerequisite: BIO 2313 and BIO 3283. An introduction to wildlife biology and management including ecological principles dealing with ecosystems, natural communities, and populations. The importance of animal behavior, the availability of food, cover, wildlife diseases, predators, hunting, and trapping will be included. Field studies will allow students to observe and apply classroom topics. (Same as ES 4243. Credit cannot be earned for both BIO 4053 and ES 4243.) Generally offered: Fall. Differential Tuition: \$150.

BIO 4063. Ornithology. (3-0) 3 Credit Hours.

Prerequisite: BIO 2313. A course covering various aspects of the biology of birds, including anatomy, physiology, systematics, evolution, behavior, ecology, and biogeography. Field trips will be included. (Same as ES 3163. Credit cannot be earned for both BIO 4063 and ES 3163.) Generally offered: Spring. Spring. Differential Tuition \$150.

BIO 4143. Developmental Biology. (3-0) 3 Credit Hours.

Prerequisite: BIO 2313; BIO 3813 is recommended. Overview of developmental biology focusing on the origins of classical concepts as well as modern molecular approaches. Emphasis will be placed on the mechanisms underlying developmental processes using both invertebrate and vertebrate examples. Subjects include axis formation, induction, morphogenesis, embryonic pattern formation, cell differentiation, and organogenesis. (Formerly BIO 3143. Credit cannot be earned for both BIO 4143 and BIO 3143.) Generally offered: Fall. Differential Tuition: \$150.

BIO 4233. Field Biology. (3-0) 3 Credit Hours.

Prerequisite: BIO 2313 and junior or senior status: a minimum of 60 semester credit hours, or consent of instructor. Concurrent enrollment in BIO 4241 is recommended. A study of the natural history of plants and animals in their native environment. Techniques for the identification of birds, mammals, reptiles, amphibians, insects, and the dominant flowering plants will be discussed. (Same as ES 4113. Credit cannot be earned for both BIO 4233 and ES 4113.) Generally offered: Summer. Spring. Differential Tuition \$150.

BIO 4241. Field Biology Laboratory. (0-3) 1 Credit Hour.

Prerequisite: BIO 2313 and junior or senior status: a minimum of 60 semester credit hours, or consent of instructor. Concurrent enrollment in BIO 4233 is recommended. A field-oriented course offering the opportunity for practical experience observing, collecting, and identifying Texas plants and animals. (Same as ES 4111. Credit cannot be earned for both BIO 4241 and ES 4111.) Generally offered: Summer. Differential Tuition \$50. Course Fees: IUB1 \$10; L001 \$30.

BIO 4453. Endocrinology. (3-0) 3 Credit Hours.

Prerequisite: BIO 2313. Molecular, cellular and physiological effects of hormones in health and disease. Topics include molecular mechanisms of hormone action in reproductive physiology, growth and development as well as defects in hormonal regulation underlying clinically important syndromes (e.g., diabetes, hypertension, osteoporosis and cancer). Generally offered: Fall. Differential Tuition: \$150.

BIO 4473. Advanced Clinical Medicine and Pathology. (3-0) 3 Credit Hours.

Prerequisite: BIO 2313 and BIO 3013. Advanced concepts of human disease, diagnosis, and underlying pathology. Generally offered: Spring. Differential Tuition \$150.

BIO 4483. Medical Mycology. (3-0) 3 Credit Hours.

Prerequisites: BIO 2313, BIO 3713, and BIO 3722. Comprehensive study of causative agents, pathogenesis, and treatment of human fungal diseases. Generally offered: Spring. Differential Tuition \$150.

BIO 4583. The Computational Brain. (3-0) 3 Credit Hours.

Prerequisite: BIO 2313 and BIO 3433. Principles of cellular neurophysiology and neuroanatomy are used to explore the computational operations performed by neurons and networks of neurons. Generally offered: Spring. Differential Tuition: \$150.

BIO 4643. Medicinal Plants. (3-0) 3 Credit Hours.

Prerequisite: BIO 2313; BIO 3513 is recommended. Ethnobotanical, biochemical and pharmacological aspects of some of our most important plant-derived drugs. Generally offered: Fall. Differential Tuition: \$150.

BIO 4723. Virology. (3-0) 3 Credit Hours.

Prerequisites: BIO 2313 and BIO 3513. Introduction to the molecular, genetic, and biological properties of viruses. Course will cover the basic concepts of virus structure, replication, virus/host interactions, pathogenesis, and evolution. Generally offered: Fall. Differential Tuition: \$150.

BIO 4743. Immunology. (3-0) 3 Credit Hours.

Prerequisite: BIO 2313. Concurrent enrollment in BIO 4752 is recommended. A study of the properties of antigens and antibodies and current concepts of humoral and cell-mediated immunity and the cells involved. Generally offered: Fall, Spring, Summer. Differential Tuition: \$150.

BIO 4752. Immunology Laboratory. (0-4) 2 Credit Hours.

Prerequisites: BIO 2313, BIO 2362 (or BIO 2322 in previous catalogs), and completion or concurrent enrollment in BIO 4743. Laboratory applications of principles presented in BIO 4743. (Formerly BIO 4751. Credit cannot be earned for both BIO 4751 and BIO 4752.) Generally offered: Fall, Spring, Summer. Differential Tuition: \$100. Course Fees: IUB1 \$10; L001 \$30.

BIO 4763. Parasitology. (3-0) 3 Credit Hours.

Prerequisite: BIO 2313. BIO 3713 is strongly recommended. This course is focused on eukaryotic parasites of medical or veterinary importance: their life cycles, epidemiology, control, and the diseases and pathology they cause. Evolutionary aspects of host-parasite interactions, the diversity of parasite biology, and the interrelationships between parasitology, vector biology, and public health will be emphasized. Generally offered: Spring. Differential Tuition \$150.

BIO 4783. Microbial Genetics and Physiology. (3-0) 3 Credit Hours.

Prerequisite: BIO 2313 and BIO 3713. A study of the genetic, physiological and molecular processes that influence gene transfer, pathogenesis, and drug resistance related to bacteria, fungi, and viruses. Generally offered: Spring. Differential Tuition \$150.

BIO 4813. Brain and Behavior. (3-0) 3 Credit Hours.

Prerequisite: BIO 2313. This course explores the brain basis of behavior, with a focus on understanding the neurophysiological, neurochemical and neuroanatomical underpinnings for a variety of simple and complex behaviors. Students will explore topics such as sensation and perception, pain, movement, sleep, biological rhythms, emotions, addiction, learning and memory, and neurodevelopment. The topics are grounded with examples of typical human behavior and disorders, such as Parkinson's disease, Autism, Schizophrenia and psychopathology. (Credit cannot be earned for both BIO 4813 and PSY 4183.) Generally offered: Fall. Differential Tuition: \$150.

BIO 4823. Cognitive Neuroscience. (3-0) 3 Credit Hours.

Prerequisite: BIO 2313 and BIO 3433 or BIO 4813 or PSY 4183 or consent of instructor. The biological basis of cognition, including perception, attention, learning, memory, emotion, language, and executive function. The course introduces students to the use of human neuroimaging experiments and clinical population, as well as research with other species, to study the brain basis of complex behavior and cognitive disorders, such as memory loss, language impairment and developmental disorders. Generally offered: Spring. Differential Tuition \$150.

BIO 4842. Clinical Gross Anatomy. (0-6) 2 Credit Hours.

Prerequisite: This course is only open to students participating in the Biology Pre-Medical Sciences Concentration. It will examine the anatomical/functional relationship of the human body, with special emphasis given to the different professional tracks (medical, pharmacy, dental and veterinarian). The course will encompass student presentations, discussion groups, online research, and demonstrations with models and use of the synthetic cadaver, in addition to lectures and dissection. Imaging techniques including CT scans, MRI, and x-ray radiography will be used to introduce the student to the clinical perspective, as well as a review of the histology of tissues both in health and diseased conditions. Generally offered: Fall. Differential Tuition: \$100. Course Fees: IUB1 \$10; L001 \$30.

BIO 4911. Independent Study. (0-0) 1 Credit Hour.

Prerequisite: Permission in writing (form available) from the instructor, an undergraduate academic advisor, the Department Chair, and the Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but no more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. Only 6 semester credit hours of BIO 3043, BIO 4911-3, BIO 4923 and BIO 4993, in any combination, can be taken as BIO electives. Additional research hours of these courses (excluding Independent Study) may be taken as free electives, for a maximum of 12 research hours being applied to the bachelor's degree. Generally offered: Fall, Spring, Summer. Differential Tuition: \$50.

BIO 4912. Independent Study. (0-0) 2 Credit Hours.

Prerequisite: Permission in writing (form available) from the instructor, an undergraduate academic advisor, the Department Chair, and the Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but no more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. Only 6 semester credit hours of BIO 3043, BIO 4911-3, BIO 4923 and BIO 4993, in any combination, can be taken as BIO electives. Additional research hours of these courses (excluding Independent Study) may be taken as free electives, for a maximum of 12 research hours being applied to the bachelor's degree. Generally offered: Fall, Spring, Summer. Differential Tuition: \$100. .

BIO 4913. Independent Study. (0-0) 3 Credit Hours.

Prerequisite: Permission in writing (form available) from the instructor, an undergraduate academic advisor, the Department Chair, and the Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but no more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. Only 6 semester credit hours of BIO 3043, BIO 4911-3, BIO 4923 and BIO 4993, in any combination, can be taken as BIO electives. Additional research hours of these courses (excluding Independent Study) may be taken as free electives, for a maximum of 12 research hours being applied to the bachelor's degree. Generally offered: Fall, Spring, Summer. Differential Tuition: \$150.

BIO 4923. Laboratory Research: Biology Concentrations. (0-0) 3 Credit Hours.

Permission in writing (form available in the Biology Department Office) from the faculty mentor, the student's advisor, the Department Chair, and the Dean of the College. Supervised laboratory research mentored by a faculty member engaged in active research within the student's designated area of concentration. May be repeated for credit, but no more than 6 semester credit hours will apply to a bachelor's degree. Only 6 semester credit hours of BIO 3043, BIO 4911-3, BIO 4923 and BIO 4993, in any combination, can be taken as BIO electives. Additional research hours of these courses (excluding Independent Study) may be taken as free electives, for a maximum of 12 research hours being applied to the bachelor's degree. Generally offered: Fall, Spring, Summer. Differential Tuition: \$150.

BIO 4951. Special Studies in Biology. (1-0) 1 Credit Hour.

An organized course offering the opportunity for specialized study not normally or not often available as part of the regular course offerings. Special Studies may be repeated for credit when the topics vary, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. No more than 6 semester credit hours of BIO 2953, BIO 4951, or BIO 4953 can be applied to a B.S. degree in Biology or Microbiology and Immunology. Differential Tuition: \$50.

BIO 4953. Special Studies in Biology. (3-0) 3 Credit Hours.

An organized course offering the opportunity for specialized study not normally or not often available as part of the regular course offerings. Special Studies may be repeated for credit when the topics vary, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. No more than 6 semester hours of BIO 2953, BIO 4951, or BIO 4953 can be applied to a B.S. degree in Biology or Microbiology and Immunology. Generally offered: Fall, Spring, Summer. Differential Tuition: \$150.

BIO 4981. Senior Seminar in Microbiology and Immunology. (1-0) 1 Credit Hour.

Prerequisite: Senior status, a minimum of 90 semester credit hours. This course is only open to seniors in the Microbiology and Immunology degree program. Students will learn how to interpret the scientific literature and to organize and present scientific research findings as reported in the current literature. May be repeated for credit. The grade report for the course is either "CR" (satisfactory performance) or "NC" (unsatisfactory performance). Generally offered: Fall, Spring. Course Fees: LRS1 \$5; STSI \$5.

BIO 4993. Honors Research. (0-0) 3 Credit Hours.

Enrollment limited to biology majors who are members of the Honors College or who are pursuing College of Sciences Honors, and who are in their last two semesters of study. Approval by the Honors College or College Honors Committee is required. Supervised research and preparation of an Honors Thesis. May be repeated for credit with approval, but no more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. Only 6 semester credit hours of BIO 4911-3, BIO 4923 and BIO 4993, in any combination, can be taken as BIO electives. Additional research hours of these courses (excluding Independent Study) may be taken as free electives, for a maximum of 12 research hours being applied to the bachelor's degree. Generally offered: Fall, Spring. Differential Tuition: \$150.

Biomedical Engineering (BME)

Biomedical Engineering (BME) Courses

BME 1002. Introduction to Biomedical Engineering. (2-0) 2 Credit Hours.

Prerequisites: A grade of "C-" or better, or concurrent enrollment in BIO 1404 and MAT 1214. This course is an introduction to the interdisciplinary field of biomedical engineering. Topics covered include core biomedical engineering areas such as Biomechanics, Biomaterials and Bioimaging. Generally offered: Spring. Course Fees: LRE1 \$20; STSE \$20.

BME 2103. Physiology for Biomedical Engineering. (3-1) 3 Credit Hours.

Prerequisites: Major in Biomedical Engineering and a grade of "C-" or better in BIO 1404 and MAT 1214. Fundamental principles of general and organs systems physiology, including composition and concentration of cellular and other body fluids, types of transport (e.g., diffusion, membrane transporters), energy (thermodynamics, metabolism), enzymes, feedback control, and membrane potentials with engineering applications and mathematical modeling. This course includes a 3 hour lecture and a 1 hour recitation. (Same as CME 2113. Credit cannot be earned for both BME 2103 and CME 2113.) Generally offered: Fall. Course Fees: LRE1 \$20; STSE \$30.

BME 2203. Biomechanics I. (3-1) 3 Credit Hours.

Prerequisites: A grade of "C-" or better in PHY 1963. Corequisites: BME 3211 and EGR 2323. Introduction to the fundamental engineering mechanics with focus on the human body. This course includes a 3 hour lecture and a 1 hour recitation. (Same as CME 2803. Credit cannot be earned for both BME 2203 and CME 2803.) Generally offered: Spring. Course Fees: LRE1 \$20; STSE \$30.

BME 3003. Biomaterials I. (3-1) 3 Credit Hours.

Prerequisites: A grade of "C-" or better, or concurrent enrollment in BME 1002 and CHE 1113. Introduction to the fundamental science of natural and synthetic biomaterials used for repairing human tissues and organs. Topics include crystal structures, phase diagrams, and properties of materials. This course includes a 3-hour lecture and a 1-hour recitation. (Formerly BME 2403. Credit cannot be earned for more than one of the following: BME 3003, BME 2403, or CME 3003.) Differential Tuition: \$165.

BME 3013. Clinical Internship in Biomedical Engineering. (0-0) 3 Credit Hours.

Prerequisites: A grade of "C-" or better in BME 3003 and BME 3114. This course will introduce students to the clinical environment, interacting with clinicians on current clinical problems and engineering approaches. Generally offered: Summer. Differential Tuition: \$165.

BME 3023. Biomedical Engineering Technology and Product Development. (3-0) 3 Credit Hours.

Prerequisite: A grade of "C-" or better in BME 3303. This course will introduce students to current biomedical technologies and product development. (Formerly BME 3022. Credit cannot be earned for both BME 3023 and BME 3022.) Differential Tuition: \$165.

BME 3033. Biomedical Engineering Internship. (0-0) 3 Credit Hours.

Prerequisite: A grade of "C-" or better in BME 3023. Internship with a biomedical industry. May be repeated for credit but no more than 3 semester credit hours will apply to a bachelor's degree. Differential Tuition: \$165.

BME 3041. Biomedical Engineering Research. (0-0) 1 Credit Hour.

Prerequisite: Consent of instructor. Advanced laboratory practice and introduction to biomedical engineering research. This course may be counted as one of the courses to satisfy one of the BME tracks. May be repeated for credit but no more than 3 semester credit hours will apply towards a bachelor's degree in Biomedical Engineering. Differential Tuition: \$55.

BME 3042. Biomedical Engineering Research. (0-0) 2 Credit Hours.

Prerequisite: Consent of instructor. Advanced laboratory practice and introduction to biomedical engineering research. This course may be counted as one of the courses to satisfy one of the BME tracks. May be repeated for credit but no more than 3 semester credit hours will apply towards a bachelor's degree in Biomedical Engineering. Differential Tuition: \$110.

BME 3043. Biomedical Engineering Research. (0-0) 3 Credit Hours.

Prerequisite: Consent of instructor. Advanced laboratory practice and introduction to biomedical engineering research. This course may be counted as one of the courses to satisfy one of the BME tracks. May be repeated for credit but no more than 3 semester credit hours will apply towards a bachelor's degree in Biomedical Engineering. Differential Tuition: \$165.

BME 3114. Cellular Biology for Biomedical Engineering. (3-4) 4 Credit Hours.

Prerequisites: Major in Biomedical Engineering and a grade of "C-" or better in BME 2103. Introduction to cell structure and function, energy conversions, protein sorting, signaling, cytoskeleton, cell adhesion, cell cycle, and mammalian genetics. A laboratory component will focus on techniques and procedures commonly used in cell and molecular biology with bioengineering applications. This class includes a 3-hour lecture and a 4-hour laboratory. (Formerly BME 2114. Same as CME 3113. Credit can be earned for only one of the following courses: BME 3114, CME 3113, BME 2114, or BIO 3813/BIO 3822.) Differential Tuition: \$220.

BME 3203. Biomechanics II: Cardiovascular. (3-0) 3 Credit Hours.

Prerequisites: A grade of "C-" or better in BME 2203 and BME 3211. Continuation of fundamental biomechanics to include elasticity, viscoelasticity, deformation, stress analysis, blood flow in the systemic and pulmonary circulation, and fluid-structure interaction. (Same as CME 3803. Credit cannot be earned for both BME 3203 and CME 3803.) Generally offered: Fall. Differential Tuition: \$165.

BME 3211. Biomedical Engineering Laboratory I. (0-4) 1 Credit Hour.

Prerequisite: A grade of "C-" or better in BME 1002. Corequisites: BME 2203, BME 3003, and either STA 1403 or STA 2303. A biomedical engineering lab in biomechanics and biomaterials. This lab-based course will emphasize the synthesis and characterization of mechanical properties as well as physical and chemical properties of biomaterials. (Formerly BME 2211. Credit cannot be earned for both BME 3211 and BME 2211.) Differential Tuition: \$55.

BME 3303. Bioinstrumentation. (3-1) 3 Credit Hours.

Prerequisite: A grade of "C-" or better in BME 2203. Corequisite: BME 3311. Fundamental principles of bioinstrumentation used in clinical and research measurements will be covered. Topics include: principles of transducer operation, amplifiers and signal processing, recording and display. This course includes a 3 hour lecture and a 1 hour recitation. (Same as CME 3903. Credit cannot be earned for both BME 3303 and CME 3903.) Generally offered: Fall. Differential Tuition: \$165.

BME 3311. Biomedical Engineering Laboratory II. (0-4) 1 Credit Hour.

Corequisite: BME 3303. A biomedical engineering lab in bioinstrumentation. This course will involve the design and testing of hardware and software for acquiring and analyzing biological signals. Generally offered: Fall. Differential Tuition: \$55.

BME 3403. Biomaterials II. (1-5) 3 Credit Hours.

Prerequisite: A grade of "C-" or better in BME 3003. This course will emphasize materials used in medical applications, including modifications and characterization techniques. This course includes a 1 hour lecture and a 5 hour laboratory. Differential Tuition: \$165.

BME 3413. Biocompatibility of Materials: Tissue-Biomaterial Interaction. (3-0) 3 Credit Hours.

Prerequisites: A grade of "C-" or better in BME 3003 and BME 3114. This course is an introduction to the interactions of cells and tissues with biomaterials. Blood composition and blood-material interactions, responses of the inflammatory and immune systems to biomaterials, the process of wound healing, protein structure and interactions with material surfaces, and the mechanisms of cell interactions with extracellular matrix components as well as cell/tissue responses to implant materials are reviewed in detail. Case studies of cardiovascular and orthopedic implants are discussed to illustrate that judicious selection of materials is a key aspect of implant design and a crucial choice for the success of various biomedical applications (e.g., in tissue engineering and biotechnology) which require regeneration of tissues. (Same as CME 3413. Credit cannot be earned for both BME 3413 and CME 3413.) Generally offered: Fall. Differential Tuition: \$165.

BME 3503. Nanomaterials and Nanobiotechnology. (3-0) 3 Credit Hours.

Prerequisite: A grade of "C-" or better in BME 3003. This course will introduce an overview of nanomaterials and nanotechnology development. Topics may include biocompatible nanomaterials, microfabrication, microfluidics, lab-on-a-chip, and applications in biomedical engineering. (Formerly titled "Fundamentals of Nanobiotechnology.") (Same as CME 3513. Credit cannot be earned for both BME 3503 and CME 3513.) Generally offered: Spring. Differential Tuition: \$165.

BME 3703. Biotransport Phenomena. (3-1) 3 Credit Hours.

Prerequisite: A grade of "C-" or better in BME 3303. Corequisite: BME 3711. This course introduces the concepts of quantitative modeling of biological systems with respect to mass, momentum and energy transport. We will study the use of conservation laws to model cardiopulmonary, renal, and thermal systems of the human physiology, and also apply these principles to design artificial and extracorporeal devices, drug delivery systems for pharmacokinetic analysis. This course includes a 3 hour lecture and a 1 hour recitation. Generally offered: Spring. Differential Tuition: \$165.

BME 3711. Biomedical Engineering Laboratory III. (0-4) 1 Credit Hour.

Corequisite: BME 3703. A biomedical engineering lab in biotransport phenomena. Experiments related to mass, momentum, and energy conservation in biological systems such as measurements of apparent viscosity in microcirculation, oxygen diffusivity and thermal conductivity. Generally offered: Spring. Differential Tuition: \$55.

BME 4203. Biomechanics III. (3-0) 3 Credit Hours.

Prerequisite: A grade of "C-" or better in BME 2203. Topics may include elasticity, viscoelasticity, deformation, stress analysis, strain measurement, and stress and strain in organs. Tissues covered may include heart, blood vessels, cartilage, and bone. Differential Tuition: \$165.

BME 4213. Tissue Mechanics. (3-0) 3 Credit Hours.

Prerequisite: A grade of "C-" or better in BME 2203. Topics may include biomechanics characterization, modeling, and properties of regenerating tissues ranging from bone, cartilage, tendons, ligaments, skin, adipose tissue, nerves, bladder, eye, and pulmonary and cardiovascular tissues. Differential Tuition: \$165.

BME 4283. Impact Biomechanics. (3-0) 3 Credit Hours.

Prerequisites: Senior status with a major in Biomedical Engineering and a grade of "C-" or better in BME 2203 or consent from the instructor. This course will cover the response of the human organism to impact loading. Topics will include dynamics, kinetics, injury mechanisms of the head, spine, thorax, abdomen, and extremities, human tolerance to impact, anthropomorphic test devices, mathematical models, and human subject testing. Impact scenarios covered will include automotive, aerospace, combat, and sports. Maybe repeated for credit when topics vary, but not more than 6 semester credit hours will apply to a bachelor's degree. Differential Tuition: \$165.

BME 4293. Topics in Biomechanics. (3-0) 3 Credit Hours.

Prerequisites: Senior status with a major in Biomedical Engineering and a grade of "C-" or better in BME 2203. Specific topics in biomechanics. May be repeated for credit when topics vary, but not more than 6 semester credit hours will apply to a bachelor's degree. Differential Tuition: \$165.

BME 4403. Molecular Techniques for Cell-Biomaterials Interactions. (2-4) 3 Credit Hours.

Prerequisite: A grade of "C-" or better in BME 3114. Advanced molecular techniques for characterizing cell-biomaterials interactions will be taught. Current understanding of topics in cell receptors and signaling mechanisms with application for biomaterial design will be emphasized. Topics will include receptor-ligand communication, methods of identification and quantification, and pathways involved for cell to material stress response. This course includes a 2 hour lecture and a 4 hour laboratory. Differential Tuition: \$165.

BME 4423. Tissue Engineering. (3-0) 3 Credit Hours.

Prerequisites: A grade of "C-" or better in BME 3003 and BME 3114. This course is an introduction to the current status of practice and advances in tissue engineering. Tissue engineering is the biomedical engineering discipline that applies science and technology to develop replacements for damaged and/or diseased tissues of the body. The course focuses on fundamental aspects of new tissue formation, specifically, cells, biomaterials, biochemical cues and biophysical stimuli, which are part of the physiological milieu. Applications of the latest advances in current knowledge of the aforementioned aspects in designing and formulating cell-containing constructs composed of natural and/or synthetic biomaterial scaffolds is necessary for successful outcomes in tissue engineering. Examples of applications in bone, cartilage, skin, and vascular tissues are reviewed in detail. Strategies which are used to address current challenges, pursue emerging opportunities and explore new scientific directions are discussed. Differential Tuition: \$165.

BME 4483. Topics in Biomaterials. (3-0) 3 Credit Hours.

Prerequisites: Senior status with a major in Biomedical Engineering and a grade of "C-" or better in BME 3003. Specific topics in biomaterials. May be repeated for credit when topics vary, but not more than 6 semester credit hours will apply to a bachelor's degree. Differential Tuition: \$165.

BME 4493. Topics in Tissue Engineering. (3-0) 3 Credit Hours.

Prerequisites: Senior status with a major in Biomedical Engineering and a grade of "C-" or better in BME 3003 and BME 3114. Specific topics in tissue engineering. May be repeated for credit when topics vary, but not more than 6 semester credit hours will apply to a bachelor's degree. Differential Tuition: \$165.

BME 4503. Biosensors. (3-0) 3 Credit Hours.

Prerequisite: A grade of "C-" or better in BME 3303. Basics to biological detection and in-depth view of device design and performance analyses. Topics may include optical, electrochemical, acoustic, piezoelectric, and nanobiosensors. Differential Tuition: \$165.

BME 4603. Biophotonics. (3-0) 3 Credit Hours.

Prerequisite: A grade of "C-" or better in EGR 2323. This course will introduce the fundamental principles of biophotonics and will focus on their applications to address critical issues in the frontier of biomedical science and technology. Topics may include fundamentals of light interactions with molecules, cells, and tissues, optical imaging, optical biosensing, flow cytometry, photodynamic therapy, laser tweezers and laser surgery, and nanobiotechnology. Generally offered: Fall. Differential Tuition: \$165.

BME 4613. Biomedical Imaging. (3-0) 3 Credit Hours.

Prerequisite: A grade of "C-" or better in EGR 2323. This course will examine, from a systems perspective, the techniques used in a variety of medical imaging modalities, which include x-ray imaging, computed tomography, magnetic resonance imaging, nuclear medicine, ultrasound imaging, and photoacoustic imaging. The fundamental principles and engineering underlying each imaging modality will be discussed and a performance analysis of each system will be examined. Differential Tuition: \$165.

BME 4623. Biomedical Optics. (3-0) 3 Credit Hours.

Prerequisite: A grade of "C-" or better in EGR 2323. This course will introduce the fundamental principles of modern and classical optics and their applications for biomedical research. State-of-the-art topics on cutting-edge research in the area of optics and lasers in medicine and biology will be covered. Differential Tuition: \$165.

BME 4633. MATLAB for Biomedical Engineering. (3-0) 3 Credit Hours.

Prerequisites: Senior status with a major in Biomedical Engineering and a grade of "C-" or better in BME 2203, or consent from the instructor. This course is an introduction to programming in MATLAB. It covers basic programming concepts as well as MATLAB specific features that a biomedical engineer would need either in industry or research. This includes concepts of correctness, clarity, and efficiency. Maybe repeated for credit when topics vary, but not more than 6 semester credit hours will apply to a bachelor's degree. Differential Tuition: \$165.

BME 4703. Biomedical Engineering Thermodynamics. (3-1) 3 Credit Hours.

Prerequisite: A grade of "C-" or better in BME 3703. This course is introduces the basics of engineering thermodynamics and applications in biomedical engineering. The course covers first and second laws, properties of pure substances and mixtures, phase rule, phase and chemical equilibria, and an introduction to statistical thermodynamics. This course includes a 3-hour lecture and a 1 hour recitation. Differential Tuition: \$165.

BME 4713. Cellular Engineering. (3-0) 3 Credit Hours.

Prerequisites: A grade of "C-" or better in BME 3114 and EGR 2323. This course focuses on using engineering skills and principles in the analysis and design of cellular functions. The emphasis will be on protein biochemistry, cell metabolism, signaling and adhesion. Differential Tuition: \$165.

BME 4793. Topics in Cellular Engineering. (3-0) 3 Credit Hours.

Prerequisites: Senior status with a major in Biomedical Engineering and a grade of "C-" or better in BME 3114 and EGR 2323. Specific topics in cellular engineering. May be repeated for credit when topics vary, but not more than 6 semester credit hours will apply to a bachelor's degree. Differential Tuition: \$165.

BME 4803. Fundamental Computational Bioengineering. (3-0) 3 Credit Hours.

Prerequisites: Major in Biomedical Engineering and a grade of "C-" or better in BME 3303. This course will include fundamental knowledge and skills of mathematical modeling, computer simulation and visualization, with applications in biomedical engineering. Differential Tuition: \$165.

BME 4903. Senior BME Design I. (3-0) 3 Credit Hours.

Prerequisites: Senior status with a major in Biomedical Engineering and a grade of "C-" or better in BME 3023 and BME 3703. Development of project proposals and presentation of conceptual designs. Industrial collaboration and/or faculty sponsorship of these projects is encouraged. Differential Tuition: \$165.

BME 4913. Senior BME Design II. (3-0) 3 Credit Hours.

Prerequisite: Senior status with a major in Biomedical Engineering and a grade of "C-" or better in BME 4903. Continuation of the development of an instructor-approved design project, testing of the design project, and presentation of the findings. Industrial cooperation or faculty sponsorship of projects is encouraged. Differential Tuition: \$165.

BME 4923. Orthopaedic Device Design. (3-0) 3 Credit Hours.

Prerequisites: Senior status with a major in Biomedical Engineering and a grade of "C-" or better in BME 2203, or consent from the instructor. This course will educate students about current biomedical technologies and product development. Topics covered will include ideation, concept development, design methodologies, business plan basics, regulatory concepts for medical devices and intellectual property management. Maybe repeated for credit when topics vary, but not more than 6 semester credit hours will apply to a bachelor's degree. Differential Tuition: \$165.

Business Law (BLW)

Business Law (BLW) Courses

BLW 3013. Business Law. (3-0) 3 Credit Hours.

This course provides a practical understanding of the legal aspects of managing and/or owning a business. Topics may include how to legally structure your business, licenses and permits, selecting insurance, hiring and terminating employees, independent contractors, negotiating leases, contracts, raising money and buying a business. (Credit cannot be earned for both BLW 3013 and BLW 3033.) Generally offered: Fall, Spring, Summer. Differential Tuition: \$126. Course fee: DL01 \$75.

BLW 3023. Business Organizations and Commercial Law. (3-0) 3 Credit Hours.

Prerequisite: BLW 3013 or the equivalent. A detailed legal analysis of the Uniform Commercial Code, including sales, commercial paper, bank deposits and collections, electronic transfer funds, letters of credit, secured transactions, and creditors' remedies. This course may also include a discussion of the Bankruptcy Act, the legal analysis of the Uniform Partnership Act, and the Business Corporations Act. Generally offered: Fall, Spring. Differential Tuition: \$126.

BLW 3033. Business Law for Accountants. (3-0) 3 Credit Hours.

Prerequisite: Declared accounting major; finance major with a 3.3 minimum GPA; or consent of Department Chair. Students will study legal topics required for the accounting profession. These topics may include legal duties and responsibilities, agency, common law contracts, UCC contracts and leases, debtor-creditor relationships, government regulation of business, business formation and governance, and other issues in law and regulations that affect accounting. Accounting students cannot take BLW 3013 or BLW 3023 as a substitution for BLW 3033. Generally offered: Fall, Spring, Summer. Differential Tuition: \$126.

BLW 3523. Real Estate Law. (3-0) 3 Credit Hours.

Topics may include the legal environment of real property ownership and transfer and legal brokerage; estates in land; sales contracts; mortgage transactions; title conveyances; landlord and tenant; restrictions and zoning; eminent domain; and negotiations. (Same as RFD 3523. Credit cannot be earned for both RFD 3523 and BLW 3523.) Generally offered: Fall. Differential Tuition: \$126. Course fee: DL01 \$75.

Chemical Engineering (CME)

Chemical Engineering (CME) Courses

CME 1201. Introduction to Chemical Engineering. (1-0) 1 Credit Hour.

A broad survey of the practice of chemical engineering, intended to expose students to specialized areas of chemical engineering and potential career paths (e.g., bioengineering, environmental engineering, materials engineering, and petroleum/energy engineering) through discussions and guest lectures. Students will review ethics and safety, and practice technical communication through oral presentations and written assignments. Course Fees: LRE1 \$20; STSE \$10.

CME 2103. Chemical Process Principles. (3-0) 3 Credit Hours.

Prerequisites: A grade of "C-" or better in CHE 1113, CME 1201, and MAT 1214. Students will learn basic principles of chemical engineering, including material and energy balances. Course Fees: LRE1 \$20; STSE \$30.

CME 2113. Physiology for Chemical Engineering. (3-1) 3 Credit Hours.

Prerequisites: A grade of "C-" or better in BIO 1404 and MAT 1214. Fundamental principles of general and organs physiology, including composition and concentration of cellular and other body fluids, types of transport (e.g., diffusion, membrane transporters), energy (thermodynamics, metabolism), enzymes, feedback control, and membrane potentials with engineering applications and mathematical modeling. This course includes a 3 hour lecture and a 1 hour recitation per week. (Same as BME 2103. Credit cannot be earned for both CME 2113 and BME 2103.) Course Fees: LRE1 \$20; STSE \$30.

CME 2203. Computational Methods in Chemical Engineering. (3-1) 3 Credit Hours.

Prerequisite: Completion of or concurrent enrollment in EGR 3323. Introduction to numerical techniques and computational tools essential for chemical engineering, including the use of data acquisition and processing, numerical analysis of linear, non-linear, and differential equations. Students will learn to use computer software to aid in their analysis (e.g., Matlab). This course includes a 3 hour lecture and a 1 hour recitation per week. Course Fees: LRE1 \$20; STSE \$30.

CME 2301. Chemical Process Safety and Risk Management. (1-0) 1 Credit Hour.

Application of chemical process safety, risk assessment and management, including hazardous waste disposal and remediation. (Same as CME 4001. Credit cannot be earned for both CME 2301 and CME 4001.) Course Fees: LRE1 \$20; STSE \$10.

CME 2803. Biomechanics I. (3-1) 3 Credit Hours.

Prerequisites: A grade of "C-" or better in EGR 2323 and PHY 1963. Introduction to fundamental engineering mechanics with focus on the human body. (Same as BME 2203. Credit cannot be earned for both CME 2803 and BME 2203.) Course Fees: LRE1 \$20; STSE \$30.

CME 3003. Introduction to Materials Science and Engineering. (3-0) 3 Credit Hours.

Prerequisite: A grade of "C-" or better in CME 1201. Foundation for understanding the structure and properties of engineering materials such as ceramics, glass, polymers, composites, biomaterials, metals and alloys. An integrated introduction of materials' microstructure, thermodynamic properties, and corresponding mechanical, electrical, optical, and magnetic properties. (Credit cannot be earned for both CME 3003 and BME 3003.) Differential Tuition: \$165.

CME 3103. Thermodynamics. (3-1) 3 Credit Hours.

Prerequisites: A grade of "C-" or better in CME 2103 and completion of or concurrent enrollment in CHE 3804. Heat, work, equations of state, thermodynamic systems, control volume, first and second laws of thermodynamics, applications of the laws of thermodynamics, reversible and irreversible processes, introduction to basic thermodynamic cycles, vapor-liquid equilibria, and non-ideal solutions. One hour of problem solving recitation per week. (Credit cannot be earned for both CME 3103 and ME 3293.) Differential Tuition: \$165.

CME 3113. Cellular Biology for Chemical Engineering. (3-0) 3 Credit Hours.

Prerequisite: A grade of "C-" or better in CME 2103. Introduction to cell structure and function, energy conversions, protein sorting, signaling, cytoskeleton, cell adhesion, cell cycle, and mammalian genetics. This class consists of a 3-hour lecture. (Same as BME 3114. Credit cannot be earned for both CME 3113 and CME 3114.) Differential Tuition: \$165.

CME 3303. Transport Phenomena I. (3-0) 3 Credit Hours.

Prerequisite: A grade of "C-" or better in CME 2103. This course covers the fundamental of momentum transport, fluid mechanics and fluid unit operations. Topics discussed include fluid statics, fluid properties and fluid flow, overall mass, energy and momentum balances, incompressible and compressible flow in pipes, flow in packed and fluidized beds, pumps, compressors, agitators and nozzles, differential equations of fluid flow, non-Newtonian fluids, potential and creeping flow and boundary layer and turbulent flow. Differential Tuition: \$165.

CME 3403. Separation Processes. (3-0) 3 Credit Hours.

Prerequisite: A grade of "C-" or better in CME 3303. This course covers unit operations associated with mass transfer. Topics covered include absorption and stripping, mummification processes, filtration and membrane separations, distillation, liquid-liquid extraction, adsorption and ion exchange, settling, evaporation and drying. Differential Tuition: \$165.

CME 3413. Biocompatibility of Materials: Tissue-Biomaterial Interaction. (3-0) 3 Credit Hours.

Prerequisites: A grade of "C-" or better in CME 3003 and CME 3113. This course is an introduction to the interactions of cells and tissues with biomaterials. Blood composition and blood-material interactions, responses of the inflammatory and immune systems to biomaterials, the process of wound healing, protein structure and interactions with material surfaces, and the mechanisms of cell interactions with extracellular matrix components as well as cell/tissue responses to implant materials are reviewed in detail. Case studies of cardiovascular and orthopedic implants are discussed to illustrate that judicious selection of materials is a key aspect of implant design and a crucial choice for the success of various biomedical applications (e.g., in tissue engineering and biotechnology) which require regeneration of tissues. (Same as BME 3413. Credit cannot be earned for both CME 3413 and BME 3413.) Differential Tuition: \$165.

CME 3433. Crystal Chemistry of Structure and Properties. (3-0) 3 Credit Hours.

Prerequisite: A grade of "C-" or better in CME 3003. Principles of crystal chemistry applied to the relationships of crystallographic structures, compositions, and engineering properties of materials. Differential Tuition: \$165.

CME 3503. Kinetics and Reactor Design. (3-0) 3 Credit Hours.

Prerequisites: A grade of "C-" or better in CHE 3804 and CME 3303. Fundamental principles to the design and analysis of batch, continuously stirred tank, and fixed bed chemical reactors; steady and unsteady state operations; effects of pressure and temperature; heterogeneous catalysis; analysis of transport processes in catalysis; special topics may include enzyme catalysis; fluid bed reactors; membrane reactors; and microscale reactors. Differential Tuition: \$165.

CME 3513. Nanomaterials and Nanobiotechnology. (3-0) 3 Credit Hours.

Prerequisite: A grade of "C-" or better in CME 3003. This course will introduce an overview of nanomaterials and nanotechnology development. Topics may include biocompatible nanomaterials, microfabrication, microfluidics, lab-on-a-chip, and applications in biomedical engineering. (Same as BME 3503. Credit cannot be earned for both CME 3513 and BME 3503.) Differential Tuition: \$165.

CME 3601. Chemical Engineering Laboratory I. (0-4) 1 Credit Hour.

Prerequisite: Completion of or concurrent enrollment in CME 3503. Basic principles and statistical design of experiments using software tools; experiments demonstrating key unit operations with emphasis on fluid flow and heat transfer. Written reports and oral presentations required. Differential Tuition: \$55.

CME 3703. Transport Phenomena II. (3-0) 3 Credit Hours.

Prerequisite: CME 3303 or instructor approval. This course focuses on the fundamentals and applications associated with heat and mass transfer. Topics discussed steady state conduction, principles of unsteady state heat transfer, convection, heat transfer coefficients, heat exchangers, radiation, steady state mass transfer, diffusions, convection, mass transfer coefficients, and unsteady state mass transfer. Differential Tuition: \$165.

CME 3803. Biomechanics II. (3-0) 3 Credit Hours.

Prerequisite: A grade of "C-" or better in CME 2803. Continuation of fundamental biomechanics to include elasticity, viscoelasticity, deformation, stress analysis, blood flow in the systemic and pulmonary circulation, and fluid-structure interaction. (Same as BME 3203. Credit cannot be earned for both CME 3803 and BME 3203.) Differential Tuition: \$165.

CME 3903. Bioinstrumentation. (3-1) 3 Credit Hours.

Prerequisite: A grade of "C-" or better in CME 2803. Topics include: principles of transducer operation, amplifiers and signal processing, recording and display. This course includes a 3 hour lecture and a 1 hour recitation per week. (Same as BME 3303. Credit cannot be earned for both CME 3903 and BME 3303.) Differential Tuition: \$165.

CME 4103. Process Dynamics and Control. (3-1) 3 Credit Hours.

Prerequisite: A grade of "C-" or better in CME 3403. Modeling of dynamic processes; response of uncontrolled systems; transfer functions; response and stability of controlled systems; frequency response; design of feedback controllers; cascade, feed forward and multivariable control systems; process instrumentation; use of simulators to design feedback controllers. One hour of problem solving recitation per week. Differential Tuition: \$165.

CME 4163. Chemical Engineering Design Fundamentals. (3-2) 3 Credit Hours.

Prerequisites: A grade of "C-" or better in CME 3103 and CME 3403. Application of design and economic principles to chemical engineering systems; analysis of costs of equipment, feedstocks, utilities, and risk assessment; optimization of equipment design using simulation tools. Students will be assembled in teams to perform materials and energy balances on their capstone design projects. (Formerly titled Thermodynamics II.) Differential Tuition: \$165.

CME 4201. Chemical Engineering Laboratory II. (0-4) 1 Credit Hour.

Prerequisite: Completion of or concurrent enrollment in CME 4103. Experiments demonstrating key unit operations with emphasis on mass transfer with and without reactions; hands on experience with process control. Written and oral reports required. Differential Tuition: \$55.

CME 4264. Plant Design. (2-6) 4 Credit Hours.

Prerequisite: A grade of "C-" or better in CME 4163. Strategic application of technical and economic constraints in the design of a chemical processing plant including most aspects of typical industrial design; integration of process safety and environmental impact factors. Students will work in small groups and submit a plant design project report that has a comprehensive design of all equipment included in the plant. Students will present the results of their design in a College of Engineering wide symposium. (Formerly titled Product and Process Design.) Differential Tuition: \$220.

CME 4423. Rheology. (3-0) 3 Credit Hours.

Prerequisites: To be determined by the instructor. This course covers the fundamentals of rheology as they apply to the oil and gas industry. Topics covered include crude oil flow rheology, drilling fluids, fluids in completion, crude oil pipelining, and fractal characterization of wax. Differential Tuition: \$165.

CME 4433. Process Optimization. (3-0) 3 Credit Hours.

Modern optimization theory, algorithms, and applications for large scale chemical engineering real-world problems. Topics included in the course and prerequisites required for the course will be decided upon by the instructor who teaches the course. Differential tuition: \$165.

CME 4513. Selected Topics in Bioengineering. (3-0) 3 Credit Hours.

Prerequisites vary with the topic (refer to the course syllabus on Bluebook or contact the instructor). An organized course offering the opportunity for specialized study not normally or not often available as part of the regular course offerings. May be repeated for credit when topics vary, but not more than 6 semester credit hours, regardless of specialization, will apply to a bachelor's degree. Differential Tuition: \$165.

CME 4523. Selected Topics in Petroleum/Energy Engineering. (3-0) 3 Credit Hours.

Prerequisites vary with the topic (refer to the course syllabus on Bluebook or contact the instructor). An organized course offering the opportunity for specialized study not normally or not often available as part of the regular course offerings. May be repeated for credit when topics vary, but not more than 6 semester credit hours, regardless of specialization, will apply to a bachelor's degree. Differential Tuition: \$165.

CME 4533. Selected Topics in Materials Science and Engineering. (3-0) 3 Credit Hours.

Prerequisites vary with the topic (refer to the course syllabus on Bluebook or contact the instructor). An organized course offering the opportunity for specialized study not normally or not often available as part of the regular course offerings. May be repeated for credit when topics vary, but not more than 6 semester credit hours, regardless of specialization, will apply to a bachelor's degree. Differential Tuition: \$165.

CME 4543. Selected Topics in Environmental Engineering. (3-0) 3 Credit Hours.

Prerequisites vary with the topic (refer to the course syllabus on Bluebook or contact the instructor). An organized course offering the opportunity for specialized study not normally or not often available as part of the regular course offerings. May be repeated for credit when topics vary, but not more than 6 semester credit hours, regardless of specialization, will apply to a bachelor's degree. Course Fees: LRE1 \$20; STSE \$30.

CME 4601. Independent Study. (0-0) 1 Credit Hour.

Prerequisites: Permission in writing (Independent Study Form available online) from the instructor and the Department Chair. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 3 semester credit hours of independent study, regardless of the concentration, will apply to a bachelor's degree in Chemical Engineering. This course cannot be taken if 3 semester credit hours in CME 4701-3 have already been earned. Differential Tuition: \$55.

CME 4602. Independent Study. (0-0) 2 Credit Hours.

Prerequisites: Permission in writing (Independent Study Form available online) from the instructor and the Department Chair. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 3 semester credit hours of independent study, regardless of the concentration, will apply to a bachelor's degree in Chemical Engineering. This course cannot be taken if 3 semester credit hours in CME 4701-3 have already been earned. Differential Tuition: \$110.

CME 4603. Independent Study. (0-0) 3 Credit Hours.

Prerequisites: Permission in writing (Independent Study Form available online) from the instructor and the Department Chair. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 3 semester credit hours of independent study, regardless of the concentration, will apply to a bachelor's degree in Chemical Engineering. This course cannot be taken if 3 semester credit hours in CME 4701-3 have already been earned. Differential Tuition: \$165.

CME 4701. Chemical Engineering Research. (0-0) 1 Credit Hour.

Prerequisite: Permission in writing (form online) from the instructor, the student's advisor, and the Department Chair. Advanced laboratory practice and introduction to chemical engineering research. This course may be used to satisfy one of the electives for the CME tracks. May be repeated for credit but no more than 3 semester credit hours will apply towards the bachelor's degree in Chemical Engineering. This course cannot be taken if 3 semester credit hours in CME 4601-3 Independent study have already been earned. Differential Tuition: \$55.

CME 4702. Chemical Engineering Research. (0-0) 2 Credit Hours.

Prerequisite: Permission in writing (form online) from the instructor, the student's advisor, and the Department Chair. Advanced laboratory practice and introduction to chemical engineering research. This course may be used to satisfy one of the electives for the CME tracks. May be repeated for credit but no more than 3 semester credit hours will apply towards the bachelor's degree in Chemical Engineering. This course cannot be taken if 3 semester credit hours in CME 4601-3 Independent study have already been earned. Differential Tuition: \$110.

CME 4703. Chemical Engineering Research. (0-0) 3 Credit Hours.

Prerequisite: Permission in writing (form online) from the instructor, the student's advisor, and the Department Chair. Advanced laboratory practice and introduction to chemical engineering research. This course may be used to satisfy one of the electives for the CME tracks. May be repeated for credit but no more than 3 semester credit hours will apply towards the bachelor's degree in Chemical Engineering. This course cannot be taken if 3 semester credit hours in CME 4601-3 Independent study have already been earned. Differential Tuition: \$165.

CME 4803. Chemical Engineering Internship. (0-0) 3 Credit Hours.

Prerequisite: Permission in writing (form online) from the instructor, the student's advisor, and the Department Chair. Internship with a chemical engineering industry. No more than 3 semester credit hours will apply to the bachelor's degree in Chemical Engineering. Differential Tuition: \$165.

Chemistry (CHE)

NOTE: All prerequisites for Chemistry (CHE) courses must be completed with a grade of "C-" or better.

Laboratory Course Policy: Space in laboratory courses is limited. To ensure the best possible service to all students, failure to attend the first laboratory and lecture sessions associated with a laboratory course may result in administrative removal from the course.

Chemistry (CHE) Courses

CHE 1004. Chemistry for Allied Health Sciences. (3-3) 4 Credit Hours. (TCCN = CHEM 1405)

Introduction to atomic structure, chemical bonding, stoichiometry, states of matter, inorganic chemical reactions, and acids and bases. The course has a laboratory component to introduce general chemical laboratory techniques, principles, and methods to reinforce lecture topics. For majors in occupational therapy, prenursing, and dental hygiene. May not be applied to a major or minor in chemistry, biology, or clinical laboratory sciences. (Formerly CHE 1003 and CHE 1011. Credit cannot be earned for both CHE 1003 and CHE 1004.) Course Fees: IUC1 \$15; L001 \$30; LRS1 \$60; STSI \$28.

CHE 1014. Elementary Organic and Biochemistry. (3-3) 4 Credit Hours. (TCCN = CHEM 1407)

Prerequisite: A grade of "C-" or better in CHE 1004 (or CHE 1003 in previous catalogs). A survey of the structures and reactions of some important functional groups of organic chemistry, and the relationship of these functional groups to the chemistry of lipids, carbohydrates, nucleic acids, and proteins. May not be applied to a major or minor in chemistry. Laboratory examination of the properties of some simple organic and biological chemicals; topics include solubility, crystallization, organic reactions, titration, enzyme action, sugars, and vitamins which will directly reinforce lecture topics. (Formerly CHE 1013 and CHE 1203. Credit can be earned for only ONE of the following: CHE 1013 or CHE 1014 or CHE 1203.) Course Fees: IUC1 \$15; L001 \$30; LRS1 \$60; STSI \$28.

CHE 1073. Basic Chemistry. (3-0) 3 Credit Hours.

A preparatory class for CHE 1103. This course focuses on traditionally difficult concepts encountered in CHE 1103. Topics include but are not limited to: dimensional analysis, significant figures, inorganic nomenclature, and qualitative and quantitative analyses of basic chemical reactions. May not be applied to a B.S. or B.A. in Chemistry. Generally offered: Fall, Spring, Summer. Course Fees: LRS1 \$45; STSI \$21.

CHE 1083. Introduction to the Molecular Structure of Matter. (3-0) 3 Credit Hours.

This course is an introduction to the structure of matter, with focus on the molecules of carbon that comprise living systems. Topics include covalent and ionic bonding, molecular structure, shape, and stability, isomers, organic functional groups and charge distribution in molecules, and bonding in solids. May be applied toward the Core Curriculum requirement in Life and Physical Sciences. (Same as CHE 1004. Credit cannot be earned for both CHE 1004 and CHE 1083.) Course Fees: LRC1 \$12; LRS1 \$45; STSI \$21.

CHE 1093. Introduction to Molecular Transformations. (3-0) 3 Credit Hours.

Prerequisite: A grade of "C-" or better in CHE 1083 and in MAT 1073 or higher. This course is an introduction to the chemical reactions of matter, with focus on basic organic reactions that take place in living systems. Topics include classification of reactions, stoichiometry, reaction energetics, chemical equilibrium, acid-base chemistry, complex equilibria and reaction kinetics. May be applied toward the Core Curriculum requirement in Life and Physical Sciences. (Same as CHE 1014. Credit cannot be earned for both CHE 1014 and CHE 1093.) Course Fees: DL01 \$75; LRC1 \$12; LRS1 \$45; STSI \$21.

CHE 1103. General Chemistry I. (3-0) 3 Credit Hours. (TCCN = CHEM 1311)

Prerequisite: AP Chemistry Score of 3 or greater, or a grade of "C-" or better in CHE 1073, or above 70% mastery in the ALEKS Chemistry assessment. Concurrent enrollment in CHE 1121 is recommended. An introduction to descriptive inorganic chemistry and atomic-molecular structure, including such fundamental concepts as the periodic system of elements, valency, chemical bonding, reactions and reaction mechanisms, stoichiometry, equilibria, acids and bases, thermochemistry, molecular-kinetic theory, and states of matter. Credit cannot be earned for both CHE 1103 and CHE 1143. Generally offered: Fall, Spring, Summer. Course Fees: LRS1 \$45; STSI \$21.

CHE 1113. General Chemistry II. (3-0) 3 Credit Hours. (TCCN = CHEM 1312)

Prerequisite: A grade of "C-" or better in CHE 1103 or the equivalent. A continuation of CHE 1103. Elementary inorganic and physical chemistry; topics include solutions, electrolytes, oxidation-reduction reactions, reaction trends, coordination chemistry, basic thermodynamics, chemical kinetics, electrochemistry, and nuclear chemistry. Primarily for science majors. Credit cannot be earned for more than one of the following: CHE 1113, CHE 1153, or CHE 1303. Generally offered: Fall, Spring, Summer. Course Fees: LRS1 \$45; STSI \$21.

CHE 1121. General Chemistry I Laboratory. (1-4) 1 Credit Hour. (TCCN = CHEM 1111)

Prerequisite: A grade of "C-" or better or concurrent enrollment in CHE 1103 (or CHE 1143 in previous catalogs). An introduction to chemical problem solving and the basic operations of the chemical laboratory, and a survey of inorganic chemical reactions. This course consists of problem sessions, lecture-demonstrations, and/or laboratory experience. Laboratory to accompany CHE 1103 and CHE 1143. This laboratory includes a lecture component. (Formerly CHE 1122. Credit cannot be earned for both CHE 1121 and CHE 1122.) Generally offered: Fall, Spring, Summer. Course Fees: IUC1 \$15; L001 \$30; LRS1 \$15; STSI \$7.

CHE 1131. General Chemistry II Laboratory. (1-4) 1 Credit Hour. (TCCN = CHEM 1112)

Prerequisites: A grade of "C-" or better in CHE 1103 and CHE 1121, and a grade of "C-" or better or concurrent enrollment in CHE 1113 (or CHE 1153 in previous catalogs). Techniques of qualitative and quantitative chemical analysis, illustrated primarily via inorganic chemical systems and their reactions. Laboratory to accompany CHE 1113. This laboratory includes a lecture component. (Formerly CHE 1312 and CHE 1132. Credit cannot be earned for more than one of the following: CHE 1131, CHE 1132 or CHE 1312.) Generally offered: Fall, Spring, Summer. Course Fees: IUC1 \$15; L001 \$30; LRS1 \$15; STSI \$7.

CHE 2603. Organic Chemistry I. (3-0) 3 Credit Hours. (TCCN = CHEM 2323)

Prerequisite: A grade of "C-" or better in CHE 1113 (or CHE 1153 in previous catalogs). A study of the fundamentals of organic structure, reaction mechanisms, synthesis and spectroscopy. Primarily for majors other than chemistry and biochemistry. Discussion and problems amplify and clarify the course topics. (Same as CHE 2703. Formerly CHE 2203, CHE 2204, and CHE 2604. Credit cannot be earned for more than one of the following: CHE 2203, CHE 2204, CHE 2603, CHE 2604, or CHE 2703). Generally offered: Fall, Spring, Summer. Course Fees: LRS1 \$45; STSI \$21.

CHE 2612. Organic Chemistry I Laboratory. (1-4) 2 Credit Hours.

Prerequisites: A grade of "C-" or better or concurrent enrollment in CHE 1131 and CHE 2603. The first of two semesters of organic chemistry laboratory. Qualitative analysis and determination of the physical constants of organic compounds. Separation, identification, and elementary synthesis of organic compounds. Laboratory techniques—crystallization, distillation, chromatographic and spectroscopic techniques (IR, NMR, MS)—are emphasized. This laboratory includes a lecture component. (Formerly CHE 2242. Credit cannot be earned for both CHE 2612 and CHE 2242.) Generally offered: Fall, Spring, Summer. Course Fees: IUC1 \$15; L001 \$30; LRS1 \$30; STSI \$14.

CHE 2703. Organic Chemistry I for Majors. (3-0) 3 Credit Hours.

Prerequisite: A grade of "C-" or better in CHE 1113 (or CHE 1153 in previous catalog). An in-depth study of the organic structure, reaction mechanisms, synthesis and spectroscopy. Primarily for chemistry and biochemistry majors. Discussion and practice of problems amplifying and clarifying the course. (Same as CHE 2603. Formerly CHE 2203, CHE 2204, and CHE 2604. Credit cannot be earned for more than one of the following: CHE 2203, CHE 2204, CHE 2603, CHE 2604, or CHE 2703.) Course Fees: LRS1 \$45; STSI \$21.

CHE 2803. Quantitative Topics for Chemists. (3-0) 3 Credit Hours.

Prerequisite: A grade of "C-" or better in MAT 1224. This course is intended for students majoring in chemistry and serves as a prerequisite for the introductory courses in physical chemistry. Topics include: power series, linear algebra, determinants, matrices, vector spaces, multi-variable calculus (partial differentiation, multiple integrals), complex variables, ordinary differential equations, numerical analysis, and numerical methods in integration, probability, statistics, regression methods and symbolic programming. (Formerly CHE 2802. Credit cannot be earned for both CHE 2802 and CHE 2803.) Generally offered: Spring. Course Fees: LRS1 \$45; STSI \$21.

CHE 3214. Analytical Chemistry. (2-5) 4 Credit Hours.

Prerequisites: A grade of "C-" or better in CHE 1113 (or CHE 1153 in previous catalogs) and CHE 1131. Topics in quantitative analysis including wet chemical and basic instrumental analysis; gravimetric, volumetric, electrochemical and spectrophotometric determinations combined with error analysis; fundamentals of chemical separations; applications of stoichiometry and chemical equilibria to design efficient analytical protocols. (Formerly CHE 3103 and CHE 3213. Credit cannot be earned for more than one of the following: CHE 3103, CHE 3213, or CHE 3214.) Generally offered: Fall, Spring. Differential Tuition: \$200. Course Fees: IUC1 \$15; L001 \$30.

CHE 3464. Descriptive Inorganic Chemistry. (3-3) 4 Credit Hours.

Prerequisites: A grade of "C-" or better in CHE 1113 (or CHE 1153 in previous catalogs) and CHE 1131; concurrent enrollment in CHE 2603 recommended. The basic principles of inorganic chemistry applied to the properties, reactions, and periodicity of inorganic elements and compounds. Includes the synthesis and characterization of inorganic compounds and the use of specialized laboratory techniques. (Formerly CHE 3264. Credit cannot be earned for both CHE 3464 and CHE 3264.) Generally offered: Fall, Spring. Differential Tuition: \$200. Course Fees: IUC1 \$15; L001 \$30.

CHE 3643. Organic Chemistry II. (3-0) 3 Credit Hours.

Prerequisite: A grade of "C-" or better in CHE 2603 (or CHE 2703). Continuing study of fundamentals of organic structure, reaction mechanisms, synthesis and spectroscopy. A continuation of CHE 2603. Primarily for majors other than chemistry and biochemistry. (Same as CHE 3703. Formerly CHE 2303 and CHE 2623. Credit cannot be earned for more than one of the following: CHE 2303, CHE 2623, CHE 3703, or CHE 3643.) Generally offered: Fall, Spring, Summer. Differential Tuition: \$150.

CHE 3652. Organic Chemistry II Laboratory. (1-4) 2 Credit Hours.

Prerequisites: Grades of "C-" or better in CHE 2603 (or CHE 2703) and CHE 2612. Quantitative and continuing qualitative study of organic reactions and molecular structure through functional group interactions and spectroscopic techniques. Simple and multistep syntheses of organic compounds. A continuation of CHE 2612. This laboratory includes a lecture component. (Formerly CHE 2342 and CHE 2632. Credit cannot be earned for more than one of the following: CHE 2342, CHE 2632 or CHE 3652.) Generally offered: Fall, Spring, Summer. Differential Tuition: \$100. Course Fees: IUC1 \$15; L001 \$30.

CHE 3703. Organic Chemistry II for Majors. (3-0) 3 Credit Hours.

Prerequisite: A grade of "C-" or better in CHE 2703 (or CHE 2603). Continuing study of fundamentals of organic structure, reaction mechanisms, synthesis and spectroscopy. A continuation of CHE 2703. Primarily for chemistry and biochemistry majors. (Same as CHE 3643. Formerly CHE 2303 and CHE 2623. Credit cannot be earned for more than one of the following: CHE 2303, CHE 2623, CHE 3703, or CHE 3643.) Differential Tuition: \$150.

CHE 3804. Physical Chemistry I and Laboratory. (3-3) 4 Credit Hours.

Prerequisites: A grade of "C-" or better in CHE 1113 (or CHE 1153 in previous catalogs), CHE 1131, CHE 2803, PHY 1963 and PHY 1971. The laws of thermodynamics; free energy and chemical potential; ideal and nonideal gases; equilibria; solutions; kinetic theory of gases; kinetics. Laboratory study of selected physicochemical principles and methods to reinforce lecture topics. Data acquisition, data analysis, and report writing are stressed. (Formerly CHE 3204 and CHE 3803/3811. Credit cannot be earned for more than one of the following: CHE 3204, CHE 3803/3811, or CHE 3804.) (Formerly titled "Thermodynamics and Kinetics.") Generally offered: Fall. Differential Tuition: \$200. Course Fees: IUC1 \$15; L001 \$30.

CHE 3824. Physical Chemistry II and Laboratory. (3-3) 4 Credit Hours.

Prerequisites: A grade of "C-" or better in CHE 1113 (or CHE 1153 in previous catalogs), CHE 2803, PHY 1963 and PHY 1971. Introduction to atomic and molecular quantum chemistry; group theory; electronic, rotational, vibrational, and electronic spectroscopies; and statistical mechanics including ensembles and their use in deriving thermodynamic properties using quantum level information. Laboratory study of selected physicochemical principles and methods to reinforce lecture topics. Data acquisition, data analysis, and report writing are stressed. (Formerly CHE 3224 and CHE 3823/3831. Credit cannot be earned for more than one of the following: CHE 3224, CHE 3823/3831, or CHE 3824.) (Formerly titled "Quantum Mechanics, Spectroscopy, and Statistical Mechanics.") Generally offered: Spring. Differential Tuition: \$200. Course Fees: IUC1 \$15; L001 \$30.

CHE 3854. Basic Biophysical Chemistry Lecture/Lab. (3-3) 4 Credit Hours.

Prerequisites: A grade of "C-" or better in CHE 2603, MAT 1214, PHY 1963 (or PHY 1623), and PHY 1971 (or PHY 1631). The primary goal of basic biophysical chemistry is to help students develop a fundamental understanding of the physical principles that drive biological processes, particularly as applied to proteins. Topics covered include protein structure, molecular thermodynamics, structure simulation, basic statistical mechanics, quantum mechanics and spectroscopy. This course cannot be used as an upper-division chemistry elective by students pursuing a B.S. in Chemistry. Generally offered: Spring. Differential Tuition: \$200. Course Fees: IUC1 \$15; L001 \$30.

CHE 4213. Instrumental Analysis. (2-5) 3 Credit Hours.

Prerequisites: A grade of "C-" or better in CHE 3214 and CHE 3652. Grade of "C-" or better or concurrent enrollment in CHE 3824 (or CHE 3854). The physical and chemical principles of modern instrumental techniques used for chemical analysis. Topics include emission, absorption, magnetic resonance, and FTIR spectroscopies, mass spectrometry, and chromatography. The use of spectrometric and chromatographic instrumentation in the separation, identification, and quantitation of compounds in chemical systems. (Formerly CHE 4103. Credit cannot be earned for both CHE 4213 and CHE 4103.) Generally offered: Fall, Spring. Differential Tuition: \$150. Course Fees: IUC1 \$15; L001 \$30.

CHE 4303. Biochemistry I. (3-0) 3 Credit Hours.

Prerequisite: A grade of "C-" or better in CHE 3643. Structure and function relationships of biologically important molecules; energy production, storage and utilization; amino acids, nucleic acids, peptides and proteins; intermediary metabolism. (Formerly CHE 4503. Credit cannot be earned from both CHE 4303 and CHE 4503. Credit cannot be earned for both CHE 4303 and BIO 3513. BIO 3513 cannot be taken as a chemistry elective.) Generally offered: Fall, Spring. Differential Tuition: \$150.

CHE 4313. Biochemistry II. (3-0) 3 Credit Hours.

Prerequisites: A grade of "C" or better in CHE 4303. Structure and function relationships of biologically important molecules continued; description of advanced biophysical techniques; amino acid metabolism and metabolism integration; lipids, fatty acids, steroid, membrane metabolism; cell signaling. Differential Tuition: \$150.

CHE 4332. Biochemistry II Laboratory. (0-4) 2 Credit Hours.

Prerequisites: CHE 4303 and BIO 3362, and completion or concurrent enrollment in CHE 4313. A laboratory course emphasizing biochemical lab techniques used in protein purification and purity analysis, plasmid DNA prep, determination and restriction digest. Differential Tuition: \$150. Course Fees: IUC1 \$15; L001 \$30.

CHE 4463. Inorganic Chemistry. (3-0) 3 Credit Hours.

Prerequisites: A grade of "C-" or better in CHE 3464, and completion of or concurrent enrollment in CHE 3804 or CHE 3854. A study of the structure, bonding, and properties of inorganic compounds; acid-base theory, crystalline state, coordination chemistry, and other advanced topics. (Formerly CHE 4263. Credit cannot be earned for both CHE 4463 and CHE 4263.) Generally offered: Fall. Differential Tuition: \$150.

CHE 4613. Introduction to Polymer Chemistry. (3-0) 3 Credit Hours.

Prerequisites: A grade of "C-" or better in CHE 3703 and CHE 3643. Fundamental concepts of polymer chemistry, including mechanisms for synthesis, kinetics, and copolymerization; molecular weight, stereoisomerism, morphology, solubility, and thermal transitions; visco- and rubber elasticity; and the molecular basis for physical properties. (Formerly CHE 4203. Credit cannot be earned for both CHE 4613 and CHE 4203.) Differential Tuition: \$150.

CHE 4853. Computational Chemistry. (3-0) 3 Credit Hours.

Prerequisite: A grade of "C-" or better in CHE 3824 or consent of instructor. The application of molecular mechanical, molecular orbital, and density functional methods to problems of molecular structure, property, reactivity, and spectroscopy. Generally offered: Summer. Differential Tuition: \$150.

CHE 4883. Introduction to Mass Spectrometry. (2-3) 3 Credit Hours.

Prerequisite: A grade of "C-" or better in CHE 3804 (or CHE 3854), or consent of instructor. The basic principles of interpreting mass spectra and how they are produced. The effect the method of ion production has on the observed mass spectra, and the theory and operation of various types of mass spectrometers will be covered. The basic theory of ion-molecule reactions and principles and practice of biological mass spectrometry and other advanced topics will be presented. (Formerly CHE 4383. Credit cannot be earned for both CHE 4883 and CHE 4383.) Differential Tuition: \$150. Course Fees: IUC1 \$15; L001 \$30.

CHE 4911. Independent Study. (0-0) 1 Credit Hour.

Prerequisites: Permission in writing (form available) from the instructor, the student's advisor, the Department Chair, and Dean of the College in which this course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. Differential Tuition: \$50.

CHE 4912. Independent Study. (0-0) 2 Credit Hours.

Prerequisites: Permission in writing (form available) from the instructor, the student's advisor, the Department Chair, and Dean of the College in which this course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. Differential Tuition: \$100.

CHE 4913. Independent Study. (0-0) 3 Credit Hours.

Prerequisites: Permission in writing (form available) from the instructor, the student's advisor, the Department Chair, and Dean of the College in which this course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. Differential Tuition: \$150.

CHE 4923. Special Project in Chemistry. (0-0) 3 Credit Hours.

Prerequisite: Consent of Department Chair (form available in department office). A special laboratory research or library readings project under the direction of a faculty member that results in a report. Limited to science majors in their final year of undergraduate study. Differential Tuition: \$150.

CHE 4953. Special Studies in Chemistry. (3-0) 3 Credit Hours.

Prerequisites: Upper-division standing and consent of instructor. An organized course offering the opportunity for specialized study not normally or not often available as part of the regular course offerings. Special Studies may be repeated for credit when the topics vary, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. Generally offered: Fall, Spring, Summer. Differential Tuition: \$150.

CHE 4971. Proseminar. (0-3) 1 Credit Hour.

Prerequisite: A grade of "C-" or better in CHE 3643. Oral reports on current publications in chemistry and chemical technology using important chemical reference materials and periodicals. May be repeated for credit, but not more than 2 semester credit hours may be applied toward the degree. Generally offered: Fall, Spring. Differential Tuition: \$50.

CHE 4993. Honors Research. (0-0) 3 Credit Hours.

Prerequisites: Enrollment limited to candidates for College Honors during their last two semesters; approval by the College Honors Committee. Supervised research and preparation of an honors thesis. May be repeated only once with approval. Generally offered: Fall, Spring. Differential Tuition: \$150.

Chinese (CHN)

Chinese (CHN) Courses

CHN 1014. Elementary Chinese I. (3-2) 4 Credit Hours. (TCCN = CHIN 1411)

Fundamentals of Chinese offering the opportunity to develop basic listening, speaking, reading, and writing skills. Introduction of Chinese characters and Chinese culture. May be applied toward the Core Curriculum requirement in Language, Philosophy and Culture. Generally offered: Fall. Course Fees: LRC1 \$16; LRLF \$10; MM01 \$7; STLF \$24.

CHN 1024. Elementary Chinese II. (3-2) 4 Credit Hours. (TCCN = CHIN 1412)

Prerequisite: CHN 1014, an equivalent, an appropriate placement test score, or consent of instructor. Fundamentals of Chinese offering the opportunity to develop basic speaking, listening, reading, and writing skills. Further study of Chinese characters and Chinese culture. Generally offered: Spring. Course Fees: LRLF \$10; MM01 \$7; STLF \$24.

CHN 2013. Intermediate Chinese I. (3-1) 3 Credit Hours. (TCCN = CHIN 2311)

Prerequisite: CHN 1024, an equivalent, an appropriate placement test score, or consent of instructor. Continued opportunity to develop listening, speaking, reading, and writing skills through structural analysis of the Chinese language. Continued exposure to Chinese culture. Generally offered: Fall. Course Fees: LRLF \$10; MM01 \$7; STLF \$18.

CHN 2023. Intermediate Chinese II. (3-1) 3 Credit Hours. (TCCN = CHIN 2312)

Prerequisite: CHN 2013, an equivalent, an appropriate placement test score, or consent of instructor. Continued opportunity to develop listening, speaking, reading, and writing skills through structural analysis of the Chinese language. Continued exposure to Chinese culture. Generally offered: Spring. Course Fees: LRLF \$10; MM01 \$7; STLF \$18.

CHN 3023. Advanced Language Skills. (3-0) 3 Credit Hours.

Prerequisite: CHN 2023, the equivalent, the appropriate placement test score, or consent of instructor. Offers the opportunity to develop advanced-level oral and written communication skills in the Chinese language, along with enhanced comprehension skills in listening and reading. May be repeated for credit when topics vary. Course Fees: LRLF \$10; STLF \$18.

CHN 4213. Topics in Chinese Culture. (3-0) 3 Credit Hours.

Prerequisite: CHN 2023, the equivalent, or consent of instructor. Selected topics in Chinese culture, such as festivals, marriage, medicine, tourism, religion, philosophy, cuisine, education, film, and art. May be repeated for credit when topics vary. Course Fees: MM01 \$7; LRLF \$10; STLF \$18.

Civil Engineering (CE)

Civil Engineering (CE) Courses

CE 1301. Introduction to Civil Engineering. (1-0) 1 Credit Hour.

Prerequisites: Completion of or concurrent enrollment in MAT 1093 and WRC 1013. Engineering as a career, engineering ethics, and approaches to engineering problem formulation and solution using principles of design and decision making. Generally offered: Fall, Spring. Course Fees: L001 \$10; LRE1 \$20; STSE \$10.

CE 2103. Civil Engineering Measurements. (2-3) 3 Credit Hours.

Prerequisites: CE 1301 and MAT 1214. Principles of measurement and error analysis; application of equipment to acquire, analyze, and control data in civil engineering systems; and introduction to plane surveying. Generally offered: Fall, Spring, Summer. Course Fees: LRE1 \$20; STSE \$30.

CE 2313. Computer-Aided Design in Civil Engineering. (3-0) 3 Credit Hours.

Prerequisites: EGR 1403 and completion of or concurrent enrollment in CE 2103. Organization and programming of civil engineering problems for computer solutions; application of computer-aided design in civil engineering. (Formerly CE 4313. Credit cannot be earned for both CE 4313 and CE 2313.) Generally offered: Fall, Spring, Summer. Course Fees: LRE1 \$20; STSE \$30.

CE 2633. Environmental Engineering. (3-0) 3 Credit Hours.

Prerequisites: CE 1301 and CHE 1103. Principles, analysis, and design related to environmental monitoring, protection, and remediation systems. Topics include environmental quality and legislation, modeling, water treatment, wastewater treatment, solid and hazardous waste management, air and noise pollution, and radioactive waste management. Generally offered: Fall, Spring. Course Fees: DL01 \$75; LRE1 \$20; STSE \$30.

CE 3103. Mechanics of Solids. (2-3) 3 Credit Hours.

Prerequisites: EGR 2103 and completion of or concurrent enrollment in EGR 2323. Internal forces and deformations in solids; stress, strain, and their relations; stresses and deflections in beams column theory and analysis; and engineering applications. (Credit cannot be earned for both CE 3103 and ME 3813.) Generally offered: Fall, Spring. Differential Tuition: \$165.

CE 3113. Structural Analysis. (3-0) 3 Credit Hours.

Prerequisite: CE 3103. Forces and deflections in structural systems; considers stationary and moving loads and exact and approximate methods. Generally offered: Fall, Spring. Differential Tuition: \$165.

CE 3173. Numerical Methods. (3-0) 3 Credit Hours.

Prerequisites: CS 1173 and EGR 2323. Use of computing languages and numerical methods in solving civil and environmental engineering problems. Techniques for computer solution of linear and nonlinear simultaneous equations; splines; root finding methods; eigenvalues; finite differences; numerical integration; numerical solutions to ordinary differential equations; error analysis. Case studies in various civil engineering areas. Generally offered: Fall, Spring. Differential Tuition: \$165.

CE 3213. Reinforced Concrete Design. (2-3) 3 Credit Hours.

Prerequisites: CE 3113 and completion of or concurrent enrollment in CE 3243. Ultimate strength theory and design for reinforced concrete members. Generally offered: Fall, Spring. Differential Tuition: \$165.

CE 3223. Highway Engineering. (3-0) 3 Credit Hours.

Prerequisites: CE 2103 and completion of or concurrent enrollment in EGR 3713. General characteristics of highway design; horizontal and vertical alignment, cross-sections, earthwork, drainage, and pavement; and economic analysis. (Formerly CE 4123. Credit cannot be earned for both CE 4123 and CE 3223.) Generally offered: Fall, Spring. Differential Tuition: \$165.

CE 3233. Steel Design. (2-3) 3 Credit Hours.

Prerequisites: Completion of or concurrent enrollment in CE 3113 and CE 3243. Analysis and design of steel tension members, beams, columns, and bolted or welded connections. Generally offered: Fall, Spring. Differential Tuition: \$165.

CE 3243. Properties and Behavior of Engineering Materials. (2-3) 3 Credit Hours.

Prerequisites: CE 3103 and STA 2303. Structure, properties, and behavior of engineering materials; measurement and analysis of material properties and behavior. Laboratory exercises illustrate typical material behavior and selected principles of mechanics. Generally offered: Fall, Spring. Differential Tuition: \$165. Course fee: L001 \$30.

CE 3413. Geotechnical Engineering and Applications. (2-3) 3 Credit Hours.

Prerequisite: CE 3103. Exploration, sampling, and in-situ measurements; laboratory testing; review of fundamental properties of soil and rock; flow-through porous media; the effective stress principle and computation of in-situ stress distributions; shear strength of soils and one-dimensional consolidation settlement; introduction to slope stability. Generally offered: Fall, Spring. Differential Tuition: \$165. Course fee: L001 \$30.

CE 3603. Fluid Mechanics. (2-3) 3 Credit Hours.

Prerequisite: EGR 2513. Fluid properties, fluid statics concepts, equations of fluid flow in pipes and open channels, and flow-through porous media. Generally offered: Fall, Spring. Differential Tuition: \$165.

CE 4013. Civil Engineering Systems Analysis. (3-0) 3 Credit Hours.

Prerequisite: EGR 3713. Technical elective course. Systems approach to optimization and problem solving; operations research applications in civil engineering; mathematical modeling and analysis techniques including linear programming, dynamic programming, decision analysis and use of software to solve linear and nonlinear programming problems. (Formerly CE 3713. Credit cannot be earned for both CE 4013 and CE 3713.) Differential Tuition: \$165.

CE 4103. Advanced Steel Design. (3-0) 3 Credit Hours.

Prerequisite: CE 3233. Technical elective course. Connection design, welded and bolted, moment-resistant connections, plate girders, column stability, bracing design, and seismic design of frames. Differential Tuition: \$165.

CE 4133. Advanced Reinforced Concrete. (3-0) 3 Credit Hours.

Prerequisite: CE 3213. Technical elective course. Design of concrete building systems including continuous one-way and two-way slab systems as well as vertical and lateral load resisting members such as slender columns and shear walls. Differential Tuition: \$165.

CE 4143. Introduction to Timber Design. (3-0) 3 Credit Hours.

Prerequisites: Completion of or concurrent enrollment in CE 3113 and CE 3243. Technical elective course. Design philosophy and methodology for timber structures. Flexure design, axial load design, and shear design of basic timber components. (Formerly CE 3253 and CE 4253. Credit cannot be earned for both CE 4143 and CE 3253 or CE 4253.) Differential Tuition: \$165. Course fee: DL01 \$75.

CE 4153. Prestressed Concrete. (3-0) 3 Credit Hours.

Prerequisite: CE 3213. Technical elective course. Design of statically determinate and indeterminate structures, estimation of prestress loss, flexure and shear strength, deflections and stress control, composite construction, and continuous span theory. Differential Tuition: \$165.

CE 4163. Advanced Structural Analysis. (3-0) 3 Credit Hours.

Prerequisite: CE 3113. Technical elective course. The class focuses on the matrix analysis method applied to structural analysis. The course will cover all the facets of the structural analysis method including the assembly of element and structure stiffness matrices, fixed end force and moment vectors, and nodal displacements. Differential Tuition: \$165.

CE 4173. Dynamics and Vibrations. (3-0) 3 Credit Hours.

Prerequisite: CE 3113. Technical elective course. The class focuses on the fundamentals of structural dynamics, including single degree-of-freedom and multi-degree-of-freedom systems. The course presents common analysis techniques used to calculate the dynamic response of structures to different types of time-varying loads. Differential Tuition: \$165.

CE 4183. Experimental Stress Analysis. (3-0) 3 Credit Hours.

Prerequisite: CE 3103 or ME 3813. Technical elective course. Technical elective course. After completing the course students should be able to recognize and properly use different types of sensors for applications in experimental analysis of structures. Students should have acquired an understanding of the basic principles used to develop the sensors discussed in the class, to evaluate the quality of the data obtained from measurements, and to make adjustments to improve the quality of test data if necessary. Differential Tuition: \$165.

CE 4193. Fundamentals of Traffic Engineering. (3-0) 3 Credit Hours.

Prerequisite: STA 2303. This is an introductory course that prepare students for more advanced classes on focused topics in traffic engineering. The course covers the full spectrum of key topics ranging from characteristics of the transportation system, analysis of flow and capacity, traffic counts, determination of level of service of various types of roads, traffic operations, traffic control devices, pedestrian/bicycle facilities, traffic safety, to introduction to Intelligent Transportation Systems (ITS). It will also introduce to students the basic theories behind the operation of signalized and un-signalized intersections. The course also provides an opportunity to get an introduction to emerging techniques in the area of transportation engineering. Differential Tuition: \$165.

CE 4223. Introduction to Masonry Design. (3-0) 3 Credit Hours.

Prerequisites: Completion of or concurrent enrollment in CE 3113 and CE 3243. Technical elective course. Design philosophy and methodology for masonry structures. Flexure design, axial load design, and shear design of basic masonry components. (Formerly CE 3253 and CE 4253. Credit cannot be earned for both CE 4223 and CE 3253 or CE 4253.) Differential Tuition: \$165.

CE 4283. Design of Buildings for Lateral Loads. (3-0) 3 Credit Hours.

Prerequisites: Completion of or concurrent enrollment in CE 3213 and CE 3233. Technical elective course. Understanding and application of lateral loads to the design of steel, concrete, wood and masonry structures. Differential Tuition: \$165.

CE 4293. Geographic Information Systems (GIS). (3-0) 3 Credit Hours.

Prerequisite: CE 2103 or GEO 4023. Technical elective course. Introduces vector, raster and tabular concepts, emphasizing the vector approach. Topics include: spatial relationships, map features, attributes, relational database, layers of data, data ingesting, digitizing from maps, projections, output, applications, and availability of public data sets. Focus will be placed on spatial/temporal data analyses using digitized maps and database information in an area of Civil Engineering specialization. Differential Tuition: \$165.

CE 4303. Hydrometeorology. (3-0) 3 Credit Hours.

Prerequisite: CE 3603. Technical elective course. The main objective of this course is to familiarize the student with topics related to local and global distribution of freshwater. Conceptualizations of the water balance/budget are developed using principles of physical hydrology and meteorology. Emphasis will be on recent research and modern methods for data analysis and modeling. Real-life events and phenomena will be discussed. In addition to the text, material will be presented from other sources. Guest instructors will give presentations on some case studies. Differential Tuition: \$165.

CE 4403. Advanced Characterization of Highway Materials. (3-0) 3 Credit Hours.

Prerequisite: CE 3243. Technical elective course. Basic and advanced level of the fundamentals of material response to static and repeated loading; emphasis on the deformation and fatigue behavior of asphalt mixtures, constitutive modeling for mixtures, microstructure characterization for mixtures, nondestructive testing of pavements, asphalt binder characterization, unbound materials (base and sub-base materials) evaluation and characterization. Differential Tuition: \$165.

CE 4453. Transportation Engineering. (3-0) 3 Credit Hours.

Prerequisite: CE 3223. Technical elective course. Study of the Highway Capacity Manual, traffic stream parameters and relationships, analytical techniques in traffic engineering such as capacity analysis, queuing theory, and traffic simulation. Design and operation of advanced traffic management systems including signalization, real-time motorist information, urban incident management, and ITS concepts. (Formerly CE 4233. Credit cannot be earned for both CE 4453 and CE 4233.) Differential Tuition: \$165.

CE 4463. Foundation Engineering. (3-0) 3 Credit Hours.

Prerequisite: CE 3413. Technical elective course. Shallow and deep foundations including: footings, slabs on-grade, cofferdams, sheet-pile walls, drilled shafts, piles and retaining walls. (Formerly CE 4413. Credit cannot be earned for both CE 4463 and CE 4413.) Generally offered: Fall. Differential Tuition: \$165.

CE 4543. Project Design and Construction Management. (3-0) 3 Credit Hours.

Prerequisites: EGR 3713, CE 3113, CE 3173, and either CE 3213 or CE 3233. Civil Engineering design process, project specifications, and construction management. Topics covered include design process/practices, project proposals, pricing, specifications, bidding strategies, project management/scheduling and project financing. The course forms the student teams for CE 4813 Civil Engineering Design and identifies projects. Students are trained on how to write Request for Proposals (RFPs) for the identified projects and how to write engineering consulting proposals in reply to the RFP. Students are also trained on how to present proposals to a panel of senior engineers at the end of the semester. Course must be taken the semester prior to taking CE 4813. (Formerly CE 3543. Credit cannot be earned for both CE 3543 and CE 4543.) Differential Tuition: \$165.

CE 4603. Water Resources Engineering. (3-0) 3 Credit Hours.

Prerequisites: CE 3173, CE 2633, and CE 3603. Analysis and design of surface and subsurface water resource facilities. Design of water supply, wastewater collection, and storm water systems. Generally offered: Fall, Spring. Differential Tuition: \$165.

CE 4613. Environmental Chemistry. (3-0) 3 Credit Hours.

Prerequisite: CE 4633. Technical elective course. This course explores the chemistry of the environment, the chemistry underlying environmental problems and solutions to environmental problems. Emphasis is placed on thermodynamics and kinetics of reaction cycles; sources, sinks and transport of chemical species; and quantitation of chemical species. Examples are selected from the chemistry of natural and contaminated air, water, and soil. (Same as ES 3153. Credit cannot be earned for both CE 4613 and ES 3153.) Differential Tuition: \$165.

CE 4633. Water and Wastewater Treatment. (2-3) 3 Credit Hours.

Prerequisites: CE 2633 and CE 3603. The application of chemical, biochemical, and physical processes to water treatment, wastewater treatment, and pollution control. (Formerly CE 3633. Credit cannot be earned for both CE 3633 and CE 4633.) Differential Tuition: \$165. Course fee: L001 \$10.

CE 4723. Hydraulic Systems Design. (3-0) 3 Credit Hours.

Prerequisite: CE 3603. Technical elective course. Analysis and design of water resource systems; dam and reservoir design for recharge, flood control, and water supply and demand forecasting, optimization of multi-objective systems, and allocations planning and management. Differential Tuition: \$165.

CE 4733. Applied Hydrology. (3-0) 3 Credit Hours.

Prerequisite: CE 3603. Technical elective course. Hydrologic cycle, precipitation, hydrologic abstractions, surface runoff; unit hydrographs; synthetic hydrographs; peak discharge relationships; flood frequency analysis; flood and reservoir routing; and groundwater hydrology. (Formerly CE 3723. Credit cannot be earned for both CE 4733 and CE 3723.) Differential Tuition: \$165.

CE 4813. Civil Engineering Design. (3-0) 3 Credit Hours.

Prerequisites: CE 3223, CE 4543, and CE 4603. Opportunity to apply design skills to execution of an open-ended integrated civil engineering design project, including field and laboratory investigations, numerical and scale modeling, design, and formal oral and written presentation of results. Considers safety, reliability, environmental, economic, and other constraints, as well as ethical and social impacts. Generally offered: Fall, Spring. Differential Tuition: \$165. Course fee: L001 \$30.

CE 4911. Independent Study. (0-0) 1 Credit Hour.

Prerequisites: Permission in writing (form available) from the instructor, the Department Chair and Dean of the College. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Differential Tuition: \$55.

CE 4912. Independent Study. (0-0) 2 Credit Hours.

Prerequisites: Permission in writing (form available) from the instructor, the Department Chair and Dean of the College. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Differential Tuition: \$110.

CE 4913. Independent Study. (0-0) 3 Credit Hours.

Prerequisites: Permission in writing (form available) from the instructor, the Department Chair and Dean of the College. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Differential Tuition: \$165.

CE 4953. Special Studies in Civil Engineering. (3-0) 3 Credit Hours.

Prerequisite: Consent of instructor. An organized course offering the opportunity for specialized study not normally or not often available as part of the regular course offerings. Special Studies may be repeated for credit when topics vary, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. Differential Tuition: \$165.

Classics (CLA)

Classics (CLA) Courses

CLA 1114. Basic Individualized Instruction. (0-0) 4 Credit Hours.

Prerequisites: Permission in writing (form available) of the instructor, the student's advisor, the Department Chair, and the Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 8 hours of basic individualized instruction will apply to a bachelor's degree. Course Fees: LRLF \$10; STLF \$24.

CLA 2013. Introduction to Ancient Greece. (3-0) 3 Credit Hours.

Introduction to the civilization and cultural achievements of ancient Greece, including history, religion, philosophy, literature, and art. May be applied toward the Core Curriculum requirement in Language, Philosophy and Culture. Generally offered: Fall. Course Fees: LRC1 \$12; LRLF \$10; STLF \$18.

CLA 2023. Introduction to Ancient Rome. (3-0) 3 Credit Hours.

Introduction to the civilization and cultural achievements of ancient Rome, including history, religion, philosophy, literature, and art. May be applied toward the Core Curriculum requirement in Language, Philosophy and Culture. Generally offered: Spring. Course Fees: LRC1 \$12; LRLF \$10; STLF \$18.

CLA 2033. Introduction to Classical Literature. (3-0) 3 Credit Hours.

Introductory study of selected works of ancient Greek and Roman authors, with emphasis on epic, drama, satire, and lyric. May be applied toward the Core Curriculum requirement in Creative Arts. Generally offered: Fall, Spring, Summer. Course Fees: LRC1 \$12; LRLF \$10; STLF \$18.

CLA 2043. The Greek and Latin Roots of Scientific Terms. (3-0) 3 Credit Hours.

Introduction to the Greek and Latin roots of scientific words, focused on developing practical skills in learning and interpreting common but unfamiliar terminology. Online course only. Course Fees: LRC1 \$12; LRLF \$10; STLF \$18.

CLA 2113. Intermediate Individualized Instruction. (0-0) 3 Credit Hours.

Prerequisite: Successful completion of LAT 1124 or GRK 1124 or permission of the instructor. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 hours of intermediate individualized instruction will apply to a bachelor's degree. Course Fees: LRLF \$10; STLF \$18.

CLA 2323. Classical Mythology. (3-0) 3 Credit Hours.

Critical survey of secular and religious classical mythology; attention to the use of myth in ancient literature and the functions of myth in historical, cultural, and cross-cultural contexts. May be applied toward the Core Curriculum requirement in Language, Philosophy and Culture. Generally offered: Fall, Spring, Summer. Course Fees: LRC1 \$12; LRLF \$10; STLF \$18.

CLA 3053. Topics in Classical Literature. (3-0) 3 Credit Hours.

Prerequisite: Completion of Core Curriculum requirement in Communication. The study of ancient Greek and Roman texts, focusing on a genre, author, or theme. May be repeated for credit when topics vary. Course Fees: LRLF \$10; STLF \$18.

CLA 3063. Ancient Mediterranean Art and Archaeology. (3-0) 3 Credit Hours.

Prerequisite: Completion of Core Curriculum requirement in Communication. The study of one or more themes, periods, traditions, or archaeological sites in the ancient Mediterranean world. May be repeated for credit when topics vary. Course Fees: LRLF \$10; STLF \$18.

CLA 3073. Science, Medicine, and Technology in Antiquity. (3-0) 3 Credit Hours.

Prerequisite: Completion of Core Curriculum requirement in Communication. The study of an aspect, author, or theme relevant to science, medicine, and technology in the ancient Mediterranean world, including both textual evidence and material culture. May be repeated for credit when topics vary. Course Fees: LRLF \$10; STLF \$18.

CLA 3083. Classics in the Modern World. (3-0) 3 Credit Hours.

Prerequisite: Completion of Core Curriculum requirement in Communication. The study of how Classical Antiquity continues to shape modern art, literature, ideologies, and identities, focusing on select ancient and modern sources. May be repeated for credit when topics vary. Course Fees: LRLF \$10; STLF \$18.

CLA 3123. Cultural Issues in Mediterranean Antiquity. (3-0) 3 Credit Hours.

Prerequisite: Completion of Core Curriculum requirement in Communication. Interdisciplinary study of cultural issues, such as slavery, ethnicity, gender, politics, and athletics. May be repeated for credit when topics vary. Course Fees: LRLF \$10; STLF \$18.

CLA 3513. Ancient Mediterranean History. (3-0) 3 Credit Hours.

Prerequisite: Completion of Core Curriculum requirement in Communication. An examination of selected events, trends, and transformations in the history of the ancient Mediterranean world. May be repeated for credit when topics vary. Course Fees: LRLF \$10; STLF \$18.

CLA 4911. Independent Study. (0-0) 1 Credit Hour.

Prerequisites: Permission in writing (form available) of the instructor, the student's advisor, the Department Chair, and the Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 hours of independent study, regardless of discipline, will apply to a bachelor's degree. Course Fees: LRLF \$10; STLF \$6.

CLA 4912. Independent Study. (0-0) 2 Credit Hours.

Prerequisites: Permission in writing (form available) of the instructor, the student's advisor, the Department Chair, and the Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 hours of independent study, regardless of discipline, will apply to a bachelor's degree. Course Fees: LRLF \$10; STLF \$12.

CLA 4913. Independent Study. (0-0) 3 Credit Hours.

Prerequisites: Permission in writing (form available) of the instructor, the student's advisor, the Department Chair, and the Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 hours of independent study, regardless of discipline, will apply to a bachelor's degree. Course Fees: LRLF \$10; STLF \$18.

CLA 4953. Special Studies in Classics. (3-0) 3 Credit Hours.

Prerequisite: Consent of instructor. Organized course offering the opportunity for specialized study not normally or not often available as part of the regular course offerings. Special Studies courses may be repeated for credit when the topics vary, but not more than 6 hours, regardless of discipline, will apply to a bachelor's degree. Course Fees: LRLF \$10; STLF \$18.

CLA 4973. Senior Seminar in Classics. (3-0) 3 Credit Hours.

Prerequisite: 12 upper-division credit hours in Classics or approved upper-division courses in other disciplines. Undergraduate capstone experience for students in the Classics emphasis and minor, open to eligible students from other disciplines in their junior or senior year. The seminar focuses on the development of research methodologies for the study of the ancient world. Subject varies with instructor, but the course will emphasize a combination of historical, linguistic, archaeological and anthropological approaches, reflecting the interdisciplinary nature of contemporary Classical Studies. May be repeated once for credit when topics vary. (Formerly titled "Seminar for Classics Majors"). Course Fees: LRLF \$10; STLF \$18.

CLA 4991. Honors Thesis. (0-0) 1 Credit Hour.

Prerequisites: Consent of instructor and Department Scholarship and Honors Committee. Supervised research and preparation of an Honors Thesis for the purpose of earning Classical Studies Honors. May be repeated once with advisor approval. Course Fees: LRLF \$10; STLF \$6.

CLA 4992. Honors Thesis. (0-0) 2 Credit Hours.

Prerequisites: Consent of instructor and Department Scholarship and Honors Committee. Supervised research and preparation of an Honors Thesis for the purpose of earning Classical Studies Honors. May be repeated once with advisor approval. Course Fees: LRLF \$10; STLF \$12.

CLA 4993. Honors Thesis. (0-0) 3 Credit Hours.

Prerequisites: Consent of instructor and Department Scholarship and Honors Committee. Supervised research and preparation of an Honors Thesis for the purpose of earning Classical Studies Honors. May be repeated once with advisor approval. Course Fees: LRLF \$10; STLF \$18.

College Success Seminar (CSS)

College Success Seminar (CSS) Courses

CSS 1201. College Success Seminar. (1-0) 1 Credit Hour.

A course to help students improve college-level study skills and mastery learning techniques based on current research. This course is taught within the Tomas Rivera Center. May be repeated. Course Fee: LRC1 \$4.

CSS 1202. College Success Seminar. (2-0) 2 Credit Hours.

A course to help students improve college-level study skills and mastery learning techniques based on current research. This course is taught within the Tomas Rivera Center. May be repeated. Course Fee: LRC1 \$8.

CSS 1203. College Success Seminar. (3-0) 3 Credit Hours.

A course to help students improve college-level study skills and mastery learning techniques based on current research. This course is taught within the Tomas Rivera Center. May be repeated.

Communication (COM)

Communication (COM) Courses

COM 1043. Introduction to Communication. (3-0) 3 Credit Hours. (TCCN = SPCH 1311)

Prerequisite: WRC 1013. Introduction to the fundamental processes of human communication, with emphasis on contexts such as interpersonal, group, and organizational communication. Emphasis is given to those skills that promote oral proficiency. Generally offered: Fall, Spring, Summer. Course Fees: DL01 \$75; LRLF \$10; STLF \$18.

COM 1053. Business and Professional Speech. (3-0) 3 Credit Hours. (TCCN = SPCH 1321)

Prerequisite: WRC 1013. Examination of the basic communication process through oral channels with practical applications for business. Emphasis is on techniques of business and professional presentation, including components of message strategies, nonverbal communication, multimedia support, and persuasive speaking. Oral presentations with written components required. (Credit cannot be earned for both COM 1053 and COM 1063.) Generally offered: Fall, Spring, Summer. Course Fees: DL01 \$75; LRLF \$10; STLF \$18.

COM 1063. Digital Business Communication. (3-0) 3 Credit Hours. (TCCN = SPCH 1321)

Prerequisite: WRC 1013. Restricted to students in a 100% Online Program. Examination of the basic communication processes through digital communication channels with strategic applications for business. Emphasis is placed on current technologies (social media, Skype, public presentations, etc.) of business and professional presentation, including components of message strategies, nonverbal/symbolic communication, multimedia support, and persuasive/influencing presentations in a digital era. Multiple presentations with written components required. (Credit cannot be earned for both COM 1053 and COM 1063.) Generally offered: Fall, Spring, Summer.

COM 2113. Public Speaking. (3-0) 3 Credit Hours. (TCCN = SPCH 1315)

Prerequisite: WRC 1013. Theory and practice of speaking in formal settings. Emphasis on preparation, adaptation, and delivery of oral and visual presentations, as well as written analysis of historical speeches. May be applied toward the Core Curriculum requirement in the Component Area Option. Generally offered: Fall, Spring, Summer. Course Fees: LRC1 \$12; LRLF \$10; STLF \$18.

COM 2343. Introduction to Mass Communication. (3-0) 3 Credit Hours. (TCCN = COMM 1307)

Prerequisites: WRC 1013 and WRC 1023. Critical examination of how the mass media interact with individuals and social groups. Exploration of media industries, products, and processes from various disciplinary perspectives. Generally offered: Fall, Spring. Course Fees: LRLF \$10; STLF \$18.

COM 2433. Editing. (3-0) 3 Credit Hours.

Prerequisite: ENG 2413. Principles and applications of production editing and technical editing, including evaluation and revision of style, tone, and organization of documents. Practice in use of editing symbols and copy marking. (Same as ENG 2433. Credit cannot be earned for both COM 2433 and ENG 2433.) Generally offered: Fall, Spring. Course Fees: DL01 \$75; LRLF \$10; STLF \$18.

COM 2733. Introduction to Digital Communication. (3-0) 3 Credit Hours.

Prerequisites: WRC 1013 and WRC 1023. Overview of media and networks used for entertainment and information distribution, storage, and retrieval. Emphasis on the interrelationships among technology, economics, policy, society, and culture. (Formerly titled "Introduction to Communication Technologies.") Generally offered: Spring. Course Fees: DL01 \$75; LRLF \$10; STLF \$18.

COM 2801. Forensic Activities. (0-0) 1 Credit Hour.

Prerequisite: Consent of instructor. Opportunity to study the preparation and presentation of oral argument or speaking in competitive situations. May be repeated for credit. Generally offered: Fall. Course Fees: LRLF \$10; STLF \$6.

COM 3023. Foundations of Communication. (3-0) 3 Credit Hours.

Prerequisites: WRC 1013 and WRC 1023; and enrollment as a Communication major or minor, or enrollment in Multidisciplinary Studies. Acquaints students with a range of disciplinary areas of study in communication. Addresses how communication influences our understandings of and in various social contexts and, in turn, how these understandings affect communicative choices. Addresses basic strategies and technologies used for information access, retrieval, and processing. Generally offered: Fall, Spring, Summer. Course Fees: DL01 \$75; LRLF \$10; STLF \$18.

COM 3073. Conduct of Communication Inquiry. (3-0) 3 Credit Hours.

Prerequisite: Completion of or concurrent enrollment in COM 3023. Required of and restricted to students majoring in Communication. Introduction to basic research methods as they apply to communication inquiry. Issues include applications of quantitative and qualitative research designs, descriptive and inferential statistics, and interpretation and critical evaluation of findings. Generally offered: Fall, Spring, Summer. Course Fees: DL01 \$75; LRLF \$10; STLF \$18.

COM 3083. Language and Communication Theory. (3-0) 3 Credit Hours.

Prerequisite: Completion of or concurrent enrollment in COM 3023. Overview of theories of language and communication. Focuses on understanding how language and communication affect individual and social action. Generally offered: Fall, Spring, Summer. Course Fees: DL01 \$75; LRLF \$10; STLF \$18.

COM 3113. Argumentation and Debate. (3-0) 3 Credit Hours.

Prerequisite: COM 1043, COM 1053, or COM 2113. Offers the opportunity to train in the preparation, construction, and critical analysis of argumentation. Exercises in oral communication in adversarial situations. Generally offered: Fall. Course Fees: LRLF \$10; STLF \$18.

COM 3243. Persuasion. (3-0) 3 Credit Hours.

Prerequisite: Enrollment as a Communication major or minor, or enrollment in Multidisciplinary Studies. Theory and practice of influencing attitudes, beliefs, opinions, and actions. Emphasis on critical evaluation of persuasive messages and design of persuasive campaigns. Generally offered: Spring. Course Fees: DL01 \$75; LRLF \$10; STLF \$18.

COM 3253. Rhetorical Communication Analysis. (3-0) 3 Credit Hours.

Prerequisite: Enrollment as a Communication major or minor, or enrollment in Multidisciplinary Studies. Study of classical and contemporary rhetorical theory. Critical evaluation of communication messages and techniques of delivery. Course Fees: DL01 \$75; LRLF \$10; STLF \$18.

COM 3293. Introduction to Health Communication. (3-0) 3 Credit Hours.

Prerequisite: Enrollment as a Communication major or minor, or enrollment in Multidisciplinary Studies, Medical Humanities, or Public Health, or consent of the instructor. This course is a survey of the field of health communication. This course is designed to increase student familiarity and understanding of the many ways in which health and illness affect and is affected by communication, emphasizing the interplay between communication, culture, identity, and relationships. This course introduces multiple communication issues relevant to the ways in which individuals negotiate health and illness including: contested meanings of health; the social construction of health and illness; how individuals experience and enact health; the influence on health interactions of social systems, culture and identity, social media, and organizational culture. A variety of topics will be explored, including conceptualizations of health; historical and modern approaches to healthcare; provider-patient interaction; health campaigns; social support; media and health; theories of behavioral change; and more. Generally offered: Fall, Spring, Summer. Course Fees: LRLF \$10; STLF \$18.

COM 3383. Interpersonal Communication. (3-0) 3 Credit Hours.

Prerequisite: COM 1053 or COM 2113. Theory and research of communication in personal and professional settings. The course stresses the social context of communication and emphasizes skills, knowledge, and motivation of verbal and nonverbal interaction. (Same as MGT 3253. Credit cannot be earned for both COM 3383 and MGT 3253.) Generally offered: Fall, Spring, Summer. Course Fees: DL01 \$75; LRLF \$10; STLF \$18.

COM 3493. Global Health Communication. (3-0) 3 Credit Hours.

Prerequisite: COM 3293. This course is designed to provide students with a critical overview of global public health communication. In the backdrop of emergent global public health challenges, and promises, students will explore the history and imperatives of global health interventions and communication programs, its varied key concepts, theories and methodological approaches, as well as case studies of application and discussions of ethical tensions in the field. Students will be exposed to a range theoretical and methodological interventions and case studies from across the globe in order to have a firm understanding of global health communication programs. Successful completion of this course will prepare students for a future career in international development, global public health communication, and in being an active and engaged citizen in the health care debates, both locally and globally. Generally offered: Fall, Spring. Course Fees: LRLF \$10; STLF \$18.

COM 3523. Public Relations. (3-0) 3 Credit Hours.

Prerequisites: COM 3023, and enrollment as a Communication Major. Introduction to principles and practices of public relations. Some attention to public relations within multicultural communities. Generally offered: Fall, Spring, Summer. Course Fees: DL01 \$75; LRLF \$10; STLF \$18.

COM 3533. Writing for Public Relations. (3-0) 3 Credit Hours.

Prerequisites: Completion of or concurrent enrollment in COM 3523 and ENG 2413. Exposure to techniques and skills associated with writing for public relations to create internal and external documents, such as news releases, reports, newsletters, feature stories, and brochures. Designed to enable students to become competent and versatile writers for a variety of publics. (Formerly COM 3513. Credit cannot be earned for both COM 3513 and COM 3533.) Generally offered: Fall, Spring, Summer. Course Fees: DL01 \$75; LRLF \$10; STLF \$18.

COM 3553. Intercultural Communication. (3-0) 3 Credit Hours.

Prerequisites: COM 3023, and completion of or concurrent enrollment in COM 3073 and COM 3083. Examination of differences in communication that arise from cultural and/or ethnic diversity. Emphasis on the verbal and nonverbal communicative patterns, conflict management, and decision-making processes of diverse cultures. Generally offered: Fall, Spring, Summer. Course Fees: DL01 \$75; LRLF \$10; STLF \$18.

COM 3563. International Communication. (3-0) 3 Credit Hours.

Prerequisites: COM 3023, and completion of or concurrent enrollment in COM 3083. Examination of issues, conditions, and processes relating to world media systems. Consideration of theoretical and practical perspectives in key domains of interaction such as political economy, social development, and technology. Generally offered: Fall, Spring, Summer. Course Fees: LRLF \$10; STLF \$18.

COM 3593. Health Communication Campaigns. (3-0) 3 Credit Hours.

Prerequisite: COM 3293. This course is designed to increase students' critical understanding of the effects of various media in helping and hindering public health promotion efforts by examining the basic and health-specific communication theories, models and assumptions related to media influence with respect to potential effects on individual health and wellbeing. Students will use theory and research to help explain factors that affect the creation and delivery of health communication campaigns, including how culture and other variables affect message design and campaign effectiveness. In formulating a strategic plan for a focused media campaign, students will detail the rationale, design, implementation considerations, and evaluation plan for a practical health promotion initiative. The course focuses on the ethical dilemmas inherent in the use of strategic communications designed to persuade people to change their behavior. Generally offered: Fall, Spring. Course Fees: LRLF \$10; STLF \$18.

COM 3623. Commercial Publications. (3-0) 3 Credit Hours.

Prerequisites: COM 3023, ENG 2413, and enrollment as a Communication major. Theory and practice of commercial writing and desktop publishing. Includes discussion of document design, principles of layout, and typography. Generally offered: Fall, Spring, Summer. Course Fees: LRLF \$10; STLF \$18.

COM 3633. Professional Presentation. (3-0) 3 Credit Hours.

Prerequisite: COM 1043, COM 1053, or COM 2113. Fundamentals of professional presentations including information exchange, problem solving, and persuasive proposals. Emphasis on the integration of oral presentation with written, graphic, and other media materials. Generally offered: Fall, Spring. Course Fees: LRLF \$10; STLF \$18.

COM 3693. Interpersonal Health Communication. (3-0) 3 Credit Hours.

Prerequisite: COM 3293. This course is a survey of interpersonal communication that impacts, is impacted by, and involves health. Students are expected to gain both theoretical and practical knowledge that can be applied in personal and professional capacities. Students will learn how dysfunctional or negative interpersonal communication can affect well-being, and conversely how interpersonal communication helps us stay healthy and is a valuable resource when we are ill. How we communicate about health with peers, partners, and family will be discussed, and the importance of interpersonal communication in healthcare will be addressed. The course will touch on such contexts as medical decision-making, social support, health-related disclosure, "fat talk," sexuality and communication, end-of-life discussions, and more. Generally offered: Fall, Spring. Course Fees: LRLF \$10; STLF \$18.

COM 3723. Digital Media Production I. (3-0) 3 Credit Hours.

Prerequisites: COM 3023, ENG 2413, and enrollment as a Communication major. Introduction to issues and practices in the design of online information. Emphasis on writing and design practices in the context of various online information genres, including writing for the World Wide Web. Other topics may include hypertext theory and interactive design. (Formerly COM 3413. Credit cannot be earned for both COM 3413 and COM 3723.) Generally offered: Fall, Spring, Summer. Course Fees: LRLF \$10; STLF \$18.

COM 3883. Small Group Communication. (3-0) 3 Credit Hours.

Prerequisite: Enrollment as a Communication major. Theory and research in the communication processes of small groups. Emphasis on analysis of transactions in social and task-oriented groups. Course Fees: LRLF \$10; STLF \$18.

COM 3893. Organizational Communication. (3-0) 3 Credit Hours.

Prerequisite: COM 1053 or COM 3023. Theory and research in organizational communication. Examination of the barriers to effective organizational communication; group communication and decision making; information flows through the formal and informal networks of organizations, and the means of evaluating organizational communication effectiveness. (Same as MGT 3123. Credit cannot be earned for both COM 3893 and MGT 3123.) Generally offered: Fall, Spring, Summer. Course Fees: LRLF \$10; STLF \$18.

COM 4383. Relational Communication. (3-0) 3 Credit Hours.

Prerequisites: COM 3383, and enrollment as a Communication major. Examination of the transactional processes involved in the creation, maintenance, and termination of personal relationships. Analysis of current research and theories concerning the role and effects of communicating in friendship, marriage, and family relationships. Course Fees: LRLF \$10; STLF \$18.

COM 4413. Topics in Communication. (3-0) 3 Credit Hours.

Prerequisite: Enrollment as a Communication major. Intensive study of one or more specific issues in communication (e.g., contexts, theoretical perspectives, and/or research methods). May be repeated twice for credit when topics vary (up to 9 hours). Generally offered: Fall, Spring. Course Fees: DL01 \$75; LRLF \$10; STLF \$18.

COM 4523. Case Studies in Public Relations. (3-0) 3 Credit Hours.

Prerequisites: COM 3073, COM 3523, and completion of or concurrent enrollment in COM 3533. Advanced study of public relations functions, principles, and practices using local, regional, and national organizations as examples. Generally offered: Fall, Spring, Summer. Course Fees: LRLF \$10; STLF \$18.

COM 4533. Public Relations Planning and Campaigns. (3-0) 3 Credit Hours.

Prerequisites: COM 3623 and COM 4523 with a grade of "C-" or better. Application of public relations principles to the planning and production of messages and campaigns. Students will be expected to produce and carry out a public relations campaign within the community. This course fulfills the College of Liberal and Fine Arts Signature Experience. Generally offered: Fall, Spring. Course Fees: LRLF \$10; STLF \$18.

COM 4723. Digital Media Production II. (3-0) 3 Credit Hours.

Prerequisites: COM 2433 and COM 3723 or consent of instructor. Theory and application of digital production formats, such as Web animation, digital photo production or digital film. This course fulfills the College of Liberal and Fine Arts Signature Experience. Generally offered: Fall, Spring, Summer. Course Fees: DL01 \$75; LRLF \$10; STLF \$18.

COM 4813. Theory and Practice of Social Interaction. (3-0) 3 Credit Hours.

Prerequisites: Enrollment as a Communication major and senior standing. Advanced study of one or more specific topics in social interaction, such as relational communication, intergroup communication, family communication, health communication, and/or conflict. This course fulfills the College of Liberal and Fine Arts Signature Experience. Generally offered: Fall, Spring. Course Fees: DL01 \$75; LRLF \$10; STLF \$18.

COM 4893. Health Communication Practicum. (3-0) 3 Credit Hours.

Prerequisites: COM 3293, and COM 3493, COM 3593 or COM 3693. This course is designed to deepen students' understanding of health communication as a field of inquiry and practice by enabling them to explore how health communication theories and frameworks operate in the world around us. Specific settings, circumstances, and cases will be used to illustrate the utility of health communication concepts. Featuring involvement with local organizations or community events, students will apply, analyze, and evaluate health communication concepts as they operate in context. This course requires participation in activities outside of the classroom, the nature of which will vary based on the instructor or record. This course fulfills the College of Liberal and Fine Arts Signature Experience. Generally offered: Fall, Spring. Course Fees: LRLF \$10; STLF \$18.

COM 4911. Independent Study in Communication. (0-0) 1 Credit Hour.

Prerequisite: Permission in writing (form available) from the instructor, the student's advisor, the Department Chair, and the Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Course Fees: LRLF \$10; STLF \$6.

COM 4913. Independent Study in Communication. (0-0) 3 Credit Hours.

Prerequisite: Permission in writing (form available) from the instructor, the student's advisor, the Department Chair, and the Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Course Fees: LRLF \$10; STLF \$18.

COM 4933. Internship in Communication. (0-0) 3 Credit Hours.

Prerequisites: Enrollment as a Communication major, junior standing, and consent of instructor. Supervised field experience in Communication. May be repeated once for credit, but only 3 semester credit hours may be counted toward major requirements. This course fulfills the College of Liberal and Fine Arts Signature Experience. Generally offered: Fall, Spring, Summer. Course Fees: LRLF \$10; STLF \$18.

COM 4993. Honors Thesis. (0-0) 3 Credit Hours.

Prerequisite: Enrollment limited to candidates for graduation with University Honors. Supervised research and preparation of an honors thesis. May be repeated once with advisor approval. Course Fees: LRLF \$10; STLF \$18.

Comparative Studies in the Humanities (CSH)

Comparative Studies in the Humanities (CSH) Courses

CSH 1103. Literary Masterpieces of Western Culture I. (3-0) 3 Credit Hours. (TCCN = ENGL 2332)

Representative masterworks of Western literature in translation. An examination of major texts from antiquity to the Renaissance that have shaped and expressed Western cultural traditions. Situation of literary works in the context of the development of civilization. May be applied toward the Core Curriculum requirement in Language, Philosophy and Culture. Generally offered: Fall. Course Fees: LRC1 \$12; LRLF \$10; MM01 \$7; STLF \$18.

CSH 1113. Literary Masterpieces of Western Culture II. (3-0) 3 Credit Hours. (TCCN = ENGL 2333)

Representative masterworks of Western literature in translation. An examination of major texts from the Renaissance to the present that have shaped and expressed Western cultural traditions. Situation of literary works in the context of the development of civilization. May be applied toward the Core Curriculum requirement in Language, Philosophy and Culture. Course Fees: LRC1 \$12; LRLF \$10; MM01 \$7; STLF \$18.

CSH 1213. Topics in World Cultures. (3-0) 3 Credit Hours. (TCCN = HUMA 2323)

Introductory overview of a specific culture or cultural area as revealed through the diversity of its heritage. Includes topics such as Hispanic, Francophone, German, Slavic, Judaic, Latin, Oriental, or African culture. All readings are from English language or translated materials. May be repeated for credit when topics vary. May be applied toward the Core Curriculum requirement in Language, Philosophy and Culture. Generally offered: Spring, Summer. Course Fees: DL01 \$75; LRC1 \$12; LRLF \$10; MM01 \$7; STLF \$18.

CSH 2113. The Foreign Film. (3-0) 3 Credit Hours.

An introduction to film as art and cultural expression. Emphasis on cinematic techniques, national traditions, genres, and the distinctive features of film as a humanistic medium. Films drawn from Latin America, Asia, Africa, and/or Europe. May be repeated for credit when topics vary. May be applied toward the Core Curriculum requirement in Language, Philosophy and Culture. Generally offered: Fall, Spring. Course Fees: LRC1 \$12; LRLF \$10; MM01 \$7; STLF \$18.

CSH 3023. Studies in Comparative Literature. (3-0) 3 Credit Hours.

Prerequisite: WRC 1023 or the equivalent. Comparative investigation of foreign literature. Topics may include study of a genre, period, or motif, or comparison of authors across different languages. All readings are in English translation. May be repeated for credit when topics vary. Generally offered: Fall. Course Fees: DL01 \$75; LRLF \$10; MM01 \$7; STLF \$18.

CSH 3823. Advanced Topics in World Cultures. (3-0) 3 Credit Hours.

Prerequisite: WRC 1023 or the equivalent. Comparative investigation of foreign cultures. Topics may include various combinations and aspects of Hispanic, Francophone, German, Slavic, Judaic, Latin or Oriental cultures. All readings are in English translation. May be repeated for credit when topics vary. Generally offered: Fall, Spring. Course Fees: DL01 \$75; LRLF \$10; MM01 \$7; STLF \$18.

CSH 4003. Colloquium in East Asian Culture. (3-0) 3 Credit Hours.

Prerequisite: CHN 1024, JPN 1024, or KOR 1024, or consent of instructor. Offers the opportunity for further exploration and discussion of critical issues relating to East Asian culture, history, economy, and other selected topics. May be repeated once for credit when topics vary. Course Fees: LRLF \$10; MM01 \$7; STLF \$18.

CSH 4153. Special Projects in East Asian Studies. (0-0) 3 Credit Hours.

Prerequisite: Permission of the Department Chair. Supervised experience in a professional/academic setting that provides the opportunity to integrate theory and practice in East Asian Studies. Study Abroad experience in one area of the East Asian Region may be substituted for the Special Projects course. May be repeated once for credit when topics vary. Course Fees: LRLF \$10; MM01 \$7; STLF \$18.

Computer Engineering (CPE)

Computer Engineering (CPE) Courses

CPE 2073. Introduction to Computer Programming for Engineers. (3-1) 3 Credit Hours.

Prerequisites: MAT 1214 and completion of or concurrent enrollment in MAT 1224. Algorithmic approach to problem solving, basic programming techniques such as conditional execution (e.g., if-else), repetition (loops), and functions, implicit and explicit memory management, and intro to object oriented programming. One hour of problem solving recitation per week. Generally offered: Fall, Spring. Course Fees: LRE1 \$20; STSE \$30.

CPE 4812. Computer Engineering Design I. (2-1) 2 Credit Hours.

Prerequisites: EE 3563 and concurrent enrollment in, or completion of, EE 3233 and EE 4113. Business planning and project management in engineering design; discussion of ethical and social issues in design; and selection of a design project, development of a detailed design proposal, and approval of a design project. (Formerly CPE 4811. Credit cannot be earned for both CPE 4812 and CPE 4811.) Differential Tuition: \$110.

CPE 4813. Computer Engineering Design II. (2-3) 3 Credit Hours.

Prerequisites: EE 4113 and CPE 4812. Complex system design; advanced ATE; project management, detailed design package, status reporting, formal oral and written technical reports, design reviews, and test plan development and execution; open-ended design project considering safety, reliability, environmental, economic, and other constraints; and ethical and social impacts. Generally offered: Fall, Spring. Differential Tuition: \$165.

CPE 4911. Independent Study. (0-0) 1 Credit Hour.

Prerequisites: Permission in writing (form available) from the instructor, the Department Chair, and Dean of the College. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Differential Tuition: \$55.

CPE 4912. Independent Study. (0-0) 2 Credit Hours.

Prerequisites: Permission in writing (form available) from the instructor, the student's advisor, the Department Chair, and Dean of the College. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Differential Tuition: \$110.

CPE 4913. Independent Study. (0-0) 3 Credit Hours.

Prerequisites: Permission in writing (form available) from the instructor, the Department Chair, and Dean of the College. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Differential Tuition: \$165.

CPE 4953. Special Studies in Computer Engineering. (3-0) 3 Credit Hours.

Prerequisites vary with the topic (refer to the course syllabus on Bluebook or contact the instructor). An organized course offering the opportunity for specialized study not normally or not often available as part of the regular course offerings. Special Studies may be repeated for credit when topics vary, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. Differential Tuition: \$165.

Computer Science (CS)

NOTE: All prerequisites for Computer Science (CS) courses must be completed with a grade of "C-" or better.

Computer Science (CS) Courses

CS 1023. Cultural Implications of the Information Society. (3-0) 3 Credit Hours.

This course offers an examination of the modern information society and the influences of technological advances on society and culture. The emphasis is on information and its management from ethical, social, and legal perspectives. Students will make extensive use of the World Wide Web. Generally offered: Fall, Spring. Course Fees: LRS1 \$45; STSI \$21.

CS 1033. Microcomputer Applications. (3-0) 3 Credit Hours.

Study of the uses of the computer and the organization and visualization of data. Topics will be selected from library searching, networking, e-mail, spreadsheets, databases, authoring packages, multimedia and hypertext applications, presentation graphics, and legal/ethical issues. May not be applied toward a major in computer science. (Formerly CS 2083. Credit cannot be earned for both CS 1033 and CS 2083.) Generally offered: Spring. Course Fees: IUUCS \$45; LRS1 \$45; STSI \$21.

CS 1063. Introduction to Computer Programming I. (3-0) 3 Credit Hours.

Prerequisite: MAT 1073 or the equivalent. An introduction to computer programming using a modern object-oriented computer language. Topics include assignment, decisions, loops, methods and arrays using objects. Generally offered: Fall, Spring, Summer. Course Fees: IUUCS \$45; LRS1 \$45; STSI \$21.

CS 1083. Programming I for Computer Scientists. (3-0) 3 Credit Hours. (TCCN = COSC 1336)

Prerequisite: MAT 1073 or the equivalent. An introduction to computer programming emphasizing structured programming, problem solving, and algorithmic thinking. Topics include assignment, decisions, loops, methods, arrays, and use of objects. Students intending to major or minor in Computer Science should take this course instead of CS 1063. Course Fees: IUCS \$45; LRS1 \$45; STSI \$21.

CS 1093. Programming for Data Science. (3-0) 3 Credit Hours.

Prerequisite: MAT 1073 or the equivalent. An introduction to computer programming emphasizing structured programming, problem solving, and algorithmic thinking. Topics include assignment, decisions, loops, functions, arrays/lists, and use of objects and math/stat packages. Course Fees: IUCS \$45; LRS1 \$45; STSI \$21.

CS 1153. Game Programming. (3-0) 3 Credit Hours.

Prerequisite: Computer literacy. Introduction to game design and programming. Common practices used in the video game industry today will also be introduced. Students will learn the basics of creating a PC game through lecture material, hands-on laboratories, and a final project in which the students will build a simple game. Generally offered: Fall. Course Fees: IUCS \$45; LRS1 \$45; STSI \$21.

CS 1173. Data Analysis and Visualization. (3-0) 3 Credit Hours.

Prerequisite: MAT 1023. Introduction to computation for data analysis and visualization in a programming language such as MATLAB or R. Programming concepts including functions, scripting, loops and logic, handling of vectors and structured data are explored in the context of working with and plotting real data. May be applied toward the Mathematics Core Curriculum requirement. (Formerly titled "Computation for Scientists and Engineers.") Generally offered: Fall, Spring, Summer. Course Fees: DL01 \$75; IUCS \$45; LRC1 \$12; LRS1 \$45; STSI \$21.

CS 1714. Computer Programming II. (4-0) 4 Credit Hours. (TCCN = COSC 1437)

Prerequisite: CS 1083. Extended programming concepts including multidimensional arrays, pointers, dynamic memory allocation/deallocation and recursion. Problem solving methods, algorithm development and implementation. The course includes 3 hours of lecture and a mandatory 1-hour recitation per week. (Formerly CS 1711/1713. Credit cannot be earned for both CS 1714 and CS 1711/1713.) Course Fees: IUCS \$60; LRS1 \$60; STSI \$28.

CS 1793. Data Computation. (3-0) 3 Credit Hours.

Prerequisite: CS 1093. Extended programming concepts including multidimensional arrays, references, dynamic memory allocation/deallocation, list-like structures and recursion. Problem solving methods, algorithm development and implementation. Course Fees: IUCS \$45; LRS1 \$45; STSI \$21.

CS 2073. Computer Programming with Engineering Applications. (3-0) 3 Credit Hours. (TCCN = ENGR 2304)

Prerequisites: MAT 1214 and completion of or concurrent enrollment in MAT 1224. Algorithmic approaches to problem solving and computer program design for engineers. Engineering and mathematically-oriented problem sets will be emphasized, including nonnumeric applications. Searching, sorting, linked lists, and data typing will be introduced. May not be applied toward a major in computer science. Generally offered: Fall, Spring. Course Fees: IUCS \$45; LRS1 \$45; STSI \$21.

CS 2124. Data Structures. (4-0) 4 Credit Hours.

Prerequisites: CS 1714 and completion of or concurrent enrollment in MAT 1214. Abstract data structures (stacks, queues, lists, trees), recursion, sorting, and searching. Implementation of data structures using explicit memory management, and introduction to abstract data type design and encapsulation. The course includes 3 hours of lecture and a mandatory 1-hour recitation per week. (Formerly CS 1723 and CS 2121/2123. Credit cannot be earned for both CS 2124 and CS 1723 or CS 2121/2123.) Course Fees: IUCS \$60; LRS1 \$60; STSI \$28.

CS 2173. Programming Fundamentals and Data Structures. (3-0) 3 Credit Hours.

Prerequisite: Consent of instructor. This course is a bridge course for non-Computer Science students. It cannot be applied to the undergraduate degrees in computer science. Topics include programming fundamentals and basic data structures such as arrays, stack, linked-lists, trees, graphs. Only one of the following may be applied towards a degree: CS 2173, CS 2193, or CS 2124 (previously CS 2121/2123). Course Fees: IUCS \$45; LRS1 \$45; STSI \$21.

CS 2193. Data Organization. (3-0) 3 Credit Hours.

Prerequisites: CS 1793 and MAT 1214. Abstract data structures (stacks, queues, lists, trees), recursion, sorting, and searching. Implementation of data structures using explicit memory management, and introduction to abstract data type design and encapsulation. Only one of the following may be applied towards a degree: CS 2173, CS 2193, or CS 2124 (previously CS 2121/2123). Course Fees: IUCS \$45; LRS1 \$45; STSI \$21.

CS 2233. Discrete Mathematical Structures. (3-0) 3 Credit Hours. (TCCN = MATH 2305)

Prerequisites: CS 1083 and MAT 1093. Survey and development of theoretical tools suitable for describing algorithmic applications. Propositional and predicate calculus, proofs, induction, order notation, recurrences and discrete structures. (Formerly 3233. Credit cannot be earned for both CS 2233 and CS 3233.) Generally offered: Fall, Spring, Summer. Course Fees: IUCS \$45; LRS1 \$45; STSI \$21.

CS 3113. Principles of Cyber Security. (3-0) 3 Credit Hours.

Prerequisite: CS 2124. An introductory course in Cyber Security including an examination of the fundamental principles underlying cyber security, how these principles interrelate and how they are typically employed to secure computer systems and networks. The course will also examine how failures in fundamental security design principles can lead to system vulnerabilities that can be exploited and will also examine the legal issues governing cyber law and cyber operations. (Formerly CS 2433. Credit cannot be earned for both CS 3113 and CS 2433.) Differential Tuition: \$150. Course Fees: DL01 \$75; IUCS \$45.

CS 3333. Mathematical Foundations of Computer Science. (3-0) 3 Credit Hours.

Prerequisites: CS 1714 and MAT 1224. Survey and development of mathematical and statistical tools suitable for describing algorithmic applications. Vectors, matrices, combinatorics, probability and statistical models. Generally offered: Fall, Spring, Summer. Differential Tuition: \$150. Course Fee: IUCS \$45.

CS 3343. Analysis of Algorithms. (3-0) 3 Credit Hours.

Prerequisites: CS 2124, CS 2233, and CS 3333. Analysis of the performance of algorithms; discussion of programming techniques and data structures used in the writing of effective algorithms. Generally offered: Fall, Spring. Differential Tuition: \$150. Course Fee: IUCS \$45.

CS 3424. Systems Programming. (4-0) 4 Credit Hours.

Prerequisite: CS 2124. A study of systems-level programming in a specific system (at present, Unix). Focus on concepts and tools to support the construction of systems programs. The course includes 3 hours of lecture and a mandatory 1-hour recitation per week. (Formerly CS 2413 and CS 3421/3423. Credit cannot be earned for both CS 3424 and CS 2413 or CS 3421/3423.) Differential Tuition: \$200. Course Fee: IUUCS \$60.

CS 3433. Computer and Information Security. (3-0) 3 Credit Hours.

Prerequisites: CS 3424 and consent of instructor. An introduction to the protection of computer systems and networks. Topics will include authentication, access controls, malicious software, formal security methods, firewalls, intrusion detection, cryptography and information hiding, risk management, computer forensics, and ethics. Generally offered: Fall. Differential Tuition: \$150. Course Fee: IUUCS \$45.

CS 3443. Application Programming. (3-0) 3 Credit Hours.

Prerequisite: CS 2124. Advanced application development in a current object-oriented language. Introduction to the software life cycle, best programming practices, and modern development tools. Generally offered: Fall, Spring. Differential Tuition: \$150. Course Fee: IUUCS \$45.

CS 3523. Windows Systems Programming. (3-0) 3 Credit Hours.

Prerequisite: CS 2124. A study of systems-level programming in the Windows Operating System. Focus on concepts and tools to support the construction of Windows systems programs. Learn and use tools like Powershell, Python and command prompt. Understand in detail how the registry works, how to audit and log system changes, how to create new users, how to manipulate access control lists, etc. Differential Tuition: \$150. Course Fee: IUUCS \$45.

CS 3723. Programming Languages. (3-0) 3 Credit Hours.

Prerequisites: CS 2233 and CS 3443. An introduction to high-level procedural, functional, and object-oriented programming languages, their theoretical foundations, organization, and implementation. Topics include formal syntax, compilers and interpreters, type systems, scoping and activation records, control structures, and data abstraction. Generally offered: Fall, Spring. Differential Tuition: \$150. Course Fee: IUUCS \$45.

CS 3733. Operating Systems. (3-0) 3 Credit Hours.

Prerequisites: CS 3424, CS 3443, and CS 3844. An introduction to the functions and major techniques of a modern multiprogramming operating system. Includes exposure to the fundamentals of processor management, process synchronization, memory management, and peripheral management. Generally offered: Fall, Spring. Differential Tuition: \$150. Course Fee: IUUCS \$45.

CS 3743. Database Systems. (3-0) 3 Credit Hours.

Prerequisites: CS 2233 and CS 3424. Study of fundamentals of database systems. Topics include basic concepts, various data models, database design, storage systems, indexing and hashing, database application design and implementation, and commercially available database systems. Differential Tuition: \$150. Course Fee: IUUCS \$45.

CS 3753. Data Science. (3-0) 3 Credit Hours.

Prerequisites: CS 2124, CS 2233, and CS 3333. Study of fundamental methods and models of data science. Topics include data management, Extract-Transform-Loading methods, machine learning models, and data visualization. Use of a specialized programming language is emphasized. Differential Tuition: \$150. Course Fee: IUUCS \$45.

CS 3773. Software Engineering. (3-0) 3 Credit Hours.

Prerequisite: CS 3443. Introduction to different aspects of software engineering with the concentration on processes, methods, and tools for developing reliable software-centered systems. Study of software development process models, project management, a variety of modeling notations, requirement analysis, architecture design methods, and testing techniques. Generally offered: Fall, Spring. Differential Tuition: \$150. Course Fee: IUUCS \$45.

CS 3793. Artificial Intelligence. (3-0) 3 Credit Hours.

Prerequisites: CS 3343 and CS 3424. Discussion of theorem-proving by machine; includes computational linguistics, psychological modeling, and computer games. Differential Tuition: \$150. Course Fee: IUUCS \$45.

CS 3844. Computer Organization. (4-0) 4 Credit Hours.

Prerequisite: CS 2124. Organization of a computer system is introduced at block diagram level. Programming in assembly language and understanding the macroarchitecture of a computer is emphasized. Fundamentals of digital systems are introduced and the designs of various components used are investigated. The course includes 3 hours of lecture and a mandatory 1-hour recitation per week. (Formerly CS 2733 and CS 3841/3843. Credit cannot be earned for both CS 3844 and CS 2733 or CS 3841/3843.) Differential Tuition: \$200. Course Fees: IUUCS \$60.

CS 3853. Computer Architecture. (3-0) 3 Credit Hours.

Prerequisites: CS 3424 and CS 3844. Instruction set architecture, datapath and control unit design, advanced computer arithmetic, pipelining, memory hierarchy and I/O subsystem, performance issues. (Formerly CS 4753. Credit cannot be earned for both CS 3853 and CS 4753.) Generally offered: Fall, Spring. Differential Tuition: \$150. Course Fee: IUUCS \$45.

CS 3873. Computer Networks. (3-0) 3 Credit Hours.

Prerequisites: CS 3424 and CS 3443. Network architecture, TCP/IP protocol suite, routing, data-link layer protocols, medium access control protocols, error detection and recovery, local area networks, wireless and mobile networks. (Formerly CS 4873. Credit cannot be earned for both CS 3873 and CS 4873.) Generally offered: Spring. Differential Tuition: \$150. Course Fee: IUUCS \$45.

CS 4223. Bioinformatics and Big Data. (3-0) 3 Credit Hours.

Prerequisite: CS 3343 or consent of instructor. Hands-on introduction to large-scale analysis of heterogeneous data with emphasis on integrating information and tools from publicly available biological databases to address complex problems. Differential Tuition: \$150. Course Fee: IUUCS \$45.

CS 4233. Computational Biology and Bioinformatics. (3-0) 3 Credit Hours.

Prerequisite: CS 3343. Study of algorithmic and statistical techniques in modeling and analyzing large-scale biological data such as DNA sequences, gene expression, and gene networks. Topics include fast string matching, sequence alignment, frequent pattern mining, clustering, classification, and significance testing. Differential Tuition: \$150. Course Fee: IUUCS \$45.

CS 4243. Large-Scale Data Management. (3-0) 3 Credit Hours.

Prerequisites: CS 3424 and CS 3443. Modern big data systems managing the three Vs of big data (variety, volume, and velocity). Topics include, but not limited to classic data management (overview), web search, information retrieval, map/reduce, data integration, natural language processing at scale. Differential Tuition: \$150. Course Fee: IUUCS \$45.

CS 4253. Machine Learning. (3-0) 3 Credit Hours.

Prerequisite: CS 3343. Study of fundamental concepts and methods of machine learning. Topics include unsupervised learning, supervised learning, reinforcement learning and other advanced topics selected by instructor. Differential Tuition: \$150. Course Fee: IUCS \$45.

CS 4263. Deep Learning. (3-0) 3 Credit Hours.

Prerequisite: One of the following: CS 3753, CS 3793, CS 4233, CS 4253. Study of advanced techniques for learning models. Algorithmic and hands-on introduction to deep neural networks and adversarial learning. Topics include convolutional models, generative networks, neural network vulnerabilities, and attention models, with applications in natural language understanding and computer vision. Differential Tuition: \$150. Course Fee: IUCS \$45.

CS 4313. Automata, Computability, and Formal Languages. (3-0) 3 Credit Hours.

Prerequisite: CS 3343. Discussion of abstract machines (finite state automata, pushdown automata, and Turing machines), formal grammars (regular, context-free, and type 0), and the relationship among them. Differential Tuition: \$150. Course Fee: IUCS \$45.

CS 4353. Unix and Network Security. (3-0) 3 Credit Hours.

Prerequisite: CS 3433. A technical survey of the fundamentals of computer and information security. Issues include cryptography, authentication, attack techniques at both the OS and network level, defense techniques, intrusion detection, scan techniques and detection, forensics, denial of service techniques and defenses, libpcap, libdnet and libnet programming. Generally offered: Spring. Differential Tuition: \$150. Course Fee: IUCS \$45.

CS 4363. Cryptography. (3-0) 3 Credit Hours.

Prerequisites: CS 3343, and CS 3113 or CS 3433. A course in pure and applied cryptography, with emphasis on theory. Topics may include conventional and public-key cryptosystems, signatures, pseudo-random sequences, hash functions, key management, and threshold schemes. Differential Tuition: \$150. Course Fee: IUCS \$45.

CS 4373. Data Mining. (3-0) 3 Credit Hours.

Prerequisite: CS 3343 or consent of instructor. Principles, techniques, systems and evaluation of data mining. Topics may include data preprocessing, frequent pattern mining, association mining, classification and prediction, cluster analysis, and advanced topics such as mining streams, time-Series, texts, and graphs. Differential Tuition: \$150. Course Fee: IUCS \$45.

CS 4383. Computer Graphics. (3-0) 3 Credit Hours.

Prerequisites: CS 2124 and CS 3343. An introduction to two- and three-dimensional generative computer graphics. Display devices, data structures, mathematical transformations, and algorithms used in picture generation, manipulation, and display. Differential Tuition: \$150. Course Fee: IUCS \$45.

CS 4393. User Interfaces. (3-0) 3 Credit Hours.

Prerequisite: CS 3443. Study of advanced user interface issues. User interface design, human factors, usability, GUI programming models, and the psychological aspects of human-computer interaction. Generally offered: Fall. Differential Tuition: \$150. Course Fee: IUCS \$45.

CS 4413. Web Technologies. (3-0) 3 Credit Hours.

Prerequisite: CS 3424. Fundamentals of Web and component technology: markup languages, layout design, client and server side programming, database and Web integration. Generally offered: Fall. Differential Tuition: \$150. Course Fee: IUCS \$45.

CS 4423. Game Development. (3-0) 3 Credit Hours.

Prerequisite: CS 3443. A study of the major topics in game development, such as game mechanics, rendering, scripting, user interfaces, animation, asset management, and physics, with a focus on team-based development practices. By the end of the course, students will have developed a full game with a group and several mini-games individually. Differential Tuition: \$150. Course Fee: IUCS \$45.

CS 4453. Penetration Testing. (3-0) 3 Credit Hours.

Prerequisite: CS 3873. Introduction to the principles and techniques associated with the cyber security practice known as penetration testing or ethical hacking. The course covers planning, reconnaissance, scanning, exploitation, post-exploitation, and result reporting. Students learn how to use penetration testing tools, how to discover system vulnerabilities and how to avoid exploitation of vulnerabilities. Differential Tuition: \$150. Course Fee: IUCS \$45.

CS 4463. Steganography. (3-0) 3 Credit Hours.

Prerequisite: CS 3424. Steganography literally means "covered writing" and is the science of hiding secret data within innocuous data. This course covers a broad set of background topics including data compression, encryption, hashing, number theory, and human perception. Then we delve into the aspects and techniques for data hiding using image and audio files for data hiding. This includes bitmaps, jpegs, and wave files. We also explore steganalysis—the detection of hidden data—in the various file types. We also discuss the use of steganography in practice, particularly use by malware. There is a course project where a team of students develop and test their own steganography program. Differential Tuition: \$150. Course Fee: IUCS \$45.

CS 4473. Cryptocurrencies and Bitcoins. (3-0) 3 Credit Hours.

Prerequisite: CS 3113. This course introduces the concept of public permission-less blockchains and discusses the various applications that it enables. It specifically focuses on the cryptocurrency application of such distributed systems, with an emphasis on Bitcoins. This course will cover the following topics: blockchain fundamentals, operation of the Bitcoin cryptocurrency, Bitcoin security, user privacy and anonymity in Bitcoin, Bitcoin as a distributed application platform, Bitcoin and cryptocurrency regulation, future of Bitcoins and cryptocurrencies, Ethereum and Smart Contracts. Differential Tuition: \$150. Course Fee: IUCS \$45.

CS 4483. Cyber Security Foundations and Practice. (3-0) 3 Credit Hours.

Prerequisite: CS 3113. Advanced study of fundamental cyber security and privacy technologies and their applications in modern and emerging cyber systems such as social media, cloud computing, internet of things, cyber-physical systems and cryptocurrencies. Differential Tuition: \$150. Course Fee: IUCS \$45.

CS 4493. Advanced Topics in Cyber Security. (3-0) 3 Credit Hours.

Prerequisite: Consent of instructor. Advanced topics in an area of systems and cloud. May be repeated for credit when topics vary. Differential Tuition: \$150. Course Fee: IUCS \$45.

CS 4593. Topics in Computer Science. (3-0) 3 Credit Hours.

Prerequisite: Consent of instructor. Advanced topics in an area of computer science. May be repeated for credit when topics vary. Generally offered: Spring. Differential Tuition: \$150. Course Fee: IUCS \$45.

CS 4613. Senior Design I. (3-0) 3 Credit Hours.

Prerequisites: CS 3443 and CS 3773. Students will self-organize into teams, prepare/propose project scope, gather requirements, produce specifications, analyze security and other risk factors, and present their designs. Industrial collaboration and/or faculty sponsorship of these projects is encouraged. Not more than a total of 6 semester credit hours of Internship, Independent Study, Senior Design, and Senior Thesis courses may count toward the Bachelor of Science degree in Computer Science. Differential Tuition: \$150. Course Fee: IUCS \$45.

CS 4623. Senior Design II. (3-0) 3 Credit Hours.

Prerequisite: CS 4613. Students continue the development of an instructor-approved design project, testing of the design project, and present their findings, along with social and ethical impact considerations. Students who own their intellectual property are required to compete in CITE. Industrial collaboration and/or faculty sponsorship of these projects is encouraged. Not more than a total of 6 semester credit hours of Internship, Independent Study, Senior Design, and Senior Thesis courses may count toward the Bachelor of Science degree in Computer Science. Differential Tuition: \$150. Course Fee: IUCS \$45.

CS 4633. Simulation Techniques. (3-0) 3 Credit Hours.

Prerequisite: CS 3343. Design, execution, and analysis of simulation models, discrete event simulation techniques, input and output analysis, random numbers, and simulation tools and languages. Differential Tuition: \$150. Course Fee: IUCS \$45.

CS 4643. Cellular and Mobile Technologies. (3-0) 3 Credit Hours.

Prerequisite: CS 3733. A study of cellular and mobile infrastructure, networks, and applications. Focus on concepts and tools related to the major cellular and mobile protocols. Differential Tuition: \$150. Course Fee: IUCS \$45.

CS 4653. Software and Malware Reverse Engineering. (3-0) 3 Credit Hours.

Prerequisites: CS 3844, and CS 3113 or CS 3433. An introduction to the basic procedures to reverse engineering of software, hardware and malware. Differential Tuition: \$150. Course Fee: IUCS \$45.

CS 4663. Distributed and Cloud Systems Security. (3-0) 3 Credit Hours.

Prerequisite: CS 3733. A study of the uses and security issues of virtualization, distributed systems and cloud systems. Differential Tuition: \$150. Course Fee: IUCS \$45.

CS 4673. Cyber Operations. (3-0) 3 Credit Hours.

Prerequisite: CS 3113 or CS 3433. A study of both offensive and defensive cyber operations, risk management, social engineering, perception management, and the international legal issues and considerations surrounding cyber operations, conflict, and war. Differential Tuition: \$150. Course Fee: IUCS \$45.

CS 4683. Secure Software Development and Analysis. (3-0) 3 Credit Hours.

Prerequisite: CS 3443. Analysis of software for vulnerabilities. Development of robust, secure software. Topics include source and binary code analysis, static and dynamic code analysis techniques, testing methodologies, secure programming principles and practices. Differential Tuition: \$150. Course Fee: IUCS \$45.

CS 4713. Compiler Construction. (3-0) 3 Credit Hours.

Prerequisites: CS 3723 and CS 3844. An introduction to implementation of translators. Topics include formal grammars, scanners, parsing techniques, syntax-directed translation, symbol table management, code generation, and code optimization. (Formerly titled "Compiler Writing.") Differential Tuition: \$150. Course Fee: IUCS \$45.

CS 4723. Software Validation and Quality Assurance. (3-0) 3 Credit Hours.

Prerequisite: CS 3773. Study of software validation techniques. Introduction to static analysis and software testing approaches (functional testing, structural testing, integration testing and regression testing). Overview of test planning and test case design. Review of topics in quality assurance. Generally offered: Spring. Differential Tuition: \$150. Course Fee: IUCS \$45.

CS 4743. Enterprise Software Engineering. (3-0) 3 Credit Hours.

Prerequisites: CS 3743 and CS 3773. Providing a hands-on introduction to principles and best practices for the development of enterprise-level software systems. Topics include architectural patterns, database models, remote deployment and execution, and concurrency management. (Formerly titled "Applied Software Engineering.") Differential Tuition: \$150. Course Fee: IUCS \$45.

CS 4773. Object-Oriented Systems. (3-0) 3 Credit Hours.

Prerequisite: CS 3773. An introduction of principles and methodologies of good software design. Study of object-oriented concepts and techniques, encapsulation, inheritance mechanisms, polymorphism, and programming in one or more object-oriented languages. Examination of design patterns that provide reusable solutions to problems in object-oriented design. Differential Tuition: \$150. Course Fee: IUCS \$45.

CS 4783. Advanced Software Engineering. (3-0) 3 Credit Hours.

Prerequisites: CS 3743 and CS 3773. Application of software engineering principles to develop a working, security-hardened software product as a team project. Real-world case studies and perspectives will accompany lecture to provide students with an industry-level viewpoint. Differential Tuition: \$150. Course Fee: IUCS \$45.

CS 4823. Parallel Programming. (3-0) 3 Credit Hours.

Prerequisites: CS 3343 and CS 3424. Parallel programming concepts (partitioning, synchronization and communication, programming models-shared memory based and message based), programming tools and languages, performance issues. Differential Tuition: \$150. Course Fee: IUCS \$45.

CS 4833. Embedded Systems. (3-0) 3 Credit Hours.

Prerequisite: CS 3844. Concepts and design principles of embedded systems. Microprocessor and hardware architecture, sensors and actuators, basic feedback control theory. Real-time scheduling, programming in embedded systems. Differential Tuition: \$150. Course Fee: IUCS \$45.

CS 4843. Cloud Computing. (3-0) 3 Credit Hours.

Prerequisite: CS 3424. The general trend of modern computing in cloud. Cloud computing paradigm and associate key technologies. Programming in cloud environment (e.g., Hadoop, MapReduce, and OpenStack APIs). Privacy and security in Cloud. Differential Tuition: \$150. Course Fee: IUCS \$45.

CS 4853. Advanced Systems Programming. (3-0) 3 Credit Hours.

Prerequisite: CS 3733. Concepts and knowledge on system booting, memory management, process and scheduling, interrupt handling, system calls, file systems, networking, device drivers and module programming. Runtime systems. Programming kernel modules in Linux. (Formerly titled "Systems Development and Programming.") Differential Tuition: \$150. Course Fee: IUCS \$45.

CS 4863. Distributed Computing and Systems. (3-0) 3 Credit Hours.

Prerequisite: CS 3733. A distributed system comprises computers working together as a single unit. These systems are essential to the understanding of present and future computer applications. This course will include the following topics: concurrent processing, threads, network programming, distributed file systems, remote procedure calls, distributed objects, client-server models, and Internet protocols. Differential Tuition: \$150. Course Fee: IUCS \$45.

CS 4883. Senior Thesis I. (3-0) 3 Credit Hours.

Prerequisite: Consent of Instructor. The student learns how to conduct independent research. He/she selects a thesis topic, conducts a literature review, plans and executes an experiment, and gathers and analyzes data. Faculty sponsorship of the thesis is required and a faculty member should agree to sponsor the student before Senior Thesis I begins. Not more than a total of 6 semester credit hours of Internship, Independent Study, Senior Design; and Senior Thesis courses may count toward the Bachelor of Science degree in Computer Science. Differential Tuition: \$150. Course Fee: IUCS \$45.

CS 4893. Senior Thesis II. (3-0) 3 Credit Hours.

Prerequisite: Consent of Instructor. The student writes the thesis through a series of assignments. The student also prepares a presentation of his/her research and presents the thesis to the public during a Computer Science undergraduate research symposium. Faculty sponsorship of the thesis is required and should be the same faculty member from Thesis I (special exceptions are possible). Not more than a total of 6 semester credit hours of Internship, Independent Study, Senior Design, and Senior Thesis courses may count toward the Bachelor of Science degree in Computer Science. Differential Tuition: \$150. Course Fee: IUCS \$45.

CS 4911. Independent Study. (0-0) 1 Credit Hour.

Prerequisites: Permission in writing (form available) from the instructor, the student's advisor, the Department Chair, and the Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. Differential Tuition: \$50. Course Fee: IUCS \$15.

CS 4912. Independent Study. (0-0) 2 Credit Hours.

Prerequisites: Permission in writing (form available) from the instructor, the student's advisor, the Department Chair, and the Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. Differential Tuition: \$100. Course Fee: IUCS \$30.

CS 4913. Independent Study. (0-0) 3 Credit Hours.

Prerequisites: Permission in writing (form available) from the instructor, the student's advisor, the Department Chair, and the Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. Generally offered: Fall, Spring, Summer. Differential Tuition: \$150. Course Fee: IUCS \$45.

CS 4933. Internship in Computer Science. (0-0) 3 Credit Hours.

Prerequisites: Junior or senior standing, an overall 2.5 grade point average, and permission in writing from the instructor, the Department Chair, and the Dean of the College of Sciences. The opportunity for a semester-long work experience in a private business or public agency in a computer science-related position. Not more than 3 semester credit hours of CS 4933, and not more than a total of 6 semester credit hours of CS 4933 and independent study courses may count toward the Bachelor of Science degree in Computer Science. The grade report for this course is either "CR" (satisfactory participation in the internship) or "NC" (unsatisfactory participation in the internship). Generally offered: Fall, Summer. Differential Tuition: \$150. Course Fee: IUCS \$45.

CS 4953. Special Studies in Computer Science. (3-0) 3 Credit Hours.

Prerequisite: Consent of instructor. An organized course offering the opportunity for specialized study not normally or not often available as part of the regular course offerings. Special Studies may be repeated for credit when topics vary, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. Generally offered: Summer. Differential Tuition: \$150. Course Fee: IUCS \$45.

CS 4963. Advanced Topics in Systems and Cloud. (3-0) 3 Credit Hours.

Prerequisite: Consent of instructor. Advanced topics in an area of systems and cloud. May be repeated for credit when topics vary. Differential Tuition: \$150. Course Fee: IUCS \$45.

CS 4973. Advanced Topics in Data Science. (3-0) 3 Credit Hours.

Prerequisite: Consent of instructor. Advanced topics in an area of data science. May be repeated for credit when topics vary. Differential Tuition: \$150. Course Fee: IUCS \$45.

CS 4993. Honors Research. (0-0) 3 Credit Hours.

Prerequisites: Enrollment limited to candidates for College Honors during their last two semesters; approval by the College Honors Committee. Supervised research and preparation of an honors thesis. May be repeated once with approval. Differential Tuition: \$150. Course Fee: IUCS \$45.

Construction Science and Management (CSM)

Construction Science and Management (CSM) Courses

CSM 2113. Construction Materials and Methods. (3-0) 3 Credit Hours.

Prerequisite: Enrollment as an Architecture, Interior Design, or Construction Science and Management major or permission of instructor. Introduction to materials, methods, equipment and sequences of the construction process including structural elements, components, and assemblies. Course Fees: SAP1 \$25; STSA \$15.

CSM 2143. Construction Materials and Testing. (3-0) 3 Credit Hours.

Prerequisites: CSM 2113, PHY 1603, and enrollment as a Construction Science and Management major or permission of instructor. Analysis of materials and methods used in the design and construction process with a particular emphasis on quality control, quality assurance, and testing including soils, concrete, steel, masonry, and wood. Course Fees: SAP1 \$25; STSA \$15.

CSM 3113. Construction Surveying. (3-0) 3 Credit Hours.

Prerequisite: Enrollment as a Construction Science and Management major or permission of instructor. Practical applications of surveying, including distance, grade and angular measurements, surveying equipment and its application to construction layout and control, surveying documentation and fieldwork. (Formerly CSM 3111. Credit cannot be earned for both CSM 3113 and CSM 3111.) Course Fees: SAP1 \$25; STSA \$15.

CSM 3123. Technical Communication. (3-0) 3 Credit Hours.

Prerequisites: MAT 1043 or MAT 1053 and enrollment as a Construction Science and Management major or permission of instructor. Visualization, interpretation and communication of graphical geometry in construction design and engineering; graphical analysis of problems; plan reading; computer aided design, and fundamentals of information modeling software; introduction to common quantitative tools in construction. Course Fees: SAP1 \$25; STSA \$15.

CSM 3143. Structures I. (3-0) 3 Credit Hours.

Prerequisites: PHY 1603 and enrollment as a Construction Science and Management major or permission of instructor. Introduction to the physical principles that govern classical statics and strengths of materials through the design of concrete, timber, and steel components of structures. Course Fees: SAP1 \$25; STSA \$15.

CSM 4013. Construction Estimating I. (3-0) 3 Credit Hours.

Prerequisites: CSM 2113 and CSM 3123. Introduction to estimating procedures for buildings related to quantity surveying, cost of materials and labor, life-cycle costs, and applicable software. (Formerly ARC 4013. Credit cannot be earned for both CSM 4013 and ARC 4013.) Generally offered: Spring. Course Fees: SAP1 \$25; STSA \$15.

CSM 4023. Construction Estimating II. (3-0) 3 Credit Hours.

Prerequisites: CSM 2143 and CSM 4013. Continuation of CSM 4013 with emphasis on pricing work, subcontracting, and bidding strategies utilizing applicable software. (Formerly ARC 4023. Credit cannot be earned for both CSM 4023 and ARC 4023.) Generally offered: Fall, Spring. Course Fees: SAP1 \$25; STSA \$15.

CSM 4143. Structures II. (3-0) 3 Credit Hours.

Prerequisite: CSM 3143. Analysis and design of structural members in steel, reinforced concrete, reinforced masonry and their relationship to design and construction. Course Fees: SAP1 \$25; STSA \$15.

CSM 4513. Project Management. (3-0) 3 Credit Hours.

Prerequisite: CSM 3123. Introduction to project management of the construction process and integration with allied professions. Introduction to applicable software. (Formerly ARC 4613. Credit cannot be earned for both CSM 4513 and ARC 4613.) Generally offered: Fall, Spring. Course Fees: SAP1 \$25; STSA \$15.

CSM 4523. Project Planning and Scheduling. (3-0) 3 Credit Hours.

Prerequisite: CSM 4513. Continuation of CSM 4513 with emphasis on scheduling and project delivery methods utilizing applicable software. (Formerly ARC 4623. Credit cannot be earned for both CSM 4523 and ARC 4623.) (Formerly titled "Construction Management II.") Generally offered: Fall, Spring. Course Fees: SAP1 \$25; STSA \$15.

CSM 4533. Building Information Modeling for Construction Management. (3-0) 3 Credit Hours.

Prerequisite: CSM 3123. Introduction to techniques used in development and management of Building Information Models. Emphasis on constructability and management. Generally offered: Spring. Course Fees: SAP1 \$25; STSA \$15.

CSM 4613. Sustainable Building Practice. (3-0) 3 Credit Hours.

Prerequisite: Enrollment as a Construction Science and Management major or permission of instructor. Ethics and application of environmental sustainability practice in building construction. Introduction to U.S. Green Building Council LEED program standards, methods, and procedures as applied to construction documents interpretation and construction. Generally offered: Fall, Spring. Course Fees: SAP1 \$25; STSA \$15.

CSM 4623. Construction Safety. (3-0) 3 Credit Hours.

Prerequisite: Enrollment as a Construction Science and Management major or permission of instructor. Development and management of safety programs, worker's compensation, OSHA compliance, safety policies, standards, and record keeping. Course Fees: SAP1 \$25; STSA \$15.

CSM 4633. Construction Law. (3-0) 3 Credit Hours.

Prerequisite: Enrollment as a Construction Science and Management major or permission of instructor. Legal and ethical aspects of construction contracts, bonds, insurance, and bidding. Owner, architect, contractor, and subcontractor relationships. Generally offered: Fall, Spring. Course Fees: SAP1 \$25; STSA \$15.

CSM 4643. Mechanical, Electrical and Plumbing Systems. (3-0) 3 Credit Hours.

Prerequisite: CSM 4533 or permission of instructor. Building systems with an emphasis on design, installation and control of heating, ventilation and cooling, plumbing and drainage, electrical, fire and lightning protection systems. Generally offered: Fall. Course Fees: DL01 \$75; SAP1 \$25; STSA \$15.

CSM 4713. Construction Capstone. (3-0) 3 Credit Hours.

Prerequisites: CSM 4023, CSM 4523, CSM 4633, and CSM 4643. Senior capstone project emphasizing integration of the design and construction processes. Project delivery systems, project development, estimating, scheduling and project controls of various types of construction projects. Generally offered: Fall, Spring, Summer. Course Fees: DL01 \$75; SAP1 \$25; STSA \$15.

CSM 4911. Independent Study. (0-0) 1 Credit Hour.

Prerequisites: Permission in writing (form available) of the instructor, the student's advisor, the Department Chair, and the Dean of the College in which the course is offered. Scholarly research under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, may apply to a bachelor's degree. Generally offered: Fall. Course Fees: SAP1 \$25; STSA \$5.

CSM 4913. Independent Study. (0-0) 3 Credit Hours.

Prerequisites: Permission in writing (form available) of the instructor, the student's advisor, the Department Chair, and the Dean of the College in which the course is offered. Scholarly research under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, may apply to a bachelor's degree. Course Fees: SAP1 \$25; STSA \$15.

CSM 4931. Summer Internship. (0-0) 1 Credit Hour.

Prerequisite: CSM 4623. This is a full-time, on-site, construction work experience. Supervision by qualified construction manager and intern mentor to prepare the intern for building construction management functions. Instructor prior approval of details for individual work experience required. Must be repeated for credit and taken in consecutive five-week summer sessions. Generally offered: Summer. Course Fees: SAP1 \$25; STSA \$5.

CSM 4932. Internship. (0-0) 2 Credit Hours.

Prerequisite: CSM 4623. This is a part-time, on-site, construction work experience. Supervision by qualified construction manager and intern mentor to prepare the intern for building construction management functions. Instructor prior approval of details for individual work experience required. Generally offered: Fall, Spring. Course Fees: SAP1 \$25; STSA \$10.

CSM 4933. Summer Internship. (0-0) 3 Credit Hours.

Prerequisite: CSM 4623. This is a full-time, on-site, construction work experience during summer semester. Supervision by qualified construction manager and intern mentor to prepare the intern for building construction management functions. Instructor prior approval of details for individual work experience required. Course Fees: SAP1 \$25; STSA \$15.

CSM 4943. Internship I. (0-0) 3 Credit Hours.

Prerequisite: CSM 4623. This is a part-time, on-site, construction work experience during fall or spring semesters. Supervision by qualified construction manager and intern mentor to prepare the intern for building construction management functions. Instructor prior approval of details for individual work experience required. Course Fees: SAP1 \$25; STSA \$15.

CSM 4946. Internship II. (0-0) 6 Credit Hours.

Prerequisite: CSM 4623. This is a full-time, on-site, construction work experience during fall or spring semesters. Supervision by qualified construction manager and intern mentor to prepare the intern for building construction management functions. Instructor prior approval of details for individual work experience required. Course Fees: SAP1 \$25; STSA \$30.

CSM 4953. Special Studies in Construction Science and Management. (0-6) 3 Credit Hours.

Prerequisite: Consent of instructor. An organized course offering the opportunity for specialized study not normally or not often available as part of the regular course offerings. Special Studies may be repeated for credit when the topics vary, but not more than 3 hours for CSM 4951, 6 hours for CSM 4953, or 12 hours for CSM 4956, regardless of discipline, will apply to a bachelor's degree. Course Fees: SAP1 \$25; STSA \$15.

Counseling (COU)

Counseling (COU) Courses

COU 3103. Helping Skills. (3-0) 3 Credit Hours.

This course is designed to create an understanding of the helping relationship. Basic communication/counseling techniques (such as active listening, responding, and interviewing) for facilitating helping relationship skills are developed. Generally offered: Fall, Spring. Course Fees: LRH1 \$20; STSH \$30.

COU 3203. Child Abuse and Domestic Violence. (3-0) 3 Credit Hours.

This course is designed to explore current issues related to child abuse and domestic violence. The major emphasis is on examining the background, causes, and consequences of these topics. Course Fees: LRH1 \$20; STSH \$30.

Criminology and Criminal Justice (CRJ)

Criminal Justice (CRJ) Courses

CRJ 1113. The American Criminal Justice System. (3-0) 3 Credit Hours. (TCCN = CRIJ 1301)

Philosophy and history of criminal justice in America; examination of criminal justice agencies operating as an interacting system: police and security agencies, courts, and corrections. May be applied toward the Core Curriculum requirement in Social and Behavioral Sciences. Generally offered: Fall, Spring. Course Fees: DL01 \$75; LRC1 \$12; STHC \$18.

CRJ 2153. Criminological Theory. (3-0) 3 Credit Hours. (TCCN = CRIJ 1307)

A multidisciplinary survey of theories of crime causation and social control. Major topics covered include: theory construction, theory-methods, symmetry, evaluating theory, theoretical integration, and applied criminology. (Formerly titled "Nature of Crime and Justice.") Generally offered: Fall, Spring. Course Fee: STHC \$18.

CRJ 2213. Introduction to Policing. (3-0) 3 Credit Hours. (TCCN = CRIJ 2328)

An introduction to American policing organizations (public and private), history of policing, modern community policing practices, and important trends in law enforcement. Generally offered: Fall, Spring, Summer. Course Fee: STHC \$18.

CRJ 2513. Introduction to Corrections. (3-0) 3 Credit Hours. (TCCN = CRIJ 2313)

A study of the history, philosophy, and practice of corrections in America. Theories and practices of incarceration; legal and administrative issues surrounding imprisonment and the death penalty. (Formerly titled "Corrections: Theory and Practice.") Generally offered: Fall, Spring. Course Fee: STHC \$18.

CRJ 2623. Substantive Criminal Law. (3-0) 3 Credit Hours. (TCCN = CRIJ 1310)

Prerequisite: CRJ 1113. Jurisprudential philosophy and case study of common law and statutory crimes. Includes functions and development of substantive criminal law, elements of specific offenses, and defenses. (Formerly CRJ 3623.) Generally offered: Fall, Spring. Course Fee: STHC \$18.

CRJ 2813. Introduction to Courts and the Legal System. (3-0) 3 Credit Hours. (TCCN = CRIJ 1306)

Examines state and federal American court systems, their powers, remedies, limitations, and procedures; and the contributions of courts to governance. Generally offered: Fall, Spring. Course Fees: STHC \$18.

CRJ 3013. Research Design and Analysis in Criminal Justice. (3-0) 3 Credit Hours.

Provides students with an opportunity to be knowledgeable consumers of criminal justice research. Provides an overview of principles of scientific inquiry, research designs, and statistical concepts and techniques. Introduction to interpretation of data analysis and preparation of research reports. Generally offered: Fall, Spring, Summer. Course Fee: STHC \$18.

CRJ 3123. Investigations. (3-0) 3 Credit Hours.

Examination of the investigative process. Focus on the history, structure, and success rates of investigation units, theories of investigation, and the information that is used to produce case clearances. (Formerly CRJ 4123. Credit cannot be earned for both CRJ 3123 and CRJ 4123.) (Formerly titled "Concepts of Investigations.") Course Fee: STHC \$18.

CRJ 3153. Crime Mapping I. (3-0) 3 Credit Hours.

Prerequisite: CRJ 1113. Restricted to Criminology and Criminal Justice majors only. This course is an introduction to the spatial aspects of crime through the exploration of theory, methods, and the use of Geographic Information Systems (GIS). Further, this course will examine career prospects for those who are Criminology and Criminal Justice majors. Course Fee: STHC \$18.

CRJ 3213. Managing Criminal Justice Organizations. (3-0) 3 Credit Hours.

Examines bureaucratic, political and other characteristics of justice organizations through a review of theories of public administration and organizational behavior. Applies theories to problems and policies encountered in managing criminal justice agencies. Generally offered: Fall, Spring. Course Fee: STHC \$18.

CRJ 3233. Introduction to Forensic Science. (3-0) 3 Credit Hours.

Enrollment limited to upper-division criminal justice majors. This course will expose students to the nature of physical evidence and its part in our criminal justice system, an introduction to basic scientific and legal principles involved with the utilization of physical evidence, and exposure to specific items of physical evidence to include their components, manufacture, methods of analysis, and value in case work. (Formerly CRJ 3133. Credit cannot be earned for both CRJ 3233 and CRJ 3133.) Generally offered: Fall, Spring. Course Fee: STHC \$18.

CRJ 3533. Community Corrections. (3-0) 3 Credit Hours.

History, philosophy, and practice of community supervision of offenders. Examination of various intermediate punishments including boot camps, intensive probation supervision, electronic monitoring, restitution, and community service. (Formerly titled "Probation, Parole and Intermediate Sanctions.") Generally offered: Fall, Spring. Course Fee: STHC \$18.

CRJ 3563. Juvenile Justice. (3-0) 3 Credit Hours.

Examination of the history of adolescence and the development of the juvenile justice system. An in-depth study of police, courts and corrections as applied to youth. Consideration of youth as both offenders and victims. Topics include child abuse, youth gangs, waiver/transfer of youth to the adult court and juvenile offending. Generally offered: Fall. Course Fee: STHC \$18.

CRJ 3573. Restorative Justice. (3-0) 3 Credit Hours.

Provides students with a detailed study of the principles and practices of restorative justice aimed at creating a just peace within a community, a just public order for the community, vindication for victims and opportunities for accountability and restoration to offenders. Generally offered: Fall. Course Fee: STHC \$18.

CRJ 3643. Pretrial Diversion and Problem-Solving Courts. (3-0) 3 Credit Hours.

This course will familiarize students with the history of pretrial diversion, traditional, and specialty or problem solving courts. Focus will be on the roles of the court "families" in these courts, and the course will provide an overview of their structure, decision-making processes, pretrial proceedings sentencing practices, as well as similarities and differences. Course Fee: STHC \$18.

CRJ 3713. Ethics in Criminal Justice Practice. (3-0) 3 Credit Hours.

Survey of major schools of ethics theory; sources of ethical and philosophical foundations for criminal justice functions; common quandaries confronting officers, supervisors, and executives in justice organizations. Examines the role of criminal justice within modern civil societies. Course Fee: STHC \$18.

CRJ 4153. Crime Mapping II. (3-0) 3 Credit Hours.

Prerequisites: CRJ 1113 and CRJ 3153. Restricted to Criminology and Criminal Justice majors only. This course provides an advanced understanding of the spatial analysis of issues related to criminal justice and crime mapping. Students will ask and investigate spatial problems, display and present spatial information, and conduct and report spatial research in areas relevant to criminal justice. Course Fee: STHC \$18.

CRJ 4303. Victimology. (3-0) 3 Credit Hours.

Prerequisite: CRJ 3013 with a grade of "C-" or higher. This course will familiarize students with victimology concepts, theories, and literature as a field of study within criminology. Topics may include nature and incidence of victimization, victim and offender relationships, victim justice, victim rights and services. Consideration may be given to responses to victims with special needs and crime prevention strategies. (Formerly titled "Victims and the Justice System.") Course Fee: STHC \$18.

CRJ 4403. Race, Ethnicity, and Criminal Justice. (3-0) 3 Credit Hours.

Prerequisite: CRJ 3013 with a grade of "C-" or higher. This course examines experiences of racial and ethnic groups in the criminal justice system. Topics include: the nature and extent of overrepresentation by racial and ethnic minorities as justice system clients, culture-specific crime and victimization patterns, research evidence and theoretical explanations for these patterns. (Formerly CRJ 4313. Credit cannot be earned for both CRJ 4403 and CRJ 4313.) Course Fee: STHC \$18.

CRJ 4413. Contemporary Police Practices. (3-0) 3 Credit Hours.

Prerequisite: CRJ 3013 with a grade of "C-" or higher. A survey of leading research-based law enforcement practices for crime prevention and problem solving. This course covers a variety of policing strategies for crime control including community policing, problem solving, evidence-based practices, and police-community relations. Generally offered: Fall, Spring. Course Fee: STHC \$18.

CRJ 4443. Special Topics in Policing. (3-0) 3 Credit Hours.

Prerequisite: CRJ 3013 with a grade of "C-" or higher. Considers special topics in policing and crime prevention not ordinarily evaluated in depth in other courses. May be repeated for credit when topics vary, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. (Formerly titled "Special Topics in Policing and Crime Prevention.") Generally offered: Fall, Spring. Course Fee: STHC \$18.

CRJ 4453. Drugs and Crime. (3-0) 3 Credit Hours.

Prerequisite: CRJ 3013 with a grade of "C-" or higher. An overview of the scope and role of drugs in society and the relationship between illicit substances and crime. Leading theories of drug use and enforcement will be surveyed. Major topics include: the social construction of drug issues, the war on drugs, drug control policy, and the function of drugs in popular cultural mediums. Contemporary topics to be examined include: asset forfeiture, the confidential informant role in drug enforcement, drug ethnography, corrections-based substance abuse treatment, and drug enforcement strategies. Course Fee: STHC \$18.

CRJ 4463. Gender and Crime. (3-0) 3 Credit Hours.

Prerequisite: CRJ 3013 with a grade of "C-" or higher. This course examines gender differences in criminal offending and victimization. Topics also include traditional and gender-specific theories offered to explain female involvement in crime, the experience of female victims and offenders in the criminal justice system, and women working in the criminal justice system. (Formerly CRJ 4313. Credit cannot be earned for both CRJ 4463 and CRJ 4313.) Course Fee: STHC \$18.

CRJ 4603. Institutional Corrections. (3-0) 3 Credit Hours.

Prerequisite: CRJ 3013 with a grade of "C-" or higher. This course introduces students to theory and research in the areas of institutional corrections and penology. Topics include the history of the use of incarceration in the United States, the influence of sentencing philosophies and practices on incarceration, the organization and management of prisons, and critical issues related to prison staff and inmates. Course Fee: STHC \$18.

CRJ 4633. Constitutional Criminal Procedure. (3-0) 3 Credit Hours.

Prerequisite: CRJ 3013 with a grade of "C-" or higher. A procedurally oriented discussion of criminal law, including law of arrest, search and seizure, preliminary examination, bail, the grand jury, indictment and information, arraignment, trial, and review. Generally offered: Fall, Spring. Course Fee: STHC \$18.

CRJ 4653. White Collar Crime. (3-0) 3 Credit Hours.

Prerequisite: CRJ 3013 with a grade of "C-" or higher. Study of the theory, nature, scope, and impact of occupational, political, and organizational/corporate crime. Comparison of white-collar crime to street crime. Examination of the structural foundations for these types of crimes and current and future systems for control of white-collar crimes. Generally offered: Fall. Course Fee: STHC \$18.

CRJ 4663. Special Topics in Corrections. (3-0) 3 Credit Hours.

Prerequisite: CRJ 3013 with a grade of "C-" or higher. Considers special topics in corrections not ordinarily evaluated in depth in other courses. May be repeated for credit when topics vary, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. (Formerly titled "Special Topics in Corrections and Juvenile Justice.") Generally offered: Spring. Course Fee: STHC \$18.

CRJ 4703. Life Course Criminology. (3-0) 3 Credit Hours.

Prerequisite: CRJ 3013 with a grade of "C-" or higher. Life course criminology has developed into a leading theoretical framework for studying criminal offenders. This course provides an overview of age-graded explanations of antisocial conduct and cutting-edge empirical research on the causes of antisocial behavior during various developmental periods including childhood, adolescence, and adulthood. The role of both biology and the environment in explaining antisocial conduct over the lifespan is emphasized, and the implications of this research for developing age-appropriate interventions are explored. Course Fee: STHC \$18.

CRJ 4833. Violent Crime. (3-0) 3 Credit Hours.

Prerequisite: CRJ 3013 with a grade of "C-" or higher. Examination of various forms of violence including homicide, robbery, assault and rape. Discussion of major theories of violent personal behavior and examination of historical and current data on violent crime. Consideration of rates of violent crime, how these rates have changed, and factors that contribute to violent crimes. Generally offered: Spring. Course Fee: STHC \$18.

CRJ 4843. Study Abroad: International Criminal Justice. (3-0) 3 Credit Hours.

Prerequisite: Permission of instructor. A lecture/seminar course associated with a study abroad program related to the study of cross-cultural differences in crime and applications of criminal justice systems and practice. Involves international travel and field trips. May be repeated for credit when the destination country varies. Course Fee: STHC \$18.

CRJ 4863. Special Topics in Courts. (3-0) 3 Credit Hours.

Prerequisite: CRJ 3013 with a grade of "C-" or higher. Considers special topics in courts and adjudication not ordinarily evaluated in depth in other courses. May be repeated for credit when topics vary, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree (Formerly titled "Special Topics in Legal Issues and Adjudication.") Generally offered: Fall. Course Fee: STHC \$18.

CRJ 4912. Independent Study. (0-0) 2 Credit Hours.

Prerequisites: CRJ 3013 with a grade of "C-" or higher and permission in writing (form available) of the instructor, the student's advisor, the Department Chair, and Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a tenured/tenure-track faculty member (this course may not be taken under the direction of an Adjunct Instructor). Students are encouraged to approach this course with a specific topic in mind. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Course Fee: STHC \$6.

CRJ 4913. Independent Study. (0-0) 3 Credit Hours.

Prerequisites: CRJ 3013 with a grade of "C-" or higher and permission in writing (form available) of the instructor, the student's advisor, the Department Chair, and Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a tenured/tenure-track faculty member (this course may not be taken under the direction of an Adjunct Instructor). Students are encouraged to approach this course with a specific topic in mind. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Course Fee: STHC \$18.

CRJ 4933. Internship in Criminal Justice. (0-0) 3 Credit Hours.

Prerequisites: CRJ 1113, CRJ 2153, and CRJ 3013; consent of academic advisor and Internship Coordinator. Students are encouraged to complete at least 90 semester credit hours prior to enrolling in this course. Supervised experience in an administrative setting that provides the opportunity to integrate theory and practice in justice-related agencies. May be repeated for credit in a subsequent semester when agency setting varies, but not more than 6 semester credit hours will apply to a bachelor's degree. Generally offered: Fall, Spring, Summer. Course Fees: C:JIF \$65; STHC \$18.

CRJ 4953. Special Topics in Criminal Justice/Criminology. (3-0) 3 Credit Hours.

Prerequisite: CRJ 3013 with a grade of "C-" or higher. An organized course offering the opportunity for specialized study not normally or not often available as part of regular course offerings. May be repeated for credit when topics vary, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. (Formerly titled "Special Studies in Criminal Justice.") Generally offered: Spring, Summer. Course Fee: STHC \$18.

CRJ 4993. Honors Thesis. (0-0) 3 Credit Hours.

Prerequisite: CRJ 3013 with a grade of "C-" or higher. Enrollment limited to candidates for Honors in Criminal Justice during the last two semesters; completion of honors examination and approval by the honors program coordinator. Supervised research and preparation of an honors thesis. May be repeated once with advisor's approval. Course Fee: STHC \$18.

Curriculum and Instruction (CI)

Curriculum and Instruction (CI) Courses

CI 4203. Models of Teaching in the Content Areas of the Secondary School. (3-0) 3 Credit Hours.

Prerequisites: Admission to the Teacher Certification Program, EDP 3203, and EDU 2103. Prior or concurrent enrollment in EDP 4203 is required. Not required for music majors. Study of curricular, instructional, and management approaches to subject areas taught in the secondary schools. Emphasis on developing instructional and curricular strategies that are effective in teaching content areas. Course will address special population of students, application of instructional media, technology, and classroom management for the content areas. This course may be offered in multiple sections according to subject-matter emphasis. Not offered in the summer. Restricted course; advisor code required for registration. This course must be completed with a grade of "B-" or better for it to serve as a prerequisite for CI 4646 Clinical Teaching: Grades 7–12. This course must be completed with a grade of "B-" or better for it to serve as a prerequisite for CI 4716 Clinical Teaching: All Level EC–12. Field experience. (Formerly C&I 4203. Credit cannot be earned for both CI 4203 and C&I 4203.) Generally offered: Fall, Spring. Course Fees: LRH1 \$20; STF1 \$75; STSH \$30.

CI 4213. Approaches to Teaching Music. (3-0) 3 Credit Hours.

Prerequisites: Admission to the Teacher Certification Program, EDP 3203, and EDU 2103. Designed to provide preservice music teachers with the necessary knowledge and skills to prepare for successfully planning, implementing, and evaluating music instruction. Field experience required. (Formerly C&I 4213. Credit cannot be earned for both CI 4213 and C&I 4213.) Generally offered: Fall. Course Fees: LRH1 \$20; STF1 \$75; STSH \$30.

CI 4223. Models of Teaching in the Content Areas of the Secondary School-Mathematics. (3-0) 3 Credit Hours.

Prerequisites: Admission to the Teacher Certification Program, EDP 3203, and EDU 2103. Prior or concurrent enrollment in EDP 4203 is required. Study of curricular, instructional, and management approaches to mathematics in the secondary schools. Emphasis on developing instructional and curricular strategies that are effective in diverse teaching contexts. Course will address special population of students, application of instructional media, technology, and classroom management. Not offered in the summer. Restricted course; advisor code required for registration. Field experience. (Formerly C&I 4223. Credit cannot be earned for both CI 4223 and C&I 4223.) Generally offered: Fall, Spring. Course Fees: LRH1 \$20; STF1 \$75; STSH \$30.

CI 4233. Models of Teaching in the Content Areas of the Secondary School-Social Studies. (3-0) 3 Credit Hours.

Prerequisites: Admission to the Teacher Certification Program, EDP 3203, and EDU 2103. Prior or concurrent enrollment in EDP 4203 is required. Study of curricular, instructional, and management approaches to social studies in the secondary schools. Emphasis on developing instructional and curricular strategies that are effective in diverse teaching contexts. Course will address special population of students, application of instructional media, technology, and classroom management. Not offered in the summer. Restricted course; advisor code required for registration. This course must be completed with a grade of "B-" or better for it to serve as a prerequisite for CI 4646 Clinical Teaching: Grades 7-12. Field experience. (Formerly C&I 4233. Credit cannot be earned for both CI 4233 and C&I 4233.) Generally offered: Fall, Spring. Course Fees: LRH1 \$20; STF1 \$75; STSH \$30.

CI 4243. Models of Teaching in the Content Areas of the Secondary School-Science. (3-0) 3 Credit Hours.

Prerequisites: Admission to the Teacher Certification Program, EDP 3203, and EDU 2103. Prior or concurrent enrollment in EDP 4203 is required. Study of curricular, instructional, and management approaches to mathematics in the secondary schools. Emphasis on developing instructional and curricular strategies that are effective in diverse teaching contexts. Course will address special population of students, application of instructional media, technology, and classroom management. Not offered in the summer. Restricted course; advisor code required for registration. This course must be completed with a grade of "B-" or better for it to serve as a prerequisite for CI 4646 Clinical Teaching: Grades 7-12. Field experience. (Formerly C&I 4243. Credit cannot be earned for both CI 4243 and C&I 4243.) Generally offered: Fall, Spring. Course Fees: LRH1 \$20; STF1 \$75; STSH \$30.

CI 4253. Models of Teaching in Content Areas of Secondary School-English Language Arts/Foreign Language/Art. (3-0) 3 Credit Hours.

Prerequisites: Admission to the Teacher Certification Program, EDP 3203, and EDU 2103. Prior or concurrent enrollment in EDP 4203 is required. Study of curricular, instructional, and management approaches to English Language Arts and Foreign Languages in the secondary schools. Emphasis on developing instructional and curricular strategies that are effective in diverse teaching contexts. Course will address special population of students, application of instructional media, technology, and classroom management. Not offered in the summer. Restricted course; advisor code required for registration. This course must be completed with a grade of "B-" or better for it to serve as a prerequisite for CI 4646 Clinical Teaching: Grades 7-12. This course must be completed with a grade of "B-" or better for it to serve as a prerequisite for CI 4716 Clinical Teaching: All Level EC-12. Field experience. (Formerly C&I 4253. Credit cannot be earned for both CI 4253 and C&I 4253.) Generally offered: Fall, Spring. Course Fees: LRH1 \$20; STF1 \$75; STSH \$30.

CI 4263. Models of Teaching in the Content Areas of the Secondary School-Music. (3-0) 3 Credit Hours.

Prerequisites: Admission to the Teacher Certification Program, EDP 3203, and EDU 2103. Study of curricular, instructional, and management approaches to music in the secondary schools. Emphasis on developing instructional and curricular strategies that are effective in diverse teaching contexts. Course will address special population of students, application of instructional media, technology, and classroom management. Not offered in the summer. Restricted course; advisor code required for registration. Course may be offered in multiple sections to accommodate choral and instrumental music instruction. This course must be completed with a grade of "B-" or better for it to serve as a prerequisite for CI 4716 Clinical Teaching: All Level EC-12. Field experience. (Formerly C&I 4263. Credit cannot be earned for both CI 4263 and C&I 4263.) Generally offered: Fall, Spring. Course Fees: LRH1 \$20; STF1 \$75; STSH \$30.

CI 4273. Methods of Teaching Content in the Elementary School-Physical Education. (3-1) 3 Credit Hours.

Prerequisites: KIN 4343, KIN 4423, and admission to the Teacher Certification Program. Examination of current trends, issues, and pedagogical approaches to teaching and facilitating learning of physical education in the elementary school curriculum. Contemporary programming, problem solving, and community outreach activities will be emphasized. Weekly fieldwork in the public schools at the elementary school level is required. Restricted course; advisor code required for registration. (Same as KIN 4303. Credit cannot be earned for both CI 4273 and KIN 4303.) Generally offered: Fall, Spring. Course Fees: LRH1 \$20; STF1 \$75; STSH \$30.

CI 4303. Approaches to Teaching Social Studies Incorporating Language Arts and Fine Arts EC–6. (2-2) 3 Credit Hours.

Prerequisites: Admission to the Teacher Certification Program, CI 4353, CI 4403, ECE 4203, and LTED 3823. Concurrent enrollment in LTED 4833 is required for EC-6 Core Subject students. Concurrent enrollment in LTED 3813 is required for EC-6 ESL students. May not be taken concurrently with CI 4353, CI 4403, ECE 4203 or LTED 3823. A study of methods, materials, and processes for teaching social studies incorporating the language arts and fine arts. Topics include the effective implementation of social studies curriculum, instruction, assessment and evaluation from EC–grade 6 Core Subjects. Special emphasis is placed on integrating the various social sciences through thematic teaching. This course must be completed with a grade of "B-" or better for it to serve as a prerequisite for the second required semester of CI 4613 Clinical Teaching: Early Childhood–Grade 6. Restricted course; advisor code required for registration. Field experience required. (Formerly C&I 4303. Credit cannot be earned for both CI 4303 and C&I 4303.) Generally offered: Fall, Spring. Course Fees: LRH1 \$20; STF1 \$75; STSH \$30.

CI 4313. Methods of Teaching Content in the Secondary School- Physical Education. (3-1) 3 Credit Hours.

Prerequisites: KIN 4343, KIN 4423, and admission to the Teacher Certification Program. Examination of current trends, issues, and pedagogical approaches to the teaching and learning of physical education in the secondary school curriculum. Contemporary programming, behavior management strategies, and community outreach activities will be emphasized. Weekly fieldwork in the public schools at the secondary school level is required. Restricted course; advisor code required for registration. (Same as KIN 4203. Credit cannot be earned for both KIN 4203 and CI 4313.) Generally offered: Fall, Spring. Course Fees: LRH1 \$20; STF1 \$75; STSH \$30.

CI 4353. Approaches to Teaching Science EC–6. (2-2) 3 Credit Hours.

Prerequisites: Admission to the Teacher Certification Program, ECE 3143, ECE 3313, and ECE 3603. Concurrent enrollment in CI 4403, ECE 4203 and LTED 3823 is required. A study of pedagogical approaches, materials, and resources designed to support children's meaningful exploration, discovery, and construction of basic concepts and skills in EC–Grade 6. Emphasis in the course will be on the interrelatedness of science in the daily lives of students, unifying concepts and processes common to all sciences, development of effective learning environments for science both inside and outside of the classroom, planning and implementation of inquiry-based science lessons, assessment of student learning, and the use of an integrated approach to teaching. This course must be completed with a grade of "B-" or better for students to enroll in Block C courses. This course must be completed with a grade of "B-" or better for it to serve as a prerequisite for CI 4616 Clinical Teaching: Early Childhood–Grade 6. Restricted course; advisor code required for registration. Field experience required. (Formerly C&I 4353. Same as BBL 4353. Credit can only be earned for one course: CI 4353, C&I 4353, or BBL 4353.) Generally offered: Fall, Spring. Course Fees: LRH1 \$20; STF1 \$75; STSH \$30. .

CI 4403. Approaches to Teaching Mathematics EC–6. (2-2) 3 Credit Hours.

Prerequisites: Admission to the Teacher Certification Program, ECE 3143, ECE 3313, and ECE 3603. Concurrent enrollment in CI 4353, ECE 4203 and LTED 3823 is required. This course involves the study of instructional methods and materials that support diverse children's meaningful exploration, discovery, and development of basic concepts and skills in mathematics from EC–Grade 6. Emphasizing a constructivist approach to the teaching and learning of mathematics, this course also advances the use of technology to facilitate mathematics understanding. Attention will be given to understanding the interrelatedness of mathematics and other content areas, creating effective learning environments, planning and implementing lesson plans to meet the differentiated needs of a wide variety of learners, and assessing student learning in mathematics. This course must be completed with a grade of "B-" or better for students to enroll in Block C courses. This course must be completed with a grade of "B-" or better for it to serve as a prerequisite for CI 4616 Clinical Teaching: Early Childhood–Grade 6. Restricted course; advisor code required for registration. Field experience required. (Same as BBL 4403. Formerly C&I 4403. Credit can only be earned for one course: CI 4403, C&I 4403, or BBL 4403.) Generally offered: Fall, Spring. Course Fees: LRH1 \$20; STF1 \$75; STSH \$30.

CI 4433. Approaches to Teaching Science–Grades 4–8. (3-0) 3 Credit Hours.

Prerequisites: Must be admitted to the Teacher Certification Program. Concurrent enrollment in CI 4443, CI 4603, CI 4623, and LTED 3533 in semester prior to clinical teaching. Study of curricula, instructional, and management approaches to teaching science grades 4–8. This course emphasizes a constructivist approach in developing inductive and inquiry teaching methods. Special emphasis is placed on the integration of technology in diverse learning environments. This course must be completed with a grade of "B-" or better for it to serve as a prerequisite for CI 4626 Clinical Teaching: Grades 4–8. (Formerly C&I 4413 and C&I 4433. Credit cannot be earned for more than one of the following: BBL 4433, C&I 4413, C&I 4433, or CI 4433.) Generally offered: Fall, Spring. Course Fees: LRH1 \$20; STF1 \$75; STSH \$30.

CI 4443. Approaches to Teaching Mathematics–Grades 4–8. (3-0) 3 Credit Hours.

Prerequisites: Must be admitted to the Teacher Certification Program. Concurrent enrollment in CI 4433, CI 4603, CI 4623 and LTED 3533 in semester prior to clinical teaching. Study of curricula, instructional, and management approaches to teaching mathematics grades 4–8. This course emphasizes a constructivist approach to the teaching of mathematics, including the use of technology in diverse learning environments. This course must be completed with a grade of "B-" or better for it to serve as a prerequisite for CI 4626 Clinical Teaching: Grades 4–8. (Formerly C&I 4423 and CI 4443. Same as BBL 4443. Credit cannot be earned for more than one of the following: CI 4443, BBL 4443, C&I 4423, or C&I 4443.) Generally offered: Fall, Spring. Course Fees: LRH1 \$20; STF1 \$75; STSH \$30.

CI 4543. Approaches to Teaching Social Studies—Grades 4–8. (3-0) 3 Credit Hours.

Prerequisites: Must be admitted to the Teacher Certification Program. Concurrent enrollment in CI 4553, CI 4603, CI 4623, and LTED 3533 in semester prior to clinical teaching. This course emphasizes student-centered curricula that meet the needs of diverse students in grades 4–8. Preservice teachers examine models of teaching and learning to develop the knowledge, values, and experiential bases necessary for effective teaching. Students will demonstrate proficiency by creating lesson plans that specifically address the 4th–8th grade Social Studies standards as well as integrate other content, incorporate technology, and address diversity. This course must be completed with a grade of "B-" or better for it to serve as a prerequisite for CI 4626 Clinical Teaching: Grades 4–8. (Formerly C&I 4513 and C&I 4543. Credit can only be earned for one of the following: CI 4543, C&I 4543, or C&I 4513.) Generally offered: Fall, Spring. Course Fees: LRH1 \$20; STF1 \$75; STSH \$30.

CI 4553. Approaches to Service-Learning in Social Studies—Grades 4–8. (3-0) 3 Credit Hours.

Prerequisites: Must be admitted to the Teacher Certification Program. Concurrent enrollment in CI 4443, CI 4543, CI 4603, CI 4623, and LTED 3533 in semester prior to clinical teaching. This course examines the philosophy, methodology, and components of service-learning. Service-learning is the engagement of students in activities designed to address or meet a community need, where students learn how their service makes a difference to themselves and in the lives of the service recipients, and where learning is intentionally linked to academics. Students will design a service-learning project having social studies as the focus. This course must be completed with a grade of "B-" or better for it to serve as a prerequisite for CI 4626 Clinical Teaching: Grades 4–8. (Formerly C&I 4523 and C&I 4553. Credit can only be earned for one of the following: CI 4553, C&I 4553, or C&I 4523.) Course Fees: LRH1 \$20; STF1 \$75; STSH \$30.

CI 4603. Classroom Management Strategies—Grades 4–8. (3-0) 3 Credit Hours.

Prerequisites: Must be admitted to the Teacher Certification Program. Concurrent enrollment in CI 4433, CI 4443, CI 4623, and LTED 3533 in semester prior to clinical teaching for Grades 4–8 Mathematics/Science Certification Option; Concurrent enrollment in CI 4543, CI 4553, CI 4623, and LTED 3533 for Grades 4–8 Language Arts/Reading/Social Studies Certification Option Concurrent enrollment in CI 4433, CI 4443, CI 4543, CI 4623 for Grades 4–8 Generalist Certification Option. Preservice teachers will design developmentally appropriate mathematics and science curriculum, instruction, and assessment. Preservice teachers will also identify effective classroom management strategies. This course must be completed with a grade of "B-" or better for it to serve as a prerequisite for CI 4626 Clinical Teaching: Grades 4–8. (Formerly C&I 4603. Same as BBL 4603. Credit can only be earned for one of the following: CI 4603, C&I 4603, or BBL 4603.) Generally offered: Fall, Spring. Course Fees: LRH1 \$20; STF1 \$75; STSH \$30.

CI 4613. Clinical Teaching: Early Childhood—Grade 6. (0-0) 3 Credit Hours.

Prerequisites: Admission to the Teacher Certification Program; completion of all requirements for admission to the EC–6 clinical teaching semester, and completion of 21 semester credit hours of Professional Education: CI 4303, CI 4353, CI 4403, ECE 4143, ECE 4203, LTED 3823, and LTED 4833. A grade of "B-" or better in CI 4303, CI 4353, CI 4403, LTED 3823, and LTED 4833. A grade of "CR" is required for CI 4616 to be recommended for teacher certification. Individuals must apply to the director of clinical teaching one semester in advance. Bilingual EC–6 prerequisites: Admission to the Teacher Certification Program; completion of all requirements for admission to the EC–6 clinical teaching semester, completion of 18 semester credit hours of Professional Education: BBL 4033, BBL 4063, BBL 4073, BBL 4353, BBL 4403, and LTED 3823. Will be repeated for two long semesters and requires half-day clinical teaching in an EC–6th grade school setting and in the certification area sought under the supervision of University faculty. Student teacher will be responsible for planning, implementing, and evaluating instruction in collaboration with the cooperating teacher and in conjunction with the UTSA supervisor. Seminars explore issues in teaching practice. May be repeated for credit. Generally offered: Fall, Spring. Course Fees: LRH1 \$20; STF1 \$75; STSH \$30.

CI 4616. Clinical Teaching: Early Childhood—Grade 6. (0-0) 6 Credit Hours.

Prerequisites: Admission to the Teacher Certification Program; completion of all requirements for admission to the EC–6 clinical teaching semester, and completion of 21 semester credit hours of Professional Education: CI 4303, CI 4353, CI 4403, ECE 4143, ECE 4203, LTED 3823, and LTED 4833. A grade of "B-" or better in CI 4303, CI 4353, CI 4403, LTED 3823, and LTED 4833. A grade of "CR" is required for CI 4616 to be recommended for teacher certification. Individuals must apply to the director of clinical teaching one semester in advance. Bilingual EC–6 prerequisites: Admission to the Teacher Certification Program; completion of all requirements for admission to the EC–6 clinical teaching semester, completion of 18 semester credit hours of Professional Education: BBL 4033, BBL 4063, BBL 4073, BBL 4353, BBL 4403, and LTED 3823. Full semester of full-day clinical teaching in a regular or bilingual EC–grade 6 classroom under the supervision of University faculty. Student teacher will be responsible for planning, implementing, and evaluating instruction in collaboration with the cooperating teacher and in conjunction with the UTSA supervisor. Seminars explore issues in teaching practice. (Formerly C&I 4616. Credit cannot be earned for both CI 4616 and C&I 4616.) Generally offered: Fall, Spring. Course Fees: LRH1 \$20; STF1 \$75; STSH \$60.

CI 4623. Applied Teaching: Grades 4–8. (3-0) 3 Credit Hours.

Prerequisites: Must be admitted to the Teacher Certification Program. Concurrent enrollment in CI 4433, CI 4443, CI 4603, and LTED 3533 for Grades 4–8 Mathematics/Science Certification Option; CI 4543, CI 4553, CI 4603, and LTED 3533 for Grades 4–8 Language Arts/Reading/Social Studies Certification Option; CI 4433, CI 4443, CI 4543, CI 4603, and LTED 3533 for Grades 4–8 Generalist Certification Option. This field experience course provides preservice teachers the opportunity to work with students in grades 4–8 in school settings under the supervision of a university instructor. This course must be completed with a grade of "B-" or better for it to serve as a prerequisite for CI 4626 Clinical Teaching: Grades 4–8. (Formerly C&I 4623. Credit cannot be earned for both CI 4623 and C&I 4623.) Course Fees: LRH1 \$20; STF1 \$75; STSH \$30.

CI 4626. Clinical Teaching: Grades 4-8. (0-0) 6 Credit Hours.

Prerequisites: Admission to the Teacher Certification Program; completion of all requirements to the 4–8 clinical teaching semester, including all relevant TExES examinations, and completion of 21 semester credit hours: CI 4603, EDP 3303, ESL 3073, MAT 1023, LTED 3533, LTED 3633, LTED 3803. A grade of "CR" is required for the clinical teaching course to be recommended for teacher certification. Individuals must apply to the director of clinical teaching one semester in advance.

4–8 Generalist students: A grade of "B-" or better is required for LTED 3533. A grade of "B-" or better is required for CI 4603. 4–8 Mathematics/ Science students: The following courses completed with a grade of "B-" or better: CI 4433, CI 4443, CI 4603, LTED 3523, and LTED 3533. 4–8 Language Arts, Reading, and Social Studies students: The following courses completed with a grade of "B-" or better: CI 4543, CI 4553, LTED 3523, LTED 3533, LTED 3633. 4–8 ESL students: Completion of a minimum of 15 semester credit hours of the ESL specialization; and completion of ESL 4003, EDU 2103, EDP 3303, EDP 4203, or BBL 5053. 4–8 Bilingual students: Completion of all requirements for admission to the Bilingual 4–8 clinical teaching semester, and completion of 15 semester credit hours of Professional Education: BBL 4033, BBL 4063, BBL 4073, CI 4433 or CI 4443, and CI 4603. Full semester of full-day clinical teaching in a regular upper elementary/middle school classroom under the supervision of University faculty is required. Student teacher will be responsible for planning, implementing, and evaluating instruction in collaboration with the cooperating teacher and in conjunction with the UTSA supervisor. Seminars explore issues in teaching practice. (Formerly C&I 4626. Credit cannot be earned for both CI 4626 and C&I 4626.) Generally offered: Fall, Spring. Course Fees: LRH1 \$20; STF1 \$75; STSH \$60.

CI 4633. Clinical Teaching: Grades 4-8. (0-0) 3 Credit Hours.

Prerequisites: Admission to the Teacher Certification Program; completion of all requirements to the 4–8 clinical teaching semester, including all relevant TExES examinations, and completion of 21 semester credit hours: CI 4603, EDP 3303, ESL 3073, MAT 1023, LTED 3533, LTED 3633, LTED 3803. A grade of "CR" is required for the clinical teaching course to be recommended for teacher certification. Individuals must apply to the director of clinical teaching one semester in advance.

4–8 Generalist students: A grade of "B-" or better is required for LTED 3533. A grade of "B-" or better is required for CI 4603. 4–8 Mathematics/ Science students: The following courses completed with a grade of "B-" or better: CI 4433, CI 4443, CI 4603, LTED 3523, and LTED 3533. 4–8 Language Arts, Reading, and Social Studies students: The following courses completed with a grade of "B-" or better: CI 4543, CI 4553, LTED 3523, LTED 3533, LTED 3633. 4–8 ESL students: Completion of a minimum of 15 semester credit hours of the ESL specialization; and completion of ESL 4003, EDU 2103, EDP 3303, EDP 4203, or BBL 5053. 4–8 Bilingual students: Completion of all requirements for admission to the Bilingual 4–8 clinical teaching semester, and completion of 15 semester credit hours of Professional Education: BBL 4033, BBL 4063, BBL 4073, CI 4433 or CI 4443, and CI 4603. Will be repeated for two long semesters and requires half-day clinical teaching in an elementary/middle school setting and in the certification area sought under the supervision of University faculty. Student teacher will be responsible for planning, implementing, and evaluating instruction in collaboration with the cooperating teacher and in conjunction with the UTSA supervisor. Seminars explore issues in teaching practice. May be repeated for credit. Generally offered: Fall, Spring. Course Fees: LRH1 \$20; STF1 \$75; STSH \$30.

CI 4643. Clinical Teaching: Grades 7-12. (0-0) 3 Credit Hours.

Prerequisites: Admission to the Teacher Certification Program and the clinical teaching semester, and completion of CI 4203, EDP 3203, EDP 4203, and LTED 3773 (English majors must take LTED 3683 instead of LTED 3773). Can lack no more than 6 hours in content subject matter. A grade of "B-" or better in CI 4203. A grade of "CR" is required for the clinical teaching course to be recommended for teacher certification. Individuals must apply to the director of clinical teaching one semester in advance. Will be repeated for two long semesters and requires half-day clinical teaching in a high school (7–12) setting and in the certification area sought under the supervision of University faculty. Student teacher will be responsible for planning, implementing, and evaluating instruction in collaboration with the cooperating teacher and in conjunction with the UTSA supervisor. Individuals pursuing a Basic Secondary certification, Concentration A, will student teach in the single teaching field for which certification is sought. Individuals with two teaching fields will student teach in their major teaching field. Seminars explore issues in teaching practice. May be repeated for credit. Generally offered: Fall, Spring. Course Fees: LRH1 \$20; STF1 \$75; STSH \$30.

CI 4646. Clinical Teaching: Grades 7–12. (0-0) 6 Credit Hours.

Prerequisites: Admission to the Teacher Certification Program and the clinical teaching semester, and completion of CI 4203, EDP 3203, EDP 4203, and LTED 3773 (English majors must take LTED 3683 instead of LTED 3773). Can lack no more than 6 hours in content subject matter. A grade of "B-" or better in CI 4203. A grade of "CR" is required for the clinical teaching course to be recommended for teacher certification. Individuals must apply to the director of clinical teaching one semester in advance. Full semester of full-day clinical teaching in grades 7–12. Student teacher will be responsible for planning, implementing, and evaluating instruction in collaboration with the cooperating teacher and in conjunction with the UTSA supervisor. Individuals pursuing a Basic Secondary certification, Concentration A, will student teach in the single teaching field for which certification is sought. Individuals with two teaching fields will student teach in their major teaching field. Seminars explore issues in teaching practice. (Formerly C&I 4646. Credit cannot be earned for both CI 4646 and C&I 4646. Generally offered: Fall, Spring. Course Fees: LRH1 \$20; STF1 \$75; STSH \$60.

CI 4713. Clinical Teaching: All Level EC-12. (0-0) 3 Credit Hours.

Prerequisites: Admission to the Teacher Certification Program; completion of all requirements for the All-Level clinical teaching semester. All Level Physical Education students: Completion of KIN 4203 and KIN 4303 with a grade of "B-" or better. A grade of "CR" is required for the clinical teaching course to be recommended for teacher certification. All Level Health Education students: Completion of CI 4203, and EDP 3303 with a grade of "B-" or better. A grade of "B-" or better is required for the clinical teaching course to be recommended for teacher certification. Special Education students: All courses required for the degree and certification in All Level special education must be completed prior to clinical teaching. SPE 3653 and SPE 4653 must be completed with a grade of "B" or better to serve as prerequisites for CI 4716. A grade of "B-" or better is required for the clinical teaching course to be recommended for teacher certification. All Level Music students: Completion of CI 4623, CI 4213, EDP 3203, and LTED 3773. A grade of "B-" or better in CI 4203 and CI 4213. A grade of "CR" is required for the clinical teaching course to be recommended for teacher certification. All Level Art students: Completion of all requirements for admission to the clinical teaching semester, and CI 4203, EDU 2103, EDP 3203 or EDP 3303, EDP 4203, and LTED 3523 or LTED 3773. A grade of "B-" or better in CI 4203. A grade of "CR" is required for the clinical teaching course to be recommended for teacher certification. Languages other than English students: Completion of all requirements for admission to the clinical teaching semester, and CI 4203, EDP 3203, EDP 4203, and LTED 3773. Can lack no more than 6 hours in content subject matter. A grade of "B-" or better in CI 4203. A grade of "CR" is required for the clinical teaching course to be recommended for teacher certification. All courses for degree/certification plan must be completed prior to clinical teaching. Will be repeated for two long semesters and requires half-day clinical teaching in an elementary or middle school setting and in a high school setting (grades 7–12) in the certification area sought under the supervision of University faculty. Student teacher will be responsible for planning, implementing, and evaluating instruction in collaboration with the cooperating teacher and in conjunction with the UTSA supervisor. Meets clinical teaching requirements for the All-Level certification. Seminars explore issues in teaching practice. A grade of "CR" is required for the clinical teaching course to be recommended for teacher certification. Individuals must apply to the director of clinical teaching one semester in advance. May be repeated for credit. Generally offered: Fall, Spring. Course Fees: LRH1 \$20; STF1 \$75; STSH \$30.

CI 4716. Clinical Teaching: All Level EC–12. (0-0) 6 Credit Hours.

Prerequisites: Admission to the Teacher Certification Program; completion of all requirements for the All-Level clinical teaching semester. All Level Physical Education students: Completion of KIN 4203 and KIN 4303 with a grade of "B-" or better. A grade of "CR" is required for the clinical teaching course to be recommended for teacher certification. All Level Health Education students: Completion of CI 4203, and EDP 3303 with a grade of "B-" or better. A grade of "CR" is required for the clinical teaching course to be recommended for teacher certification. Special Education students: All courses required for the degree and certification in All Level special education must be completed prior to clinical teaching. SPE 3653 and SPE 4653 must be completed with a grade of "B" or better to serve as prerequisites for CI 4716. A grade of "CR" is required for the clinical teaching course to be recommended for teacher certification. All Level Music students: Completion of CI 4263, CI 4213, EDP 3203, and LTED 3773. A grade of "B-" or better in CI 4203 and CI 4213. A grade of "CR" is required for the clinical teaching course to be recommended for teacher certification. All Level Art students: Completion of all requirements for admission to the clinical teaching semester, and CI 4203, EDU 2103, EDP 3203 or EDP 3303, EDP 4203, and LTED 3523 or LTED 3773. A grade of "B-" or better in CI 4203. A grade of "CR" is required for the clinical teaching course to be recommended for teacher certification. Languages other than English students: Completion of all requirements for admission to the clinical teaching semester, and CI 4203, EDP 3203, EDP 4203, and LTED 3773. Can lack no more than 6 hours in content subject matter. A grade of "B-" or better in CI 4203. A grade of "CR" is required for the clinical teaching course to be recommended for teacher certification. All courses for degree/certification plan must be completed prior to clinical teaching. Full semester of full-day clinical teaching in an elementary or middle school setting and in a high school setting (grades 7–12) in the certification area sought. Student teacher will be responsible for planning, implementing, and evaluating instruction in collaboration with the cooperating teacher and in conjunction with the UTSA supervisor. Meets clinical teaching requirements for the All-Level certification. Seminars explore issues in teaching practice. A grade of "CR" is required for the clinical teaching course to be recommended for teacher certification. Individuals must apply to the director of clinical teaching one semester in advance. (Formerly C&I 4716. Credit cannot be earned for both CI 4716 and C&I 4716.) Generally offered: Fall, Spring. Course Fees: LRH1 \$20; STF1 \$75; STSH \$60.

CI 4911. Independent Study. (0-0) 1 Credit Hour.

Prerequisites: Permission in writing (form available) from the instructor, the student's advisor, the Department Chair, and the Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. (Formerly C&I 4911.) Course Fee: STSH \$10.

CI 4912. Independent Study. (0-0) 2 Credit Hours.

Prerequisites: Permission in writing (form available) from the instructor, the student's advisor, the Department Chair, and the Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. (Formerly C&I 4912.) Course Fee: STSH \$20.

CI 4913. Independent Study. (0-0) 3 Credit Hours.

Prerequisites: Permission in writing (form available) from the instructor, the student's advisor, the Department Chair, and the Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. (Formerly C&I 4913.) Course Fee: STSH \$30.

CI 4923. Residency Internship in Education. (0-0) 3 Credit Hours.

Prerequisites: Admission to the Teacher Certification Program: a bachelor's degree, completion of all coursework requirements for the certification program, or candidate admitted into Residency 2.0; consent of the Interdisciplinary Education and Certification Center; and consent of the director of clinical teaching. Internships to be jointly supervised by an employing school district and UTSA. Experiences will relate to the intern as the teacher-of-record in the classroom. A grade of "CR" is required for CI 4923 to be recommended for teacher certification. May be repeated for credit. (Formerly C&I 4923.) Course Fees: LRFH \$20; STSH \$30.

CI 4926. Residency Internship in Education. (0-0) 6 Credit Hours.

Prerequisites: Admission to the Teacher Certification Program; a bachelor's degree, completion of all coursework requirements for the certification program, or candidate admitted into Residency 2.0; consent of the Interdisciplinary Education Advising and Certification Center; and consent of the director of clinical teaching. Internships to be jointly supervised by an employing school district and UTSA. Experiences will relate to the intern as the teacher-of-record in the classroom. A grade of "CR" is required for CI 4926 to be recommended for teacher certification. (Formerly C&I 4926.) May be repeated for credit. Course Fees: LRFH \$20; STSH \$60.

Dance (DAN)

Dance (DAN) Courses

DAN 1013. Ballet I. (3-0) 3 Credit Hours.

An introductory course in ballet for those who have no previous ballet experience. Students will learn the format of a ballet class and incorporate ballet terminology with the positions and movements of the body. Generally offered: Fall, Spring. Course Fees: LRLF \$10; MC01 \$75; STLF \$18.

DAN 1113. Introduction to Modern Dance. (3-0) 3 Credit Hours.

An introduction to modern dance technique. Students will learn basic modern dance techniques by studying various choreographers and movements throughout the history of modern dance. (Formerly MUS 2763. Credit cannot be earned for both DAN 1113 and MUS 2763.) Generally offered: Fall, Spring. Course Fees: LRLF \$10; MC01 \$75; STLF \$18.

DAN 2003. Introduction to Dance. (3-0) 3 Credit Hours. (TCCN = DANC 2303)

A survey of various dance styles, including ballet, modern, social, and world dance. Designed to provide the opportunity for students to increase their awareness of dance and how dance informs cultural values. May be applied toward the Core Curriculum requirement in Creative Arts. Generally offered: Fall. Course Fees: LRC1 \$12; LRLF \$10; MC01 \$75; STLF \$18.

DAN 2013. Ballet II. (3-0) 3 Credit Hours.

An intermediate course designed for students who have had at least one year of ballet training. Further refinement of technique, alignment, strength, balance, and flexibility will be achieved through barre and centre floor work. May be repeated for credit. Generally offered: Fall, Spring. Course Fees: LRLF \$10; MC01 \$75; STLF \$18.

DAN 2113. Modern Dance II. (3-0) 3 Credit Hours.

An intermediate course designed for students who have had at least one year of modern dance experience. Students will refine modern dance technique through floor and centre work, and by studying various movements and styles relevant to current modern dance technique. Generally offered: Spring. Course Fees: LRLF \$10; MC01 \$75; STLF \$18.

DAN 2213. Jazz and Musical Theater Dance. (3-0) 3 Credit Hours.

Introduction to jazz dance techniques with emphasis on how dance is applied in musical theatre. Dance styles will include but are not limited to tap, step, and swing. Students will also study the styles of known musical choreographers such as Bob Fosse and Jerome Robbins while developing performance technique and facial expression. (Formerly MUS 2773. Credit cannot be earned for both DAN 2213 and MUS 2773.) Generally offered: Fall, Spring. Course Fees: LRLF \$10; MC01 \$75; STLF \$18.

DAN 2783. Topics in Dance. (3-0) 3 Credit Hours.

Studio dance instruction and survey focused on a genre of dance. May be repeated for credit when topics vary. (Formerly MUS 2783. Credit cannot be earned for both DAN 2783 and MUS 2783.) Generally offered: Fall, Spring. Course Fees: LRLF \$10; MC01 \$75; STLF \$18.

DAN 3013. Ballet III. (3-0) 3 Credit Hours.

An advanced course designed for students who have had at least two years of ballet training. Further refinement of technique, alignment, strength, balance, and flexibility will be achieved through barre and centre floor work. Generally offered: Fall. Course Fees: LRLF \$10; MC01 \$75; STLF \$18.

DAN 3103. History of Dance. (3-0) 3 Credit Hours.

An overview of the history of dance from ancient civilizations through the present. The importance and role of dance within major civilizations and historical periods will be presented. Students will study major dance movements, choreographers, and notable dancers throughout history. (Formerly DAN 2103. Credit cannot be earned for both DAN 2103 and DAN 3103.) Generally offered: Spring. Course Fees: LRLF \$10; MC01 \$75; STLF \$18.

DAN 3113. Modern Dance III. (3-0) 3 Credit Hours.

An advanced course designed for students who have had at least two years of modern dance experience. Further refinement of technique, strength, balance, and flexibility will be achieved through floor and centre work. Generally offered: Spring. Course Fees: LRLF \$10; MC01 \$75; STLF \$18.

DAN 3801. UTSA Auxiliaries. (0-5) 1 Credit Hour.

Rehearse and perform choreography and dances for appearances at public events on and off campus, particularly as related to the UTSA Athletic Band. Participation at all performances is required in addition to regularly scheduled rehearsals. Audition required. May be repeated for credit. Course Fees: LRLF \$10; MC01 \$25; STLF \$6.

Data Science (DS)

Data Science (DS) Courses

DS 4003. Introduction to Data Science. (3-0) 3 Credit Hours.

Prerequisite: MAT 1073 or the equivalent. An introduction to foundational data science knowledge and life cycle. Focus areas on data visualization, data curation, ethics, and tools available for analysis will be covered.

DS 4013. Programming for Data Science. (3-0) 3 Credit Hours.

Prerequisite: MAT 1073 or the equivalent. An introduction to data-driven programming emphasizing problem solving and critical thinking. Topics will focus on foundational computer programming concepts and skills.

DS 4023. Data Organization and Visualization. (3-0) 3 Credit Hours.

Prerequisites: DS 4003 and DS 4013 or the equivalents. This course focuses on programming concepts, file input/output, and recursion that are involved in integrating, loading, processing, and transforming data from external sources for exploratory data analysis and visualization using data science software packages and APIs.

DS 4033. Data Mining and Machine Learning. (3-0) 3 Credit Hours.

Prerequisites: DS 4003 and DS 4013 or the equivalents. This course utilizes fundamental data science concepts to introduce in-depth analysis, data mining, machine learning, and artificial intelligence. Topics may include clustering, classification, evaluation metrics, supervised and unsupervised learning, search algorithms, intelligent agents, and AI applications in select areas.

Demography (DEM)

Demography (DEM) Courses

DEM 4013. Geographic Information Systems for Population Analysis and Policy. (3-0) 3 Credit Hours.

This course will introduce the use of Geographic Information Systems (GIS) software, with applications in demography and policy-related disciplines. As part of the course, students will work on real data related to measuring population composition and change, with special relevance to policy related decision making. Course Fees: LRHC \$10; STHC \$18.

DEM 4963. Social Demography and Public Policy. (3-0) 3 Credit Hours.

This course will cover the basic areas of demography (fertility, mortality, and migration—both internal and international). Students will also be exposed to methods of demographic research to carry out demographic research projects. As part of the course, students will conduct demographic analysis using real data. A strong focus of the course will be discussing the implications for demographic analysis in terms of local, regional and national policy discussions. Course Fees: LRHC \$10; STHC \$18.

Early Childhood (ECE)

Early Childhood (ECE) Courses

ECE 2013. Introduction to Multicultural Early Childhood Education. (3-0) 3 Credit Hours.

Examination of the history of Early Childhood Education, curriculum, and current issues with a special emphasis on culturally and linguistically diverse families and young children. Field experience required. Course Fees: LRH1 \$20; STSH \$30.

ECE 2123. Diversity in Early Childhood. (3-0) 3 Credit Hours.

Study of diversity within early childhood contexts including culture, language, traditions, beliefs, family structure, socioeconomic background, ability, and national origin within the US and the world. (Same as BBL 2123. Credit cannot be earned for both ECE 2123 and BBL 2123.) Course Fees: LRH1 \$20; STSH \$30.

ECE 3133. Programs and Policies in Early Childhood Education. (3-0) 3 Credit Hours.

This course is a survey of historical, philosophical, and sociocultural foundations of early childhood programs and policies. Students will examine past and current trends in early childhood education and their impact on early childhood practices and policies. A variety of early childhood programs-national and international, traditional and culturally responsive, federal and state-funded-will be examined. Early childhood policies and their impact on teachers and students will be discussed at length. Generally offered: Fall. Course Fees: LRH1 \$20; STSH \$30.

ECE 3143. Child Growth and Development. (3-0) 3 Credit Hours.

Examination of child development theories (conception through elementary years) within different domains that affect children's development and learning including, physical, cognitive, linguistic, social, and emotional. Emphasis on multicultural theoretical perspectives of child development addressing culturally and linguistically diverse populations and children with atypical patterns of development. Field experience required. (Formerly ECE 2103. Credit cannot be earned for both ECE 3143 and ECE 2103.) Generally offered: Fall, Spring, Summer. Course Fees: LRH1 \$20; STSH \$30.

ECE 3153. Movement, Music and Health in Early Childhood. (3-0) 3 Credit Hours.

Emphasis on creative movement through the senses focusing on appropriate motor development skills (fine and gross). Examination of physical development to increase health awareness through culturally relevant music. Field experience required. Course Fees: LRH1 \$20; STSH \$30.

ECE 3313. Play, Creativity, and Learning. (3-0) 3 Credit Hours.

Concurrent enrollment in ECE 3143, ECE 3603, and LTED 3513 is required. A study of play theories as they relate to creativity, development, and learning. Will provide early childhood and elementary educators with knowledge and skills necessary to promote and guide children's play as a fundamental learning mechanism within culturally, linguistically, and cognitively diverse classrooms. Emphasis on effective strategies, equipment, materials, and activities that support and encourage children's play and creativity at the early childhood and elementary grades. Field experience required. Generally offered: Fall, Spring, Summer. Course Fees: LRH1 \$20; STF1 \$75; STSH \$30.

ECE 3603. Language and Literacy Acquisition. (3-0) 3 Credit Hours.

Concurrent enrollment in ECE 3143, ECE 3313, and LTED 3513 is required. Exploration of theories of first and second language development in young children with implications for the acquisition of early literacy concepts for all children. Examines ways that educators can enhance language and literacy development for first and second language learners. Introduces appropriate, research-based approaches to teach early reading and writing for culturally and linguistically diverse children. Field experience required. Generally offered: Fall, Spring, Summer. Course Fees: LRH1 \$20; STF1 \$75; STSH \$30.

ECE 4103. Guidance of Young Children in Groups. (3-0) 3 Credit Hours.
Study of effective strategies for guiding the social-emotional development and learning of children, including those with special needs, in group settings. Emphasis on classroom management and discipline methods; understanding human interactions and the cultural dynamics of groups; and guiding children in task involvement. Examination of strategies for facilitating cooperative activities and use of materials; the design of effective learning environments; conflict resolution techniques, and strategies for enhancing the inclusion of children with special needs in social and learning contexts. Field experience required. Generally offered: Spring. Course Fees: LRH1 \$20; STSH \$30.

ECE 4123. Family and Community Resources in Early Childhood. (3-0) 3 Credit Hours.

Study of approaches to family, community, societal, cultural, and ideological support systems in children's growth, learning, and development. Emphasis on how these factors are related in the permissive-restrictive dimensions of child rearing and socialization in broad perspectives across environmental contexts. Examination of resources and systems to address the special needs of families with children who are "at risk" or have disabilities. Review of technological tools used to locate and compile information on community resources. Field experience required. Generally offered: Spring. Course Fees: LRH1 \$20; STSH \$30.

ECE 4143. Principles and Practices of Differentiated Education EC-6. (3-0) 3 Credit Hours.

Prerequisites: Concurrent enrollment in ECE 3313, ECE 3603, and LTED 3513. Study of cultural and responsive programming for linguistically diverse groups of children representing a wide range of abilities. Identification of theoretical perspectives and principles for differentiated education in early childhood and elementary. Emphasis on effective instructional planning, learning environments, and teaching practices to accommodate individuals in group settings. Field experiences may be required. Generally offered: Fall, Spring. Course Fees: LRH1 \$20; STSH \$30.

ECE 4153. Culturally Appropriate Assessment for Infants and Young Children. (3-0) 3 Credit Hours.

Selecting and employing culturally fair assessment and evaluation techniques that are reliable, valid, and developmentally appropriate for infants and young children. Includes the examination of strategies such as developmental checklists, parent interviews, play-based, portfolios, and informal observations for conducting assessment. Using assessment outcomes appropriately for instructional and curricular planning. Course Fees: LRH1 \$20; STSH \$30.

ECE 4203. Assessment and Evaluation in EC-6. (3-0) 3 Credit Hours.

Prerequisites: ECE 3143, ECE 3603 and admission to Teacher Certification Program. Concurrent enrollment in CI 4403 or CI 4353 and LTED 3823 or LTED 3513 is recommended. Principles of designing and using assessment and evaluation techniques that are culturally fair, intellectually sound, reliable, dependable, and content-valid for first and second language learners. Examination of standardized, authentic, and performance-based assessments. Review of strategies for using assessment data to inform instructional planning for culturally and linguistically diverse children. Exploration of matching assessment techniques to individual children and learning situations. Field-based experiences required. Generally offered: Fall, Spring. Course Fees: LEA1 \$15; LRH1 \$20; STF1 \$75; STSH \$30.

ECE 4253. STEM in Early Childhood Contexts. (3-0) 3 Credit Hours.

This course focuses on the integration of science, technology, engineering, and mathematics (STEM) in early childhood settings. Participants will examine the design of developmentally appropriate methodologies to engage young children in interdisciplinary learning in authentic settings. Course Fees: LRH1 \$20; STSH \$30.

ECE 4342. Internship in Multicultural Early Childhood Development I - Infants. (0-0) 2 Credit Hours.

Prerequisite: Completion of required courses in the major and the minor. Students engage in an internship experience where the focus is on the development and growth of infants. Emphasis is on experiences that benefit infants and families in different contexts. There is a study abroad option. Course Fees: INT1 \$100; STSH \$20.

ECE 4412. Internship in Multicultural Early Childhood Development II - Toddlers. (0-0) 2 Credit Hours.

Prerequisite: Completion of required courses in the major and the minor. Students engage in an internship experience where the focus is on the development and growth of toddlers. Emphasis is on experiences that benefit toddlers and families in different contexts. There is a study abroad option. Course Fees: INT1 \$100;; STSH \$20.

ECE 4552. Internship in Multicultural Early Childhood Development III - Preschool. (0-0) 2 Credit Hours.

Students engage in an internship experience where the focus is on the development and growth of preschoolers. Emphasis is on experiences that benefit preschoolers and families in different contexts. There is a study abroad option. Course Fees: INT1 \$100; STSH \$20.

ECE 4653. Leadership and Management of Early Childhood Settings. (3-0) 3 Credit Hours.

This course will focus on the leadership aspects related to sustaining high-quality Early Childhood Education programs. Developmentally Appropriate Practice and growth and development practices for young children will be explored. Special attention will be given to effective ECE practices in culturally and linguistically diverse settings. Course Fees: LRH1 \$20; STSH \$30.

ECE 4913. Independent Study. (0-0) 3 Credit Hours.

Prerequisites: Permission in writing (form available) from the instructor, the student's advisor, the Department Chair, and Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Course Fee: STSH \$30.

Economics (ECO)

Economics (ECO) Courses

ECO 2003. Economic Principles and Issues. (3-0) 3 Credit Hours. (TCCN = ECON 1301)

A nontechnical introduction to economic concepts such as scarcity, costs and benefits, supply and demand, trade, employment, and growth, with applications to current economic issues and policies. May not be counted toward a major in economics, but may be counted as a free elective for College of Business students. May be applied toward the core curriculum requirement in Social and Behavioral Sciences. (Formerly titled "Introduction to Political Economy.") Generally offered: Fall, Spring, Summer. Course Fees: BISP \$10; BTSI \$15; DL01 \$75; LRB1 \$15; LRC1 \$12.

ECO 2013. Introductory Macroeconomics. (3-0) 3 Credit Hours. (TCCN = ECON 2301)

Prerequisite: ECO 2023. Economic analysis at the national level, including the determination of aggregate income and employment, operation of the domestic and international monetary systems, short-term income fluctuations, and long term economic growth. Generally offered: Fall, Spring, Summer. Course Fees: BISP \$10; BTSI \$15; DL01 \$75; LRB1 \$15.

ECO 2023. Introductory Microeconomics. (3-0) 3 Credit Hours. (TCCN = ECON 2302)

Prerequisite: Placement into a college-level mathematics course. An introduction to the economic theory of decision making by consumers and business firms; an analysis of the domestic and international market systems and their roles in allocating goods and services; and problems of market failure. May be applied toward the core curriculum requirement in Social and Behavioral Sciences. Generally offered: Fall, Spring, Summer. Course Fees: BISP \$10; BTSI \$15; DL01 \$75; LRB1 \$15; LRC1 \$12.

ECO 3013. Intermediate Microeconomics. (3-0) 3 Credit Hours.

Prerequisites: Completion of ECO 2013, ECO 2023, and MAT 1133, or their equivalents, with a grade of "C-" or better. The study of price determination in and the welfare implications of various market structures through the development of the preference theory of consumer behavior and the profit maximization theory of producer behavior. The role and welfare impact of externalities and of government intervention are also examined. (Formerly titled "Theory of Price." Credit cannot be earned for both Theory of Price and Intermediate Microeconomics). Generally offered: Fall, Spring. Differential Tuition: \$126.

ECO 3033. Economics of Managerial Decisions. (3-0) 3 Credit Hours.

Prerequisites: Completion of ECO 2013, ECO 2023, and MAT 1133, or their equivalents, with a grade of "C-" or better. Managerial economic decisions in firms and related entities. Topics include demand analysis, least-cost production, profit strategy, the influence of various market structures on the firm, advanced issues in pricing, and the impact of the international sector. Generally offered: Fall, Spring. Differential Tuition: \$126.

ECO 3053. Intermediate Macroeconomics. (3-0) 3 Credit Hours.

Prerequisites: Completion of ECO 2013 and ECO 2023, or their equivalents, with a grade of "C-" or better. Analysis of the measurement, determination, and control of aggregate economic activity such as national income, output, employment, interest rates, the price level, and exchange rates. The roles of monetary and fiscal policy and their relation to income and employment, short-term income fluctuations, and long-term growth are also explored. (Formerly titled "Aggregate Economics." Credit cannot be earned for both Aggregate Economics and Intermediate Macroeconomics). Generally offered: Fall, Spring. Differential Tuition: \$126.

ECO 3113. Introduction to Mathematical Economics. (3-0) 3 Credit Hours.

Prerequisites: Completion of ECO 2013, ECO 2023, and MAT 1133, or their equivalents, with a grade of "C-" or better. Systematic approach to economic analysis using basic mathematical tools; treatment of optimizing behavior with applications to consumer and business firms; emphasis on understanding and application of analytical techniques. Generally offered: Fall, Spring. Differential Tuition: \$126.

ECO 3123. Introduction to Econometrics and Business Forecasting. (3-0) 3 Credit Hours.

Prerequisites: Completion of ECO 3113, MAT 1133, and STA 1053 or MS 1023, or their equivalents, and with a grade of "C-" or better. Measurement in economics and business that strives to mix the development of technique with its application to economic analysis. Major topics include the nature of economic and business data, specific forms of modeling and forecasting, and the use of microcomputer programs in econometric modeling and forecasting. Generally offered: Spring. Differential Tuition: \$126.

ECO 3163. Evolution of Economic Thought. (3-0) 3 Credit Hours.

Prerequisite: Completion of one of the following: ECO 2003, ECO 2013, ECO 2023, or the equivalent, with a grade of "C-" or better. Development of economic theories, models, and schools of thought from the birth of market economies to the present, with an emphasis on the historical, institutional, and social forces shaping economic thinking and public policy. Differential Tuition: \$126.

ECO 3183. Economic History of the United States. (3-0) 3 Credit Hours.

Prerequisite: Completion of one of the following: ECO 2003, ECO 2013, ECO 2023, or the equivalent, with a grade of "C-" or better. The growth and development of the American economy from colonial times to the present; emphasis on applying a variety of economic concepts to a topical study of the economic forces that shaped the country's history. Differential Tuition: \$126.

ECO 3193. International Economics. (3-0) 3 Credit Hours.

Prerequisite: Completion of one of the following: ECO 2003, ECO 2013, ECO 2023, or the equivalent, with a grade of "C-" or better. Principles of international trade; significance of geographic, economic, social, and political influences; current problems in international trade and payments; tariffs and commercial policy; and the role of international organizations. (Formerly titled "The International Economy.") Generally offered: Fall, Spring. Differential Tuition: \$126.

ECO 3213. Economics of Antitrust and Regulation. (3-0) 3 Credit Hours.

Prerequisite: Completion of one of the following: ECO 2003, ECO 2013, ECO 2023, or the equivalent, with a grade of "C-" or better, or consent of instructor, Department Chair, and Dean of the College. Theory and practice of governmental regulation, deregulation, and privatization; economic, legal, and ethical concerns regarding private-sector output; and pricing as influenced by public policy and marketing structure. Differential Tuition: \$126.

ECO 3223. Sports Economics. (3-0) 3 Credit Hours.

Prerequisite: ECO 2023. The course examines the impact of the sports industry on the U.S. and other global economies. The emphasis is given to the topics related to sport economics in the areas of industrial organization, public finance, and labor markets. Current sports-related economic policy issues are also addressed. Differential Tuition: \$126.

ECO 3233. Health Economics and Policy. (3-0) 3 Credit Hours.

Prerequisite: Completion of one of the following: ECO 2003, ECO 2013, ECO 2023, or the equivalent, with a grade of "C-" or better. The course examines and analyzes the ever changing role of healthcare and the impact on the economy and society. Social issues with respect to healthcare in the U.S. and world markets are analyzed using economics principles. Current healthcare related topics are addressed. Differential Tuition: \$126.

ECO 3253. Economics of Public and Social Issues. (3-0) 3 Credit Hours.

Prerequisite: Completion of one of the following: ECO 2003, ECO 2013, ECO 2023, or the equivalent, with a grade of "C-" or better, or consent of instructor, Department Chair, and Dean of the College. A seminar on applying economic reasoning and models to a wide variety of public, ethical, and social issues. Uses advanced techniques in political economy. Differential Tuition: \$126.

ECO 3263. Industrial Organization. (3-0) 3 Credit Hours.

Prerequisite: Completion of one of the following: ECO 2003, ECO 2023, or the equivalent, with a grade of "C-" or better. Theory and empirical evidence relating to the structure of American industry and its effect on the firm's conduct and performance, government policy, and regulation. Differential Tuition: \$126.

ECO 3273. Introduction to Public Sector Economics. (3-0) 3 Credit Hours.

Prerequisite: Completion of one of the following: ECO 2003, ECO 2023, or the equivalent, with a grade of "C-" or better. Role of government in the marketplace; cost-benefit analysis; spending and regulatory alternatives; efficiency and equity analysis of taxes; incentives within government; and public policy issues. Differential Tuition: \$126.

ECO 3313. Money and Banking. (3-0) 3 Credit Hours.

Prerequisite: ECO 2013 or the equivalent. A study of money, the financial system, interest rates, commercial and central banking, monetary theory and policy implementation by the Federal Reserve, and resultant economic impacts both nationally and internationally. (Same as FIN 3313. Credit cannot be earned for both ECO 3313 and FIN 3313.) Differential Tuition: \$126.

ECO 4233. Behavioral Economics and Finance. (3-0) 3 Credit Hours.

Prerequisites: Completion of ECO 2013, ECO 2023, and MAT 1133, or their equivalents, with a grade of "C-" or better. This course introduces the behavioral concepts and theories. Topics include prospect theory, biases in probabilistic judgment, and nudge theory. Issues on how to apply these behavioral concepts to real life, focusing on improving decision making in health, financial wealth, and happiness are addressed. Differential Tuition: \$126.

ECO 4273. Environmental and Resource Economics. (3-0) 3 Credit Hours.

Prerequisite: Completion of one of the following: ECO 2003, ECO 2023, or the equivalent, with a grade of "C-" or better. Economic principles applied to natural resource and environmental problems; relationship of market and nonmarket forces to environmental quality and demands for natural resources; and development of tools for policy analysis. Differential Tuition: \$126.

ECO 4303. Economics of Developing Countries. (3-0) 3 Credit Hours.

Prerequisite: Completion of one of the following: ECO 2003, ECO 2013, or the equivalent, with a grade of "C-" or better. Specific economic problems of developing countries and national groupings; basic approaches to economic development; major proposals for accelerating development; role of planning; and trade, aid, and economic integration. (Formerly titled "Economic Problems of Developing Countries.") Differential Tuition: \$126.

ECO 4913. Independent Study. (0-0) 3 Credit Hours.

Prerequisites: A 3.0 College of Business grade point average, permission in writing (form available) from the instructor, the student's advisor, the Department Chair, and the Dean of the College of Business. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Differential Tuition: \$126.

ECO 4933. Internship in Economics. (0-0) 3 Credit Hours.

Prerequisites: 12 semester credit hours of upper-division economics, a 2.5 UTSA grade point average, and permission in writing from the instructor, the Department Chair, and the Dean of the College of Business. See academic advisor for required forms. This opportunity for work experience in research or applied economics may be undertaken either in private business or a public agency; opportunities are developed in consultation with the faculty advisor and Department Chair and require approval of both. This course will not count as a required economics course. Internships may be repeated (a total of 6 semester credit hours) provided the internships are with different organizations. Differential Tuition: \$126.

ECO 4953. Special Studies in Economics. (3-0) 3 Credit Hours.

Prerequisite: Consent of instructor, Department Chair, and Dean of the College. An organized course offering the opportunity for specialized study not normally or not often available as part of the regular course offerings. Special Studies may be repeated for credit when topics vary, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. Generally offered: Fall. Differential Tuition: \$126.

Education (EDU)

Education (EDU) Courses

EDU 2103. Social Foundations for Education in a Diverse U.S. Society. (3-0) 3 Credit Hours.

Prerequisites: Sophomore standing and passing scores on all three sections of a Texas Success Initiative (TSI) approved assessment instrument. Students will explore the relationship between school and a diverse U.S. society. They will explore the need for an educational philosophy suited for educating a diverse population; the role of ethnicity, gender, and class in the historical construction of schooling as it is today, the interactive effects of culture and economics upon and within schools, and the politics of education. Students will explore the interconnections of the above issues. Generally offered: Fall, Spring, Summer. Course Fees: LRH1 \$20; STF1 \$75; STSH \$30.

EDU 4911. Independent Study. (0-0) 1 Credit Hour.

Prerequisites: Permission in writing (form available) from the instructor, the student's advisor, the Department Chair, and the Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Course Fee: STSH \$10.

EDU 4912. Independent Study. (0-0) 2 Credit Hours.

Prerequisites: Permission in writing (form available) from the instructor, the student's advisor, the Department Chair, and the Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Course Fee: STSH \$20.

EDU 4913. Independent Study. (0-0) 3 Credit Hours.

Prerequisites: Permission in writing (form available) from the instructor, the student's advisor, the Department Chair, and the Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Course Fee: STSH \$30.

EDU 4953. Special Studies in Education. (3-0) 3 Credit Hours.

Prerequisite: Consent of instructor. Organized course offering the opportunity for specialized study not normally or not often available as part of the regular course offerings. Special Studies may be repeated for credit when topics vary, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. Course Fees: LRH1 \$20; STSH \$30.

Educational Leadership (EDL)

Educational Leadership (EDL) Courses

EDL 3003. Introduction to Leadership. (3-0) 3 Credit Hours.

This seminar course begins with the premise that everyone has unique and powerful potential as a leader, and that we can learn leadership and enhance our abilities as leaders through a focused inquiry that connects theory, experience and reflection. Students will identify and further develop a personal foundation of knowledge, skills and attitudes related to leadership. Thoughtful effort will yield worthwhile and serviceable resources that will be of substantive value, enhancing the individual's effectiveness in future. This course is designed to meet students where they are coming from, starting from what they know, value and do as leaders, and then move students forward by challenging their perspectives and assumptions and supporting their development as an engaged, ethical leaders who make a positive difference by empowering others. Approaches to teaching and learning will include the following: Abstract conceptualization via lectures, writing and visual assignments; Active experimentation via case studies and projects; Concrete experiences in the form of readings and experiential activities; and, Reflective observations via discussion and journaling. Course Fees: LRH1 \$20; STSH \$30.

EDL 4953. Special Studies in Educational Leadership. (3-0) 3 Credit Hours.

Prerequisite: Consent of instructor. Organized course offering the opportunity for specialized study not normally or not often available as part of the regular course offerings. Special Studies may be repeated for credit when topics vary, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. Generally offered: Spring. Course Fees: LRH1 \$20; STSH \$30.

Educational Psychology (EDP)

Educational Psychology (EDP) Courses

EDP 2113. Theories of Learning. (3-0) 3 Credit Hours.

Prerequisite: Sophomore standing. This course provides a current and comprehensive overview of theory and research related to human learning, with emphasis on how these theories apply to the learning and development of children. Topics include behaviorism, social cognitive theory, information processing, and motivation as these relate to management of a learning environment. In addition to the major learning theories, the course will include an overview of developmental psychopathology with emphasis on the interactions among biological and environmental risk factors (e.g., child abuse, neglect, teratogenic effects) on children's learning and development. (Formerly titled "Development in the Elementary and Middle School Child.") Course Fees: LRH1 \$20; STSH \$30.

EDP 3203. Learning and Development in the Secondary School Adolescent. (3-0) 3 Credit Hours.

Prerequisites: Sophomore standing and satisfaction of the Texas Success Initiative (TSI) requirement. An introduction to major theories of learning and development, with an emphasis on applications at the secondary level. Topics include individual and group differences, motivation, and secondary-level classroom management. Generally offered: Fall, Spring, Summer. Course Fees: LRH1 \$20; STSH \$30.

EDP 3303. Learning and Development in the Middle School Context (Grades 4–8). (3-0) 3 Credit Hours.

Prerequisites: Sophomore standing and satisfaction of the Texas Success Initiative (TSI) requirement. An introduction to the major theories of learning and development, with an emphasis on applications to the middle school level (grades 4–8). Topics include child and adolescent development, individual and group-level differences, student motivation, and classroom management. Generally offered: Fall, Spring. Course Fees: LRH1 \$20; STSH \$30.

EDP 3673. Introduction to Behavior Analysis. (3-0) 3 Credit Hours.

This course will provide students with the opportunity to acquire knowledge about principles and procedures of behavior analysis and behavior management. As an introductory course to behavior analysis, special attention will be paid to philosophy, terminology, and methods. Class fulfills coursework requirement for Registered Behavioral Technician (RBT) certification. Course Fees: LRH1 \$20; STSH \$30.

EDP 3683. Behavior Analytic Assessment and Evaluation. (3-0) 3 Credit Hours.

Prerequisite: EDP 3673. Course examines behavioral learning theory and operant conditioning principles; overview of behavioral assessment strategies with an emphasis on conducting interviews and direct observations of behaviors; functional behavior assessment and applied behavior analysis as systematic assessment-intervention approaches to behavior modification; and specific behavior intervention approaches for use with children and adolescents. Course Fees: LRH1 \$20; STSH \$30.

EDP 3693. Behavior Analytic Intervention and Treatment. (3-0) 3 Credit Hours.

Prerequisites: EDP 3673 and EDP 3683. This course will provide students with the opportunity to acquire knowledge about evidenced-based instructional practices based on the science of behavior analysis. Students will have the opportunity to learn to design appropriate function-based interventions, learn how to apply those interventions, and make decisions based on patient data to inform future interventions. Course Fees: LRH1 \$20; STSH \$30.

EDP 4203. Assessment and Evaluation. (3-0) 3 Credit Hours.

Prerequisites: Completion of all requirements for admission to the Teacher Certification Program, including but not limited to satisfaction of the Texas Success Initiative (TSI) requirement, and completion of EDU 2103 and EDP 3203 or EDP 3303. This course will discuss the principles and techniques necessary to develop sound assessment strategies. The primary focus of the course will be on the creation of test items, administration of classroom evaluation procedures, and the roles of testing, measurement, and evaluation in daily classroom practice. The use and interpretation of standardized tests, alternative assessments, and norm- and criterion-referenced assessments will also be discussed as well as theoretical and ethical issues related to testing and evaluation. Restricted course; advisor code required for registration. Generally offered: Fall, Spring, Summer. Course Fees: LRH1 \$20; STSH \$30.

EDP 4683. Advanced Behavior Analysis. (3-0) 3 Credit Hours.

Prerequisites: EDP 3673, EDP 3683, and EDP 3693. Advanced applications of the theory, principles, processes, concepts, and terminology of behavior analysis, and the learning principles on which behavior analysis is based within applied medical and clinical settings. In this course, students learn how to design and evaluate experimental interventions. Selection of intervention outcomes based on functional behavioral assessments are emphasized. Students learn to make recommendations to clients detailing all contingencies of targeted behavior change. Ethical considerations in the use of behavioral interventions will also be discussed. Course Fees: LRH1 \$20; STSH \$30.

EDP 4913. Independent Study. (0-0) 3 Credit Hours.

Prerequisites: Permission in writing (form available) of the instructor, the student's advisor, the Department Chair, and the Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Course Fee: STSH \$30.

EDP 4953. Special Studies in Educational Psychology. (3-0) 3 Credit Hours.

Prerequisite: Consent of instructor. Organized course offering the opportunity for specialized study not normally or not often available as part of the regular course offerings. Special Studies may be repeated for credit when topics vary, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. Course Fees: LRH1 \$20; STSH \$30.

Electrical Engineering (EE)

Electrical Engineering (EE) Courses

EE 1322. Introduction to Electrical and Computer Engineering. (2-1) 2 Credit Hours. (TCCN = ENGR 1201)

Prerequisite: MAT 1073. An introduction to the electrical and computer engineering profession with emphasis on technical communication, team-based engineering design, professional and ethical responsibilities, contemporary issues, and software tools. One hour of recitation session per week. (Formerly EE 1323. Credit cannot be earned for both EE 1323 and EE 1322.) Course Fees: LRE1 \$20; STSE \$20.

EE 2213. Electric Circuits and Electronics. (3-0) 3 Credit Hours. (TCCN = ENGR 2305)

Prerequisites: PHY 1963 and concurrent enrollment in, or completion of, EGR 2323. Principles of electrical circuits and systems. Basic circuit elements (resistance, inductance, mutual inductance, capacitance, independent and dependent controlled voltage, and current sources). Topology of electrical networks; Kirchhoff's laws; node and mesh analysis; DC circuit analysis; operational amplifiers; transient and sinusoidal steady-state analysis; AC circuit analysis; first- and second-order circuits; application of Laplace transforms to the analysis of RLC circuits. (Formerly EE 2214. Credit cannot be earned for both EE 2213 and EE 2214.) Generally offered: Fall, Spring. Course Fees: LRE1 \$20; STSE \$30.

EE 2423. Network Theory. (3-1) 3 Credit Hours.

Prerequisites: EE 1322 and completion of or concurrent enrollment in EGR 2323 and PHY 1963. Basic network principles; simple resistive circuits; steady state responses to DC and AC signals; node-voltage and mesh-current analysis; source transformations and superposition; Thevenin and Norton equivalents; natural and step transient responses of first and second order circuits; Laplace transform in circuit analysis; and use of circuit simulation software to solve network problems. One hour of problem solving recitation per week. Generally offered: Fall, Spring, Summer. Generally offered: Fall, Spring, Summer. Course Fees: LRE1 \$20; STSE \$30.

EE 2511. Logic Design Laboratory. (1-2) 1 Credit Hour.

Prerequisite: Completion of or concurrent enrollment in EE 2513. Introduction to digital design techniques. Implementation of basic digital logic and hardware; combinational circuits, flip-flops, registers, sequential circuits and state-machines. Generally offered: Fall, Spring, Summer. Course Fees: LRE1 \$20; STSE \$10.

EE 2513. Logic Design. (3-1) 3 Credit Hours.

Prerequisites: EE 1322 and completion of or concurrent enrollment in CS 2073 or CPE 2073. Number systems, Boolean algebra, combinational and sequential circuit design; and minimization and implementation. One hour of problem solving recitation per week. Generally offered: Fall, Spring. Course Fees: LRE1 \$20; STSE \$30.

EE 3113. Electrical and Computer Engineering Laboratory I. (1-6) 3 Credit Hours.

Prerequisites: EE 2423, EE 2513, and completion of or concurrent enrollment in EE 3313. Introduction to basic measurement equipment and techniques; use of circuit simulation tools; comparison to empirical performance of simple circuits using discrete devices and circuits; simple subsystem circuit design; introduction to automated data acquisition; and laboratory technical communication. Generally offered: Fall, Spring. Differential Tuition: \$165. Course Fee: L001 \$30.

EE 3213. Electromagnetic Engineering. (3-1) 3 Credit Hours.

Prerequisites: EGR 3323 and PHY 1963. Review of vector calculus, electrostatics, magnetostatics, electrodynamics, electromagnetic waves, dielectrics, boundary conditions, and RLC circuits. Selected other topics include wave guides, anisotropic crystal optics, transmission lines, fiber optics, reflection and refraction, and special relativity. One hour of problem solving recitation per week. Generally offered: Fall, Spring. Differential Tuition: \$165. Course Fee: DL01 \$75.

EE 3223. C++ and Data Structures. (3-1) 3 Credit Hours.

Prerequisite: EE 3463. Review of C++ non-OOP concepts, object-oriented programming, inheritance, virtual functions and polymorphism, and operator overloading. In-depth study of data structures including stacks, queues, linked lists, trees, binary trees and its application to binary search trees and sorting. One hour of problem solving recitation per week. Generally offered: Fall. Differential Tuition: \$165.

EE 3233. Systems Programming for Engineers. (2-2) 3 Credit Hours.

Prerequisite: EE 3223. Programming low-level interfaces of Linux using Python; learning basics of Linux utilities and Python, interfacing to services in the underlying Linux kernel using Python's system programming tools, supporting for running programs covering threads, process forks, processing files and directories and networking with pipes, socket, and queues in Python. Two hours of lecture, one hour of recitation and one hour of programming lab per week. Differential Tuition: \$165.

EE 3313. Electronic Circuits I. (3-1) 3 Credit Hours.

Prerequisites: EE 2423 and PHY 1963. P-N junctions; diode circuits; BJTs and FETs; application to digital and analog circuits; and use of circuit simulation software to solve simple circuits. One hour of problem solving recitation per week. Generally offered: Fall, Spring, Summer. Differential Tuition: \$165.

EE 3323. Electronic Devices. (3-0) 3 Credit Hours.

Prerequisites: CHE 1103 and EE 2423. Introduction to semiconductor materials, fundamentals of quantum mechanics and carrier phenomena, operating principles of P-N junction diodes, metal-semiconductor contacts (Schottky diodes), bipolar-junction transistors, field-effect transistors, photodetectors and optoelectronic devices. Generally offered: Fall, Spring. Differential Tuition: \$165.

EE 3413. Analysis and Design of Control Systems. (3-1) 3 Credit Hours.

Prerequisites: EE 3423 and EGR 2213 for electrical engineering majors (EGR 2513 and EE 2213 for mechanical engineering majors). Modeling, analysis, and design of linear automatic control systems; time and frequency domain techniques; stability analysis, state variable techniques, and other topics. Control systems analysis and design software will be used. One hour of problem solving recitation per week. Generally offered: Fall, Spring, Summer. Differential Tuition: \$165.

EE 3423. Mathematics in Signals and Systems. (3-1) 3 Credit Hours.

Prerequisites: EE 2423 and EGR 2323. Basic concepts, mathematical representation of signals and systems, graphs of functions, elements of complex numbers, partial fraction expansion, properties of basic functions, including sinusoidal and complex exponential signals, phasors, time and amplitude transformations of signals, properties of signals and classification of systems, Dirac delta function, step function, convolution integral, impulse response, frequency response function for linear time invariant systems, differential-equation models, response to real sinusoidal signals, ideal filters, periodic functions and Fourier series, continuous-time Fourier transform, energy and power spectral density functions, Laplace transforms in linear system analysis, differential equations with constant coefficients, transfer functions and statevariable models. One hour of problem solving recitation per week. (Formerly EE 3424. Credit cannot be earned for both EE 3424 and EE 3423.) Differential Tuition: \$165.

EE 3463. Microcomputer Systems I. (3-1) 3 Credit Hours.

Prerequisites: EE 2513 and CS 2073 or CPE 2073. Introduction to assembly- and C-language programming; architecture, peripherals, operating system interfacing principles, and development tools; and software documentation techniques. One hour of recitation per week. Generally offered: Fall, Spring, Summer. Differential Tuition: \$165.

EE 3513. Electromechanical Systems. (3-0) 3 Credit Hours.

Prerequisite: EGR 2213. Principles of electromechanical energy conversion; polyphase circuits; dynamic analysis and simulation of energy-transfer devices; and power devices. Generally offered: Fall, Spring. Differential Tuition: \$165.

EE 3523. Discrete Signals and Systems. (3-0) 3 Credit Hours.

Prerequisite: EE 3423. Time and frequency characteristics of signals and systems, sampling, discrete-time convolution, and applications of discrete-time Fourier and Z-transforms to systems. MATLAB exercises. (Formerly titled "Signals and Systems II.") Generally offered: Fall, Spring. Differential Tuition: \$165.

EE 3533. Probability and Stochastic Processes. (3-0) 3 Credit Hours.

Prerequisites: EE 3423 and EGR 2323. Probability and random variables, conditional distribution, conditional density function; operations on random variables; Central Limit Theorem; random process; spectral analysis of random processes; and linear systems with random inputs. (Formerly titled: "Random Signals and Noise.") Generally offered: Fall, Spring. Differential Tuition: \$165.

EE 3563. Digital Systems Design. (2-3) 3 Credit Hours.

Prerequisites: EE 2511 and EE 2513. Introduction to switching theory; design of complex combinational and sequential circuits; analysis of hazards and fault detection, location, and tolerance; and design and verification of complex circuitry using schematic entry, functional modeling, and mixed-mode simulation. Generally offered: Fall. Differential Tuition: \$165.

EE 4113. Electrical and Computer Engineering Laboratory II. (1-6) 3 Credit Hours.

Prerequisites: EE 3113, and completion of or concurrent enrollment in either EE 3563 for computer engineering majors or EE 4313 for electrical engineering majors. Complex electronic circuit subsystem design, improving measurement system performance, impact of circuit parasitics, signal integrity, electromagnetic interference, thermal analysis, printed circuit board layout, and technical communication. Generally offered: Fall, Spring. Differential Tuition: \$165. Course Fee: L001 \$30.

EE 4123. Power Engineering Laboratory. (1-4) 3 Credit Hours.

Prerequisites: EE 3113, completion of or concurrent enrollment in EE 4753 and EE 4763. Power Electronics Laboratory to analyze and test DC-DC converters, voltage mode and current mode control. Power Systems Simulation Laboratory to analyze and design power systems that include power flow, transmission line, transient and fault analysis. Differential Tuition: \$165.

EE 4243. Computer Organization and Architecture. (2-3) 3 Credit Hours.

Prerequisite: EE 3463. Design of advanced state machines and computer systems, and processor design using computer-assisted design and analysis tools. Generally offered: Spring. Differential Tuition: \$165.

EE 4313. Electronic Circuits II. (3-0) 3 Credit Hours.

Prerequisites: EE 3313 and concurrent enrollment in, or completion of, EE 3323. Multiple transistor circuits; feedback and frequency response analysis; operational amplifier analysis and design; and introduction to integrated circuit design and analysis. Design of analog and digital circuits; and use of circuit simulation software to analyze complex circuits. Generally offered: Fall, Spring, Summer. Differential Tuition: \$165.

EE 4323. Dielectric and Optoelectronic Engineering Laboratory. (2-4) 3 Credit Hours.

Prerequisites: EE 3213, completion of or concurrent enrollment in EE 3323 for Topic 1. Principles of dielectric devices and optical components and systems. May be repeated for credit when topics vary. Topic 1: Capacitance, resistance, and inductance device evaluations, impedance frequency and temperature spectrum analysis, characterization of tunable dielectric microwave materials, electromechanical coupling of piezoelectric devices. Topic 2: Lasers, photo-detectors, phase locked interferometer, electro-optical and nonlinear optic devices, optical image processing, Fourier optics, holographic recording, and photorefractive storage. Generally offered: Spring. Differential Tuition: \$165.

EE 4443. Discrete-Time and Computer-Controlled Systems. (3-0) 3 Credit Hours.

Prerequisites: EE 3413 and completion of or concurrent enrollment in EE 3523. Sampled-data techniques applied to the analysis and design of digital control systems; stability criteria; compensation; and other topics. Generally offered: Fall. Differential Tuition: \$165.

EE 4463. Introduction to Machine Learning. (3-0) 3 Credit Hours.

Prerequisite: EE 3533. Introduction to concepts of inference and learning. Introduction to concepts of regression and classification: linear and nonlinear regression; linear discriminant analysis, logistic regression and support vector machines. Introduction to dimensionality reduction and clustering. Introduction to artificial neural networks. Differential Tuition: \$165.

EE 4513. Introduction to VLSI Design. (2-3) 3 Credit Hours.

Prerequisites: EE 3323 and EE 3463. Design of integrated digital systems; logic simulation, standard cell libraries, circuit simulation, and other computer-aided design tools; and integrated circuit processing and device modeling. Generally offered: Fall. Differential Tuition: \$165.

EE 4523. Introduction to Nanoelectronics. (2-3) 3 Credit Hours.

Prerequisite: Completion of or concurrent enrollment in EE 3323. Fundamentals of semiconductor device physics. State-of-the-art CMOS and beyond-CMOS device technologies. Quantum transport theories of electron, phonon, and spin in nanoscale solids. Nanofabrication techniques. Low-dimensional nanomaterials for future electronics. Practical application of nanotechnology in mechanical, optical, and biological heterogeneous systems. Students will study a quantum phenomenon using a device simulation software. (Formerly titled Introduction to Micro and Nanotechnology.) (Credit cannot be earned for both EE 4523 and EE 5503.) Generally offered: Spring. Differential Tuition: \$165.

EE 4533. Principles of Microfabrication. (2-3) 3 Credit Hours.

Prerequisite: Completion of or concurrent enrollment in EE 3323. Fundamentals of microfabrication techniques, including photolithography, thin film deposition (physical vapor deposition and chemical vapor deposition), etching, thermal oxidation, diffusion, ion implantation, chemical and mechanical polishing, and epitaxy. Nanofabrication techniques that enable sub-micron feature sizes will also be discussed (electron beam or x-ray lithography, focused ion beam, and other bottom-up approaches). Students will visit nearby research institutes and foundry companies as part of this course. (Credit cannot be earned for both EE 4533 and EE 5413.) Generally offered: Fall. Differential Tuition: \$165.

EE 4543. Advanced Topics in Micro and Nanotechnology. (3-0) 3 Credit Hours.

Prerequisite: Completion of or concurrent enrollment in EE 3323. Topics to be selected from advanced sensors, actuators, engineered materials, device physics, microwave applications of MEMS structures, photonics, microelectronic devices, analog IC design, mixed-signal circuits and systems. May be repeated for credit when topics vary. Differential Tuition: \$165.

EE 4553. VLSI Testing. (2-3) 3 Credit Hours.

Prerequisite: EE 3463. Faults modeling and simulation; stuck at faults, bridging faults, and functional testing; self-testing concepts; standard and test patterns; device and system testing; and design for testability. Differential Tuition: \$165.

EE 4563. FPGA-Based System Design. (3-0) 3 Credit Hours.

Prerequisites: EE 3463 and EE 3563. FPGAs replace digital circuits in most applications. This course addresses underlying theory and applications: Introduction to Field Programmable Gate Arrays; General-Purpose FPGA Architecture; Reconfigurable Computing Devices and Systems; Hardware Description Language for FPGAs; synthesizing FPGA interconnections; Global Timing Constraints; evaluating and optimizing problems for FPGA implementations; Arithmetic, Precision Analysis & Floating Point; FPGA vs. CPU partitioning. Differential Tuition: \$165.

EE 4583. Microcomputer Systems II. (2-3) 3 Credit Hours.

Prerequisite: EE 3463. Advanced microprocessor-based system design; high-speed bus interfacing, coprocessors, and other specialized input/output devices; and high-level languages and software performance analysis. Generally offered: Spring. Differential Tuition: \$165.

EE 4593. Embedded System Design. (3-0) 3 Credit Hours.

Prerequisites: EE 3463 and EE 3563. The goal of this course is to develop a comprehensive understanding of the technologies behind embedded systems, particularly, those using computing elements: Embedded processor selection, hardware/firmware partitioning, circuit layout, circuit debugging, development tools, firmware architecture, firmware design, and firmware debugging. C programming of embedded microcontrollers, the function and use of common peripherals, and the programming and simulation (using VHDL/Verilog) of custom single-purpose processors. Differential Tuition: \$165.

EE 4613. Communication Systems. (3-0) 3 Credit Hours.

Prerequisites: EE 3423 and EE 3533. Basic theory and principles of modern analog and digital communication systems; signal and noise analysis, signal-to-noise ratio, and circuit implementations. Differential Tuition: \$165.

EE 4623. Digital Filtering. (3-0) 3 Credit Hours.

Prerequisite: EE 3423 and completion of or concurrent enrollment in EE 3463. Design and implementation of FIR and IIR filters, hardware, and software; and topics from adaptive filtering, neural networks. MATLAB exercises. Differential Tuition: \$165.

EE 4643. Digital Signal Processing. (3-0) 3 Credit Hours.

Prerequisites: Completion of or concurrent enrollment in EE 3523 and EE 3533. Transform techniques for discrete signal processing; discrete representation and analysis of digital filters and other topics; and A/D and D/A conversion and associated filtering techniques. Generally offered: Spring. Differential Tuition: \$165.

EE 4653. Digital Communications. (3-0) 3 Credit Hours.

Prerequisites: EE 3423 and EE 3533. Basic digital modulation schemes: ASK, BPSK, QPSK, FSK, and QAM modulation, binary signal detection, matched filtering, bit error rate, intersymbol interference, equalization, signal-space methods, optimum receiver, fundamentals of information theory and block coding, convolutional coding and spread spectrum. Differential Tuition: \$165.

EE 4663. Digital Image Processing. (3-0) 3 Credit Hours.

Prerequisite: EE 3523. Fundamentals and some practical applications of digital image processing. Topics include image formation, sampling, and quantization; image motion and detector noise; feature extraction; image enhancement and restoration by spatial filtering and maximum entropy; image coding for bandwidth compression by DPCM; transform coding, subband coding; and use of MATLAB for image processing. Generally offered: Fall. Differential Tuition: \$165.

EE 4673. Data Communication and Networks. (2-3) 3 Credit Hours.

Prerequisites: EE 3223 and completion of or concurrent enrollment in EE 4613. Introduction to data communication networks, electrical interface, data transmission, WAN and LAN network overview, transmission devices, transmission errors and methods of correction, and protocols. Differential Tuition: \$165.

EE 4683. Wireless Communications. (3-0) 3 Credit Hours.

Prerequisites: EE 3423 and EE 3533. Common wireless systems and standards. Cellular radio concepts: frequency reuse and handoff strategies. Large-scale path loss models. Small-scale fading and multipath. Modulation techniques for mobile radio: performances in fading and multipath channels. Multiple access techniques. RF hardware realization issues. Differential Tuition: \$165.

EE 4693. Fiber Optic Communications. (3-0) 3 Credit Hours.

Prerequisites: EE 3313, EE 3423, and completion of or concurrent enrollment in EE 3213. Light propagation using ray and electromagnetic mode theories, dielectric slab waveguides, optical fibers, attenuation and dispersion in optical fibers, optical fiber transmitters and receivers, electro-optical devices, and optical fiber measurement techniques. Differential Tuition: \$165.

EE 4723. Intelligent Robotics. (3-1) 3 Credit Hours.

Prerequisite: EE 3413 or ME 3543. Coordinate transformations, forward and inverse kinematics, Jacobian and static forces, path planning techniques, dynamics, design, analysis and control of robots, sensing and intelligence. (Formerly EGR 4723 and ME 4713. Credit cannot be earned for both EE 4723 and either EGR 4723 or ME 4713.) Generally offered: Spring. Differential Tuition: \$165.

EE 4733. Intelligent Control. (3-0) 3 Credit Hours.

Prerequisite: EE 3413. Neural networks and fuzzy logic basics, approximation properties, conventional adaptive controller design and analysis, intelligent controller design and analysis techniques for nonlinear systems, and closed-loop stability. Generally offered: Spring. Differential Tuition: \$165. Course Fee: DL01 \$75.

EE 4743. Embedded Control Systems. (2-3) 3 Credit Hours.

Prerequisites: EE 3413 and EE 3463. Embedded system principles and control system concepts, programming, tools and their applications, embedded controls design, and analysis of industrial processes. Differential Tuition: \$165.

EE 4753. Analysis of Power Systems. (3-0) 3 Credit Hours.

Prerequisite: EE 3413. Electric energy and environment, principles of power generation, transmission and distribution, power flow analysis, faults and transient stability analysis, power systems control and renewable energy systems. Generally offered: Fall. Differential Tuition: \$165.

EE 4763. Power Electronics. (3-0) 3 Credit Hours.

Prerequisites: EE 3113 and EE 3413. Switch-mode power conversion, analysis and control of DC-DC converters, DC-AC inverters for motor drives and to interface renewable energy sources with utility, AC-DC rectifiers, applications in sustainable energy systems, introduction to power semiconductor devices and magnetic components. Generally offered: Spring. Differential Tuition: \$165.

EE 4773. Electric Drives. (3-0) 3 Credit Hours.

Prerequisite: Completion of or concurrent enrollment in EE 3513. Analysis of electric machines in combination with power electronics; torque, speed and position control; space vectors, motor drive inverter; vector control; wind energy conversion. Generally offered: Fall. Differential Tuition: \$165.

EE 4812. Electrical Engineering Design I. (2-1) 2 Credit Hours.

Prerequisites: Completion of EE 4313, and concurrent enrollment in, or completion of, EE 4113. Business planning and project management in engineering design; discussion of ethical and social issues in design; and selection of a design project, development of a detailed design proposal, and approval of a design project. One hour of problem solving recitation per week. (Formerly EE 4811. Credit cannot be earned for both EE 4812 and EE 4811.) Generally offered: Fall, Spring. Differential Tuition: \$110.

EE 4813. Electrical Engineering Design II. (2-3) 3 Credit Hours.

Prerequisites: EE 4113 and EE 4812. Complex system design; advanced ATE; project management, detailed design package, status reporting, formal oral and written technical reports, design reviews, and test plan development and execution; open-ended design project considering safety, reliability, environmental, economic, and other constraints; and ethical and social impacts. Generally offered: Fall, Spring. Differential Tuition: \$165.

EE 4911. Independent Study. (0-0) 1 Credit Hour.

Prerequisites: Permission in writing (form available) from the instructor, the Department Chair, and Dean of the College. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Differential Tuition: \$55.

EE 4912. Independent Study. (0-0) 2 Credit Hours.

Prerequisites: Permission in writing (form available) from the instructor, the student's advisor, the Department Chair, and Dean of the College. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Differential Tuition: \$110.

EE 4913. Independent Study. (0-0) 3 Credit Hours.

Prerequisites: Permission in writing (form available) from the instructor, the Department Chair, and Dean of the College. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Differential Tuition: \$165.

EE 4953. Special Studies in Electrical and Computer Engineering. (3-0) 3 Credit Hours.

Prerequisites vary with the topic (refer to the course syllabus on Bluebook or contact the instructor). An organized course offering the opportunity for specialized study not normally or not often available as part of the regular course offerings. Special Studies may be repeated for credit when topics vary, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. Generally offered: Fall, Spring. Differential Tuition: \$165.

Engineering (EGR)

Engineering (EGR) Courses

EGR 1003. Engineering Design and Problem Solving. (3-0) 3 Credit Hours.

This course will introduce students to the scope of engineering, foundations of engineering science, and engineering design. Engineering fundamentals and design methods are addressed through rigorous design challenges and reverse engineering and redesign modules. The modules are designed so that students learn specific engineering content as they solve engineering problems in multiple contexts. This course is restricted to students in the Engineer Your World program. Course Fees: LRE1 \$20; STSE \$30.

EGR 1313. Calculus with Engineering Applications. (3-2) 3 Credit Hours.

Prerequisite: Completion of precalculus or satisfactory performance on a placement examination. The first of a two-part integrated physics and calculus course. Calculus topics include an introduction to the concepts of limit, continuity, and derivative, mean value theorem, and applications of derivatives such as velocity and acceleration; introduction to the Riemann integral and the fundamental theorem of calculus. Physics topics include an introduction to vectors, force and Newton's Laws of Physics. Classes meet weekly for three hours of lecture and two hours of problem solving tutorials. Course Fees: LRE1 \$20; STSE \$30.

EGR 1324. Calculus II for Engineers. (4-0) 4 Credit Hours. (TCCN = MATH 2414)

Prerequisite: MAT 1214. Methods of integration, applications of the integral, sequences, series, and Taylor expansions. Calculus topics are combined with physics applications including an introduction to vectors, parametric equations, gradients, and Newton's Laws of Physics. (Credit cannot be earned for both EGR 1324 and MAT 1224.) Course Fees: LRE1 \$20; STSE \$40.

EGR 1343. The Impact of Modern Technologies on Society. (3-0) 3 Credit Hours.

Prerequisites: Basic background in high school mathematics and physical sciences. This course is designed to inform students of the social impact of modern technologies. The course explores the issues faced by society as technology becomes an integral part of human life. The course prepares students to think critically, practically, creatively and responsively about technological and sociological challenges, and encourages them to examine solutions of their own. The course also explores and discusses the socio-technological interplay. May be applied toward the core curriculum requirement in Social and Behavioral Sciences. Course Fees: LRC1 \$12; LRE1 \$20; STSE \$30.

EGR 1351. First Year Participation in Engineering Projects in Community Service (EPICS). (1-2) 1 Credit Hour.

Engineering Projects in Community Service (EPICS) courses create a vertical project track under which students work in multidisciplinary teams on long-term engineering-based design projects. Projects of at least one-year in duration are intended to solve real problems that are defined in consultation with "customers" from not-for-profit community and education organizations. EPICS courses are open to students from all disciplines; each student contributes expertise in his/her academic discipline. Each team consists of a mix of first year, sophomores, juniors, and seniors. Students are encouraged to participate in an EPICS project team for two or more semesters. First year students gain insight into the specific project, and more generally, into the design and development process. They attend planning and reporting meetings with the customer and are expected attend all team meetings. Under the mentorship of the team's sophomores, juniors, and seniors they perform and report upon tasks consistent with their level of discipline expertise. May be repeated for credit. Course Fees: LRE1 \$20; STSE \$10.

EGR 1352. First Year Participation in Engineering Projects in Community Service (EPICS). (2-2) 2 Credit Hours.

Prerequisite: Permission of instructor required. Continuation of Engineering Projects in Community Service (EPICS). Participants gain insight into the specific project, and more generally, into the design and development process. They attend planning and reporting meetings with the customer and are expected to attend all team meetings. Working with the team's sophomores, juniors, and seniors, they perform and report upon tasks consistent with their level of discipline expertise. EPICS 1352 is offered for two credits and is intended for students who have exhibited significant achievement in EGR 1351 and desire the level of responsibility that is appropriate for two credits. May be repeated for credit. Course Fees: LRE1 \$20; STSE \$20.

EGR 1403. Technical Communication. (3-0) 3 Credit Hours.

Prerequisite: WRC 1013. Oral, written, graphical and visual communication; technical instructions; design project with presentation; teamwork; and personal responsibility. May be applied toward the Core Curriculum requirement in the Component Area Option. Course Fees: LRC1 \$12; LRE1 \$20; STSE \$30.

EGR 2103. Statics. (3-0) 3 Credit Hours. (TCCN = ENGR 2301)

Prerequisites: PHY 1943, and completion of or concurrent enrollment in MAT 1224. Vector analysis of force systems applied to particles and rigid bodies and free body diagrams. Engineering applications of equilibrium; of moments, internal forces, and friction; and of centroids, centers of gravity, and moments of inertia. Generally offered: Fall, Spring, Summer. Course Fees: LRE1 \$20; STSE \$30.

EGR 2213. Statics and Dynamics. (3-0) 3 Credit Hours. (TCCN = ENGR 2303)

Prerequisites: MAT 1224 and PHY 1943. Force, moment, equilibrium, centroids and moments of inertia, kinematics, and kinetics of particles. Not open to students in Civil or Mechanical Engineering. May not be substituted for EGR 2103. Generally offered: Fall, Spring, Summer. Course Fees: LRE1 \$20; STSE \$30.

EGR 2323. Applied Engineering Analysis I. (3-1) 3 Credit Hours. (TCCN = MATH 2321)

Prerequisite: MAT 1224 or EGR 1324. Application of mathematical principles to the analysis of engineering problems using linear algebra and ordinary differential equations (ODE's). Topics include: mathematical modeling of engineering problems; separable ODE's; first-, second-, and higher-order linear constant coefficient ODE's; characteristic equation of an ODE; non-homogeneous equations; Laplace transforms; shifting theorems; convolution; solution of an ODE via Laplace transform; matrix addition and multiplication; solution of a linear system of equations via Gauss elimination and Cramer's rule; rank, determinant, and inverse of a matrix; eigenvalues and eigenvectors; existence and uniqueness of solutions; solution to system of ODE's by diagonalization. One hour of problem solving recitation. Generally offered: Fall, Spring, Summer. Course Fees: LRE1 \$20; STSE \$30.

EGR 2351. Sophomore Participation in Engineering Projects in Community Service (EPICS). (1-2) 1 Credit Hour.

Continuation of Engineering Projects in Community Service (EPICS). Sophomores gain insight into the specific project, and, more generally, into the design and development process. They attend planning and reporting meetings with the customer and are expected attend all team meetings. Under the mentorship of the team's juniors and seniors, they perform and report upon tasks consistent with their level of discipline expertise. May be repeated for credit. Course Fees: LRE1 \$20; STSE \$10.

EGR 2352. Sophomore Participation in Engineering Projects in Community Service (EPICS). (2-2) 2 Credit Hours.

Continuation of Engineering Projects in Community Service (EPICS). Sophomores gain insight into the specific project, and, more generally, into the design and development process. They attend planning and reporting meetings with the customer and are expected attend all team meetings. Under the mentorship of the team's juniors and seniors they perform and report upon tasks consistent with their level of discipline expertise. May be repeated for credit. Course Fees: LRE1 \$20; STSE \$20.

EGR 2513. Dynamics. (3-0) 3 Credit Hours. (TCCN = ENGR 2302)

Prerequisites: MAT 1224 and EGR 2103. Kinetics of particles and plane rigid bodies, work and energy, impulse and momentum, equations of motion and engineering applications. Generally offered: Fall, Spring, Summer. Course Fees: LRE1 \$20; STSE \$30.

EGR 3303. Engineering Co-op. (0-0) 3 Credit Hours.

Prerequisite: Acceptance into the Cooperative Education in Engineering Program. Designed for students participating in Cooperative Education in Engineering Program. Problems related to students' work assignments during their work for co-op employers. No more than 3 semester credit hours of Engineering Co-op may apply to a bachelor's degree. To apply 3 semester credit hours of Engineering Co-op as a technical elective toward a degree in engineering, a student must petition and get approval of a faculty supervisor prior to co-op activities. (Formerly EGR 3301.) Differential Tuition: \$165.

EGR 3323. Applied Engineering Analysis II. (3-1) 3 Credit Hours.

Prerequisite: EGR 2323. Application of mathematical principles to the analysis of engineering problems using vector differential and integral calculus, partial differential equations, and Fourier series; complex variables; discrete mathematics; and use of software tools. One hour of problem solving recitation. Generally offered: Fall, Spring, Summer. Differential Tuition: \$165.

EGR 3351. Junior Participation in Engineering Projects in Community Service (EPICS). (1-2) 1 Credit Hour.

Prerequisite: Upper-division standing. Continuation of Engineering Projects in Community Service (EPICS). The responsibilities of juniors include working with the seniors in the planning and organization of the project, contributing to the design process, problem solving by contributing expertise from their discipline, meeting with the customer, and the mentorship of sophomores and freshmen. The EPICS procedures manual provides information on expected relative workload for students. May be repeated for credit. Differential Tuition: \$55.

EGR 3352. Junior Participation in Engineering Projects in Community Service (EPICS). (2-2) 2 Credit Hours.

Prerequisites: Upper-division standing and permission of instructor required. Continuation of Engineering Projects in Community Service (EPICS). The responsibilities of juniors include working with the seniors in the planning and organization of the project, contributing to the design process, problem solving by contributing expertise from their discipline, meeting with the customer, and the mentorship of sophomores and freshmen. The EPICS procedures manual provides information on expected relative workload for students. May be repeated for credit. Differential Tuition: \$110.

EGR 3353. EPICS Engineering Co-op. (0-0) 3 Credit Hours.

Prerequisite: Acceptance into the Cooperative Education in Engineering Program and permission of instructor required. Designed for students participating in EPICS Cooperative Education in Engineering Program. Problems related to students' work assignments during their work for co-op employers. No more than 3 semester credit hours of Engineering Co-op may apply to a bachelor's degree. To apply 3 semester credit hours of Engineering Co-op as a technical elective toward a degree in engineering, a student must petition and get approval of a faculty supervisor prior to co-op activities. Differential Tuition: \$165.

EGR 3713. Engineering Economic Analysis. (3-0) 3 Credit Hours.

Prerequisites: ECO 2013 or ECO 2023, and MAT 1224. Time-value of money concepts; techniques for economic evaluation of engineering alternatives; depreciation and taxes; inflation and market rates; contracting practices; funding public projects and related public policy issues. Generally offered: Fall, Spring. Differential Tuition: \$165.

EGR 4351. Senior Participation in Engineering Projects in Community Service (EPICS). (1-2) 1 Credit Hour.

Prerequisite: Upper-division standing. Continuation of Engineering Projects in Community Service (EPICS). Seniors are responsible for the management tasks of planning and organizing their team project activity. They are expected to contribute expertise from their discipline to the design of the team's projects throughout most of the design process phases of problem identification, specification development, design, production, and deployment. Seniors will also meet with the customer and mentor the freshman, sophomores, and juniors. The EPICS procedures manual provides information on expected relative workload for students. May be repeated for credit. Differential Tuition: \$55.

EGR 4352. Senior Participation in Engineering Projects in Community Service (EPICS). (2-2) 2 Credit Hours.

Prerequisites: Upper-division standing and permission of instructor required. Continuation of Engineering Projects in Community Service (EPICS). Seniors are responsible for the management tasks of planning and organizing their team project activity. They are expected to contribute expertise from their discipline to the design of the team's projects throughout most of the design process phases of problem identification, specification development, design, production, and deployment. Seniors will also meet with the customer and mentor the freshman, sophomores and juniors. The EPICS procedures manual provides information on expected relative workload for students. May be repeated for credit. Differential Tuition: \$110.

EGR 4362. Senior EPICS Design I. (1-4) 2 Credit Hours.

Prerequisite: Permission of instructor required. Continuation of Engineering Projects in Community Service (EPICS). Seniors using EGR 4363 to fulfill capstone or design requirements where approved for their major may be required to satisfy additional course requirements specified by their degree program. The EPICS procedures manual provides information on expected relative workload for students. Seniors are responsible for the management tasks of planning and organizing their team project activity. They are expected to contribute expertise from their discipline to the design of the team's projects throughout most of the design process phases of problem identification, specification development, design, production, and deployment. Seniors will also meet with the customer and mentor the first year, sophomores and juniors. May be repeated for credit. Differential Tuition: \$110.

EGR 4363. Senior EPICS Design I. (1-6) 3 Credit Hours.

Prerequisite: Permission of instructor required. Continuation of Engineering Projects in Community Service (EPICS). Seniors using EGR 4363 to fulfill capstone or design requirements where approved for their major may be required to satisfy additional course requirements specified by their degree program. The EPICS procedures manual provides information on expected relative workload for students. Seniors are responsible for the management tasks of planning and organizing their team project activity. They are expected to contribute expertise from their discipline to the design of the team's projects throughout most of the design process phases of problem identification, specification development, design, production, and deployment. Seniors will also meet with the customer and mentor the first year, sophomores and juniors. May be repeated for credit. Differential Tuition: \$165.

EGR 4373. Senior EPICS Design II. (1-6) 3 Credit Hours.

Prerequisite: EGR 4362 or EGR 4363, and permission of instructor. Continuation of EPICS courses. Seniors using EGR 4363 to fulfill capstone or design requirements where approved for their major may be required to satisfy additional course requirements specified by their degree program. The EPICS procedures manual provides information on expected relative workload for students. Seniors are responsible for the management tasks of planning and organizing their team project activity. They are expected to contribute expertise from their discipline to the design of the team's projects throughout most of the design process phases of problem identification, specification development, design, production, and deployment. Seniors will also meet with the customer and mentor the first year, sophomores, and juniors. May be repeated for credit. Differential Tuition: \$165.

EGR 4953. Special Studies in Engineering. (3-0) 3 Credit Hours.

Prerequisite: Consent of instructor. An organized course offering the opportunity for specialized study not normally or not often available as part of the regular course offerings. Special Studies may be repeated for credit when topics vary, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. Differential Tuition: \$165.

EGR 4993. Honors Research. (0-0) 3 Credit Hours.

Prerequisite: Enrollment limited to candidates for college honors during their last two semesters; approval by the College Honors Committee. Supervised research and preparation of an honors thesis. May be repeated once with approval. Differential Tuition: \$165.

English (ENG)

English (ENG) Courses

ENG 1113. Introduction to Creative Literary Arts. (3-0) 3 Credit Hours.

Introduction to Creative Literary Arts exploration in the purposes and processes of the literary arts. This course provides opportunities for students to engage in creative literary practices through the study of literary genres such as poetry and fiction. Course Fees: LRLF \$10; STLF \$18.

ENG 2013. Introduction to Literature. (3-0) 3 Credit Hours. (TCCN = ENGL 2341)

Prerequisite: Completion of the Core Curriculum requirement in Communication. Introductory study of great works of literature with an emphasis on novels, plays, and poetry by British and American authors. Designed for nonmajors. May be applied toward the Core Curriculum requirement in Language, Philosophy and Culture. Generally offered: Fall, Spring, Summer. Course Fees: DL01 \$75; LRC1 \$12; LRLF \$10; STLF \$18.

ENG 2023. Literature and Film. (3-0) 3 Credit Hours.

Prerequisite: Completion of Core Curriculum requirement in Communication. Introductory study of works of literature and film with an emphasis on terminology used to analyze a range of literary texts and films. Designed for nonmajors. May be applied toward the Core Curriculum requirement in Language, Philosophy and Culture. Course Fees: DL01 \$75; LRC1 \$12; LRLF \$10; STLF \$18.

ENG 2033. Science, Technology, and Society. (3-0) 3 Credit Hours.

Prerequisite: Completion of Core Curriculum requirement in Communication. The interdisciplinary study of how social, political, and cultural practices shape scientific research and technological innovation, with emphasis on knowledge construction, production and analysis of scientific texts, controversies, expertise, public understanding of science, and the political economy of STEM knowledge. Generally offered: Fall, Spring. Course Fees: LRLF \$10; STLF \$18.

ENG 2213. Literary Criticism and Analysis. (3-0) 3 Credit Hours.

Prerequisite: Completion of the Core Curriculum requirement in Communication. A study of poetry, fiction, and drama, with close attention to literary terms, literary criticism, and the characteristics of each genre. This course includes intensive reading and extensive writing requirements and is designed to prepare students who intend to take advanced courses in literature and other students who have a commitment to the rigorous study of literature. May be applied toward the Core Curriculum requirement in Language, Philosophy and Culture. Generally offered: Fall, Spring. Course Fees: LRC1 \$12; LRLF \$10; STLF \$18.

ENG 2223. British Literature I. (3-0) 3 Credit Hours. (TCCN = ENGL 2322)

Prerequisite: Completion of the Core Curriculum requirement in Communication. Study of representative works of British literature from the medieval period to 1700. Required of students majoring in English. Generally offered: Fall, Spring. Course Fees: LRLF \$10; STLF \$18.

ENG 2233. British Literature II. (3-0) 3 Credit Hours. (TCCN = ENGL 2323)

Prerequisite: Completion of the Core Curriculum requirement in Language, Philosophy and Culture. Study of representative works of British literature from 1700 to the present. Required of students majoring in English. Generally offered: Fall, Spring. Course Fees: LRLF \$10; STLF \$18.

ENG 2263. American Literature I. (3-0) 3 Credit Hours. (TCCN = ENGL 2327)

Prerequisite: Completion of the Core Curriculum requirement in Language, Philosophy and Culture. Study of representative works of American literature from the pre-Colonial period to 1865. Required of students majoring in English. Generally offered: Fall, Spring. Course Fees: LRLF \$10; STLF \$18.

ENG 2293. American Literature II. (3-0) 3 Credit Hours. (TCCN = ENGL 2328)

Prerequisite: Completion of the Core Curriculum requirement in Language, Philosophy and Culture. Study of representative works of American literature from 1865 to the present. Required of students majoring in English. Generally offered: Fall, Spring, Summer. Course Fees: LRLF \$10; STLF \$18.

ENG 2323. Creative Writing: Fiction. (3-0) 3 Credit Hours.

Prerequisite: Completion of the Core Curriculum requirement in Language, Philosophy and Culture. Offers the opportunity for intensive practice and development of techniques in the writing of fiction. Generally offered: Fall, Spring. Course Fees: LB01 \$5; LRLF \$10; STLF \$18.

ENG 2333. Creative Writing: Poetry. (3-0) 3 Credit Hours.

Prerequisite: Completion of the Core Curriculum requirement in Language, Philosophy and Culture. Offers the opportunity for intensive practice and development of techniques in the writing of poetry. Generally offered: Fall, Spring. Course Fees: LB01 \$5; LRLF \$10; STLF \$18.

ENG 2343. Creative Writing: Nonfiction. (3-0) 3 Credit Hours.

Prerequisite: Completion of the Core Curriculum requirement in Language, Philosophy and Culture. Offers the opportunity for intensive practice and development of techniques in the writing of nonfiction genres such as memoir, autobiography, and informal essays. Course Fee: LB01 \$5; LRLF \$10; STLF \$18.

ENG 2383. Multiethnic Literatures of the United States. (3-0) 3 Credit Hours.

Prerequisite: Completion of the Core Curriculum requirement in Communication. A survey of the literature of various minority groups such as Native American, Asian American, African American, and Latina/o. Designed for nonmajors. May be applied toward the Core Curriculum requirement in Language, Philosophy and Culture. Course Fees: DL01 \$75; LRC1 \$12; LRLF \$10; STLF \$18.

ENG 2413. Technical Writing. (3-0) 3 Credit Hours. (TCCN = ENGL 2311)

Prerequisite: Completion of the Core Curriculum requirement in Communication. Techniques of expository writing, particularly adapted to students in technological and scientific subjects. May be applied toward the Core Curriculum requirement in the Component Area Option. Generally offered: Fall, Spring, Summer. Course Fees: DL01 \$75; LB01 \$5; LRC1 \$12; LRLF \$10; STLF \$18.

ENG 2423. Literature of Texas and the Southwest. (3-0) 3 Credit Hours.

Prerequisite: Completion of the Core Curriculum requirement in Communication. Study of the literature of Texas and the Southwest, including an examination of the region's multicultural heritage. Designed for nonmajors. May be applied toward the Core Curriculum requirement in Language, Philosophy and Culture. Course Fees: LRC1 \$12; LRLF \$10; STLF \$18.

ENG 2433. Editing. (3-0) 3 Credit Hours.

Prerequisite: ENG 2413. Principles and applications of production editing and technical editing, including evaluation and revision of style, tone, and organization of documents. Practice in the use of editing symbols and copy marking. (Same as COM 2433. Credit cannot be earned for both ENG 2433 and COM 2433.) Generally offered: Fall, Spring. Course Fee: DL01 \$75; LB01 \$5; LRLF \$10; STLF \$18.

ENG 2443. Persuasion and Rhetoric. (3-0) 3 Credit Hours.

Prerequisite: Completion of Core Curriculum requirement in Communication. Introduces students to key concepts and frameworks of persuasion, useful for analysis of texts, events, communication, and contexts by focusing on the traditional rhetorical canons of invention, arrangement, style, delivery, and memory. May be applied toward the Language, Philosophy and Culture Core Curriculum requirement. Course Fees: LRLF \$10; STLF \$18.

ENG 3033. American Literature, 1945 to Present. (3-0) 3 Credit Hours.

Prerequisite: Completion of the Core Curriculum requirement in Language, Philosophy and Culture. Critical study of the literature written in the United States since 1945. Generally offered: Fall, Spring. Course Fee: LRLF \$10; STLF \$18.

ENG 3063. American Literature, 1870–1945. (3-0) 3 Credit Hours.

Prerequisite: Completion of the Core Curriculum requirement in Language, Philosophy and Culture. Critical study of literature written in the United States in the late 19th and early 20th centuries. Course Fees: LRLF \$10; STLF \$18.

ENG 3073. Young Adult Literature. (3-0) 3 Credit Hours.

Prerequisite: Completion of the Core Curriculum requirement in Language, Philosophy and Culture. Literary analysis of the kinds of reading available for adolescents: poetry, drama, biography, science fiction, mystery, and fantasy. Both classics and current trends will be considered. Emphasis on the novel. (Formerly ENG 2373. Credit cannot be earned for both ENG 3073 and ENG 2373.) Generally offered: Fall. Course Fees: LRLF \$10; STLF \$18.

ENG 3113. Studies in Individual Authors. (3-0) 3 Credit Hours.

Prerequisite: Completion of the Core Curriculum requirement in Language, Philosophy and Culture. Study of the works of an individual British or American author or of several authors examined in relation to one another. May be repeated for credit when authors vary. Generally offered: Spring. Course Fees: DL01 \$75; LRLF \$10; STLF \$18.

ENG 3123. Modern Fiction. (3-0) 3 Credit Hours.

Prerequisite: Completion of the Core Curriculum requirement in Language, Philosophy and Culture. Critical survey of American, British, and Continental fiction of the 20th century, studied in relation to the development of modern techniques. Generally offered: Spring. Course Fees: LRLF \$10; STLF \$18.

ENG 3133. Women and Literature. (3-0) 3 Credit Hours.

Prerequisite: Completion of the Core Curriculum requirement in Language, Philosophy and Culture. Critical study of the presentation of women and feminist issues in various literary forms. Generally offered: Fall, Spring. Course Fees: LRLF \$10; STLF \$18.

ENG 3153. Topics in Drama. (3-0) 3 Credit Hours.

Prerequisite: Completion of the Core Curriculum requirement in Language, Philosophy and Culture. Study of one or more periods (e.g., Tudor-Stuart, modern, contemporary) or modes (e.g., comedy, tragedy) of drama. May be repeated for credit when topics vary. Course Fees: LRLF \$10; STLF \$18.

ENG 3213. Chaucer. (3-0) 3 Credit Hours.

Prerequisite: Completion of the Core Curriculum requirement in Language, Philosophy and Culture. Critical study of *The Canterbury Tales* and other poems. Texts in Middle English. Course Fees: LRLF \$10; STLF \$18.

ENG 3223. Shakespeare: The Early Plays. (3-0) 3 Credit Hours.

Prerequisite: Completion of the Core Curriculum requirement in Language, Philosophy and Culture. Critical study of comedies, histories, and tragedies from 1590–1601. Generally offered: Fall. Course Fees: LRLF \$10; STLF \$18.

ENG 3233. Shakespeare: The Later Plays. (3-0) 3 Credit Hours.

Prerequisite: Completion of the Core Curriculum requirement in Language, Philosophy and Culture. Critical study of comedies, tragedies, and romances from 1602–1613. Generally offered: Spring. Course Fees: LRLF \$10; STLF \$18.

ENG 3243. Topics in the British Novel. (3-0) 3 Credit Hours.

Prerequisite: Completion of the Core Curriculum requirement in Language, Philosophy and Culture. Critical study of British novels. May be repeated for credit when topics vary. Course Fees: LRLF \$10; STLF \$18.

ENG 3253. The American Novel. (3-0) 3 Credit Hours.

Prerequisite: Completion of the Core Curriculum requirement in Language, Philosophy and Culture. Reading and discussion of representative American novels. Course Fees: LRLF \$10; STLF \$18.

ENG 3303. Theory and Practice of Composition. (3-0) 3 Credit Hours.

Prerequisite: Completion of the Core Curriculum requirement in Communication. Extensive practice in the techniques of clear, effective writing. Designed for students who will write in their professions and will supervise the writing of others. Generally offered: Fall, Spring. Course Fee: LB01 \$5; LRLF \$10; STLF \$18.

ENG 3313. Advanced Composition. (3-0) 3 Credit Hours.

Prerequisite: Completion of the Core Curriculum requirement in Communication. Study of the principles and procedures of informational and persuasive prose. Emphasis on coherence, liveliness, persuasiveness, and originality. Extensive writing practice, including the writing of arguments. Generally offered: Fall, Spring. Course Fee: LB01 \$5; LRLF \$10; STLF \$18.

ENG 3323. History of the English Language. (3-0) 3 Credit Hours.

Prerequisite: Completion of the Core Curriculum requirement in Language, Philosophy and Culture. Historical survey of the development of the English language. Course Fees: LRLF \$10; STLF \$18.

ENG 3333. Introduction to the Structure of English. (3-0) 3 Credit Hours.

Prerequisite: Completion of the Core Curriculum requirement in Language, Philosophy and Culture. Analysis of English syntax from various theoretical perspectives, including traditional, structural, and generative. Consideration of the concept of Standard English and of language variation, especially regional and social variation within modern English. Generally offered: Fall, Spring, Summer. Course Fees: LRLF \$10; STLF \$18.

ENG 3343. Principles of English Linguistics. (3-0) 3 Credit Hours.

Prerequisite: Completion of the Core Curriculum requirement in Language, Philosophy and Culture. Introduction to the goals and procedures of modern linguistics, emphasizing phonetics, phonology, and morphology. Discussion of language acquisition and the neurolinguistic foundations of language ability. Some attention to topics such as semantics, pragmatics, and language change. (Same as ANT 3903 and LNG 3813. Credit cannot be earned for more than one of these courses.) Course Fees: LRLF \$10; STLF \$18.

ENG 3363. Topics in Rhetoric and Composition. (3-0) 3 Credit Hours.

Prerequisite: Completion of Core Curriculum requirement in Communication. Critical study of a topic in rhetoric and composition, such as history and development, research and methodology, major paradigms, and/or different contexts. Special emphasis on the diversity of approaches and applications. May be repeated for credit when topics vary. Course Fees: LRLF \$10; STLF \$18.

ENG 3383. Writing in Public and Professional Contexts. (3-0) 3 Credit Hours.

Prerequisite: ENG 2413. Study of the diverse principles, forms, and procedures of writing in a specific topic, content, and/or genre, with emphasis on research, revision, documentation, and style. May be repeated for credit when topics vary. Course Fees: LRLF \$10; STLF \$18.

ENG 3393. Literary Theories. (3-0) 3 Credit Hours.

Prerequisite: ENG 2213. Critical study of the nature and function of literature and the relationship of literature to philosophy, history, and the other arts; attention to such topics as stylistics, genres, and literary history. Course Fees: LRLF \$10; STLF \$18.

ENG 3413. Specialized Professional Writing. (3-0) 3 Credit Hours.

Prerequisite: ENG 2413. Study of specialized topics in professional and technical writing, with a focus on particular areas of emphasis, trends and paradigms, and/or research methodologies in order to learn how genres, resources, and tools create professional identities and shape information across contexts. May be repeated for credit when topics vary. Generally offered: Fall, Spring. Course Fee: LB01 \$5; LRLF \$10; STLF \$18.

ENG 3423. Topics in Creative Writing. (3-0) 3 Credit Hours.

Prerequisites: ENG 2323 or ENG 2333 or ENG 2343 and consent of instructor (writing portfolio required). Creative writing workshop in specialized area or genre other than poetry or short fiction. May be repeated for credit when topics vary. Generally offered: Fall, Spring. Course Fee: LB01 \$5; LRLF \$10; STLF \$18.

ENG 3513. Mexican American Literature. (3-0) 3 Credit Hours.

Prerequisite: Completion of the Core Curriculum requirement in Language, Philosophy and Culture. Critical study of literature by and about Mexican Americans, including prose, verse, drama, essays, and autobiography. Concentration on writings since 1959. Course Fees: DL01 \$75; LRLF \$10; STLF \$18.

ENG 3613. African American Literature. (3-0) 3 Credit Hours.

Prerequisite: Completion of the Core Curriculum requirement in Language, Philosophy and Culture. Critical study of literature by and about African Americans, including prose, verse, drama, essays, and autobiography. Generally offered: Fall, Spring. Course Fees: LRLF \$10; STLF \$18.

ENG 3713. Topics in Multiethnic Literatures of the United States. (3-0) 3 Credit Hours.

Prerequisite: Completion of the Core Curriculum requirement in Language, Philosophy and Culture. Comparative study of a specific genre or theme in the literatures of various ethnic groups in the United States such as African American, Asian American, Native American, and/or U.S. Latino/a. May be repeated for credit when topics vary. Generally offered: Summer. Course Fees: DL01 \$75; LRLF \$10; STLF \$18.

ENG 3813. Topics in Native American Literature. (3-0) 3 Credit Hours.

Prerequisite: Completion of the Core Curriculum requirement in Language, Philosophy and Culture. Critical study of a topic in Native American/Indigenous literatures focusing on an author, a genre, a theme, or on traditional and oral literature. May be repeated for credit when topics vary. Generally offered: Fall. Course Fees: LRLF \$10; STLF \$18.

ENG 4013. Restoration and Eighteenth-Century Literature. (3-0) 3 Credit Hours.

Prerequisite: Completion of the Core Curriculum requirement in Language, Philosophy and Culture. Selected readings in the fiction, drama, poetry, and prose of the British literature of the late 17th century and the 18th century. Course Fees: LRLF \$10; STLF \$18.

ENG 4023. Romantic Literature. (3-0) 3 Credit Hours.

Prerequisite: Completion of the Core Curriculum requirement in Language, Philosophy and Culture. Selected readings in the fiction, poetry, and prose of the British Romantic period. Course Fees: LRLF \$10; STLF \$18.

ENG 4033. Literary Modes and Genres. (3-0) 3 Credit Hours.

Prerequisite: Completion of the Core Curriculum requirement in Language, Philosophy, and Culture. Intensive study of a single mode or genre such as comedy, tragedy, allegory, satire, epic, or a type of nonfiction such as biography. May be repeated for credit when topics vary. Generally offered: Fall, Spring. Course Fees: LRLF \$10; STLF \$18.

ENG 4053. Modern British and American Poetry. (3-0) 3 Credit Hours.

Prerequisite: Completion of the Core Curriculum requirement in Language, Philosophy and Culture. An intensive study of major modern poets. Course Fees: LRLF \$10; STLF \$18.

ENG 4063. Medieval English Literature. (3-0) 3 Credit Hours.

Prerequisite: Completion of the Core Curriculum requirement in Language, Philosophy and Culture. Study of the major English writings from the Anglo-Saxon and Middle English periods (excluding Chaucer), with special emphasis on Beowulf and Chaucer's contemporaries. Some works in translation, but original texts whenever possible. Course Fees: LRLF \$10; STLF \$18.

ENG 4113. Renaissance Literature. (3-0) 3 Credit Hours.

Prerequisite: Completion of the Core Curriculum requirement in Language, Philosophy and Culture. Selected readings from major writers of the 16th and early 17th centuries (excluding Shakespeare). Course Fees: LRLF \$10; STLF \$18.

ENG 4143. Victorian Literature. (3-0) 3 Credit Hours.

Prerequisite: Completion of the Core Curriculum requirement in Language, Philosophy and Culture. Selected readings in the fiction, poetry, and nonfiction prose of major Victorian writers. Course Fees: LRLF \$10; STLF \$18.

ENG 4393. Feminist Theory of Literature. (3-0) 3 Credit Hours.

Prerequisite: Completion of the Core Curriculum requirement in Language, Philosophy and Culture. Critical study of feminist theory and the relationship of gender to literature. Selected readings from major feminist theorists in connection with the study of literary texts. Generally offered: Spring. Course Fees: DL01 \$75; LRLF \$10; STLF \$18.

ENG 4423. Studies in Advanced Linguistics. (3-0) 3 Credit Hours.

Prerequisite: ENG 3343 or LNG 4013. Specialized study of one or more areas of linguistic research, including historical linguistics, sociolinguistics, dialectology, linguistics for literary analysis, or languages in contact. May be repeated for credit when topics vary. Course Fees: LRLF \$10; STLF \$18.

ENG 4433. Advanced Professional Writing. (3-0) 3 Credit Hours.

Prerequisite: ENG 2413 or the equivalent. This course guides students in creating a portfolio of documents and texts, influenced by current best practices in professional and technical writing for professional audiences. Extensive practice includes writing, layout and design, digital media composing, and preparation of professional documents. Generally offered: Spring. Course Fees: LRLF \$10; STLF \$18.

ENG 4523. Writer's Workshop: Advanced Fiction Writing. (3-0) 3 Credit Hours.

Prerequisite: Consent of instructor (writing portfolio required). Designed for students who have demonstrated potential as fiction writers. May be repeated for credit, but not more than 12 semester credit hours of ENG 4523 and/or ENG 4533 will apply to a bachelor's degree, and not more than 6 semester credit hours will apply toward the English major. Course Fees: LB01 \$5; LRLF \$10; STLF \$18.

ENG 4533. Writer's Workshop: Advanced Poetry Writing. (3-0) 3 Credit Hours.

Prerequisite: Consent of instructor (writing portfolio required). Designed for students who have demonstrated potential as poets. May be repeated for credit, but not more than 12 semester credit hours of ENG 4533 and/or ENG 4523 will apply to a bachelor's degree, and not more than 6 semester credit hours will apply toward the English major. Generally offered: Fall, Spring. Course Fee: LB01 \$5; LRLF \$10; STLF \$18.

ENG 4613. Topics in Mexican American Literature. (3-0) 3 Credit Hours.

Prerequisite: Completion of the Core Curriculum requirement in Language, Philosophy and Culture. Critical study of a topic in Mexican American literature: author, genre, or theme. May be repeated for credit when topics vary. Generally offered: Fall. Course Fees: DL01 \$75; LRLF \$10; STLF \$18.

ENG 4713. Topics in African American Literature. (3-0) 3 Credit Hours.

Prerequisite: Completion of the Core Curriculum requirement in Language, Philosophy and Culture. Critical study of a topic in African American literature: author, genre, or theme. May be repeated for credit when topics vary. Course Fees: LRLF \$10; STLF \$18.

ENG 4911. Independent Study. (0-0) 1 Credit Hour.

Prerequisites: Permission in writing (form available) of the instructor, the student's advisor, the Department Chair, and the Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Course Fees: LRLF \$10; STLF \$6.

ENG 4912. Independent Study. (0-0) 2 Credit Hours.

Prerequisites: Permission in writing (form available) of the instructor, the student's advisor, the Department Chair, and the Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Course Fees: LRLF \$10; STLF \$12.

ENG 4913. Independent Study. (0-0) 3 Credit Hours.

Prerequisites: Permission in writing (form available) of the instructor, the student's advisor, the Department Chair, and the Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Course Fees: LRLF \$10; STLF \$18.

ENG 4933. Internship. (0-0) 3 Credit Hours.

Prerequisite: Enrollment as an English major with junior or senior standing. Non-English majors may request instructor approval. Supervised experience relevant to English. May be repeated once for credit, but not more than 3 semester credit hours will apply to the English major. Generally offered: Fall, Spring, Summer. Course Fees: LRLF \$10; STLF \$18.

ENG 4953. Special Studies in English. (3-0) 3 Credit Hours.

Prerequisite: Consent of instructor. Organized course offering the opportunity for specialized study not normally or not often available as part of the regular course offerings. Special Studies may be repeated for credit when the topics vary, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. Generally offered: Fall, Spring. Course Fees: LRLF \$10; STLF \$18.

ENG 4973. Seminar for English Majors. (3-0) 3 Credit Hours.

Prerequisite: 12 upper-division semester credit hours in English. This undergraduate seminar, limited to English majors in their senior year, offers the opportunity to study a genre, author, or period in English or American literature. Content varies with each instructor. May be repeated once for credit when topics vary. Generally offered: Fall, Spring. Course Fees: LRLF \$10; STLF \$18.

ENG 4993. Honors Thesis. (0-0) 3 Credit Hours.

Prerequisites: Consent of instructor and Department Scholarship and Honors Committee; enrollment in or completion of ENG 4973. Supervised research and preparation of an Honors Thesis for the purpose of earning English Honors. May be repeated once with advisor approval. Generally offered: Fall, Spring. Course Fees: LRLF \$10; STLF \$18.

English as a Second Language (ESL)

English as a Second Language (ESL) Courses

ESL 3003. Language and Schooling. (3-0) 3 Credit Hours.

Survey of linguistic principles, common pedagogical structures of English, and academic language development as they relate to teacher language awareness and effective pedagogy for bilingual and second language learners. Generally offered: Fall. Course Fees: LRH1 \$20; STSH \$30.

ESL 3023. Second Language Teaching and Learning in EC-6. (3-0) 3 Credit Hours.

Application of principles of second language acquisition to promote content-area learning and academic-language development for English language learning (ELL) students in Pre-K to sixth-grade classrooms. Particular attention on methods and strategies for planning, implementing and assessing effective instruction for ELL students. Field experience required. Generally offered: Fall, Spring. Course Fees: LRH1 \$20; STF1 \$75; STSH \$30.

ESL 3033. Foundations of English as a Second Language. (3-0) 3 Credit Hours.

Historical, theoretical, and policy foundations of ESL education. Application of research findings to planning and implementing effective programs for ESL students. Use and interpretation of formal and informal assessments to plan and adapt instruction for ESL students. Strategies for creating effective multicultural/multilingual learning environments. Advocating for ESL students and facilitating family and community involvement. Generally offered: Spring. Course Fees: ISCU \$120; LRH1 \$20; STSH \$30.

ESL 3053. Literacy in a Second Language. (3-0) 3 Credit Hours.

Application of theories of second language acquisition to promote ESL students' literacy development. Methods, strategies, and techniques for designing, implementing, and assessing effective reading and writing lessons for ESL students. Design and evaluation of appropriate materials for literacy instruction. Field experience required. Generally offered: Fall, Spring, Summer. Course Fees: DL01 \$75; LRH1 \$20; STSH \$30.

ESL 3073. Second Language Teaching and Learning for Grades 4-8. (3-0) 3 Credit Hours.

Application of principles of second language acquisition to promote content-area learning and academic-language development for English language learning (ELL) students in grades 4-8. Particular attention is placed on methods and strategies for planning, implementing, and assessing effective instruction for ELL students in the middle grades. Field experience required. (Formerly ESL 3063. Credit cannot be earned for both ESL 3073 and ESL 3063.) Generally offered: Fall, Spring. Course Fees: LRH1 \$20; STF1 \$75; STSH \$30.

ESL 3083. Second Language Teaching and Learning for Grades 7-12. (3-0) 3 Credit Hours.

Application of principles of second language acquisition to promote content-area learning and academic-language development for English language learning (ELL) students in grades 7 and higher. Particular attention is placed on methods and strategies for planning, implementing, and assessing effective instruction for high school ELL students. Field experience required. (Formerly ESL 3063. Credit cannot be earned for both ESL 3083 and ESL 3063.) Generally offered: Fall, Spring. Course Fees: LRH1 \$20; STF1 \$75; STSH \$30.

ESL 4003. Approaches to Second Language Teaching. (3-0) 3 Credit Hours.

Prerequisite: Completion of all requirements for admission to the Teacher Certification Program. Study of methods, instructional strategies and materials for teaching ESL students with beginning to advanced levels of proficiency. Focus on planning, implementing, and assessing developmentally appropriate ESL instruction in learner-centered classrooms. Particular focus on strategies and techniques for promoting students' communicative competence in English. Up to 20 hours of directed field experience are required. Generally offered: Fall. Course Fees: LRH1 \$20; STSH \$30.

ESL 4023. Teaching and Learning Language Development of Young Emergent Bilinguals. (3-0) 3 Credit Hours.

Instructional developmental approaches and culturally responsive pedagogy for young emergent bilinguals, ages 0-5. Application of theories of early bilingual and biliteracy development and language socialization as well as the creation of learning conditions, methods, and engagement to support language acquisition as part of the linguistic and cognitive development of young emergent bilinguals. Field experience required. Course Fees: LRH1 \$20; STF1 \$75; STSH \$30.

ESL 4953. Special Studies in English as a Second Language. (3-0) 3 Credit Hours.

Prerequisite: Consent of instructor. An organized course offering the opportunity for specialized study not normally or not often available as part of the regular course offerings. Special Studies may be repeated for credit when the topics vary, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. To apply credit earned in ESL 4953 toward a minor, consent of the academic advisor is required. Course Fees: LRH1 \$20; STSH \$30.

English for International Students (EIS)

English for International Students (EIS) Courses

EIS 1073. ESL for International Students: Communicating Effectively. (3-0) 3 Credit Hours.

Development of oral discourse, including listening comprehension, note-taking skills, oral presentation, small group discussion, and pronunciation needed in academic settings. Generally offered: Spring. Course Fees: LRH1 \$20; STSH \$30.

EIS 1083. English for Academic Purposes I. (3-0) 3 Credit Hours.

Development of English reading, writing and other literacy skills for academic purposes to improve student participation and success in undergraduate studies. (Formerly titled "Content-based Reading.") Generally offered: Fall, Spring. Course Fees: LRH1 \$20; STSH \$30.

EIS 1093. English for Academic Purposes II. (3-0) 3 Credit Hours.

Development of English reading, writing and other literacy skills for academic purposes to improve student participation and success in undergraduate studies. (Formerly titled "Content-based Writing.") Generally offered: Fall, Spring. Course Fees: LRH1 \$20; STSH \$30.

EIS 1163. Advanced Oral Communications. (3-0) 3 Credit Hours.

Development of oral proficiency skills, including oral presentation skills, required for students at the graduate level. Course Fees: LRH1 \$20; STSH \$30.

EIS 1183. Advanced English for Academic Purposes I. (3-0) 3 Credit Hours.

Development of English reading, writing and other literacy skills for advanced academic purposes to improve student participation and success in graduate studies. (Formerly titled "Advanced Reading Strategies.") Generally offered: Fall, Spring. Course Fees: LRH1 \$20; STSH \$30.

EIS 1193. Advanced English for Academic Purposes II. (3-0) 3 Credit Hours.

Development of English reading, writing and other literacy skills for advanced academic purposes to improve student participation and success in graduate studies. (Formerly titled "Advanced Writing Strategies.") Generally offered: Fall, Spring. Course Fees: LRH1 \$20; STSH \$30.

Entrepreneurship (ENT)

Entrepreneurship (ENT) Courses

ENT 3123. Innovation and Entrepreneurship. (3-0) 3 Credit Hours.

Prerequisites: ACC 2013 and ECO 2023. This course introduces students to entrepreneurship, its importance to our economy and society and its role in bringing new ideas to market. Course provides an overview of the basic concepts of entrepreneurship focusing on the nature, environment, and risks of new business formation. Topics include opportunity recognition, innovation, market assessment, intellectual property, and financing the product or service idea. Differential Tuition: \$126. Course Fee: DL01 \$75.

ENT 4123. Commercialization and Enterprise Planning. (3-0) 3 Credit Hours.

Prerequisite: MGT 3013. This course offers students a step-by-step instruction in how to develop a business plan for commercialization or enterprise development. The students will learn to present and defend their plan as Venture Capitalists would expect from a pitch. The course emphasizes the plan components, format, marketing and financial projections. Generally offered: Fall, Spring. Differential Tuition: \$126.

ENT 4623. Tools and Objectives of the Social Enterprise. (3-0) 3 Credit Hours.

This course investigates the distinctive characteristics of the social enterprise and social entrepreneurs. Examines the role of innovation, the for-profit and not-for-profit models of the social enterprise as well as the corporate structure known as the "B Corporation." Develops ability to evaluate, plan and manage a social enterprise. Differential Tuition: \$126.

ENT 4723. Essentials of Global Entrepreneurship. (3-0) 3 Credit Hours.

This course examines the importance of the entrepreneurial venture in a changing world; explores the economic, political, cultural and technological differences in operating a business in a global versus a domestic environment; and introduces the concepts related to emerging economy entrepreneurs. Differential Tuition: \$126.

ENT 4873. Managing Startups. (3-0) 3 Credit Hours.

Prerequisite: ENT 4123. Examines how and why entrepreneurs develop and/or grow a business as facilitated by the objectives and resources of the entrepreneur. Topics include differences between a commercial and social enterprise, developing a strategy formulation, and the development of a sustainable competitive advantage in global and social enterprise. (Formerly titled "Entrepreneurship.") Differential Tuition: \$126.

ENT 4883. Managing the Emerging Enterprise. (3-0) 3 Credit Hours.

Prerequisite: ENT 4123. Focuses on the startup and operation of small businesses. Examines the accounting, finance, management, and marketing functions as they pertain to entrepreneurial endeavors. Develops overall managerial awareness and analytical skills in small business problem solving. (Formerly MGT 4883. Credit cannot be earned for both ENT 4883 and MGT 4883.) (Formerly titled "Small Business Management.") Generally offered: Fall. Differential Tuition: \$126.

ENT 4903. Business Venture Practicum. (3-0) 3 Credit Hours.

Prerequisite: ENT 4123. This practicum will allow students to gain valuable experience. Drawing on resources from the College of Business, local business, entrepreneurs, and the broader business community, this practicum will give students the chance to solve real world entrepreneurship problems through competition, consultation, or other applied and comprehensive projects. Formerly titled "Practicum in Small Business and Entrepreneurship." Generally offered: Fall, Spring. Differential Tuition: \$126.

ENT 4911. Independent Study. (0-0) 1 Credit Hour.

Prerequisites: ENT 4873, a 3.0 College of Business grade point average and permission in writing from the instructor, the Department Chair, and the Dean of the College of Business. See academic advisor for required forms. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Differential Tuition: \$42.

ENT 4913. Independent Study. (0-0) 3 Credit Hours.

Prerequisites: ENT 4873, a 3.0 College of Business grade point average and permission in writing from the instructor, the Department Chair, and the Dean of the College of Business. See academic advisor for required forms. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Differential Tuition: \$126.

ENT 4933. Internship in Entrepreneurship. (0-0) 3 Credit Hours.

Prerequisites: ENT 4873 and 6 additional semester credit hours of Entrepreneurship (ENT) courses, a 2.5 UTSA grade point average, and permission in writing from the instructor, the Department Chair, and the Dean of the College of Business. See academic advisor for additional requirements and required forms. The opportunity for entrepreneurial work experience. Requires a semester-long experience in private business or a not-for-profit enterprise and a written component. Opportunities and output requirements are developed in consultation with a faculty advisor and the Department Chair and require approval of both. Internship may be repeated once (for a total of 6 semester credit hours), provided the internships are with different organizations. Differential Tuition: \$126.

ENT 4953. Special Studies in Entrepreneurship. (3-0) 3 Credit Hours.

Prerequisite: ENT 4873. An organized course offering the opportunity for specialized study not normally or not often available as part of the regular course offerings. Special Studies may be repeated for credit when the topics vary, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. Generally offered: Spring. Differential Tuition: \$126.

Environmental Sciences (ES)

NOTE: All Environmental Sciences (ES) courses used as prerequisites for other Environmental Sciences courses must be completed with a grade of "C-" or better.

Environmental Sciences (ES) Courses

ES 1003. Survey Topics in Environmental Studies. (3-0) 3 Credit Hours.

A broad based survey course intended to provide a comprehensive introduction to the multidisciplinary field of environmental studies. This course examines the ecological, social and political-economic aspects of contemporary environmental issues from an interdisciplinary perspective. Course Fees: LRS1 \$45; STSI \$21.

ES 1111. Environmental Botany Laboratory. (0-3) 1 Credit Hour. (TCCN = BIOL 1111)

Laboratory studies to accompany Environmental Botany Lecture. Selected laboratories pertaining to the structure and function of plants. Course Fees: IUS1 \$15; L001 \$20; LRS1 \$15; STSI \$7.

ES 1113. Environmental Botany. (3-0) 3 Credit Hours. (TCCN = BIOL 1311)

Study of structure and function of plant cells, tissues, and organs. Includes an evolutionary survey and life histories of the following representative groups: algae, fungi, mosses, liverworts, ferns, and seed producing organisms. Plant reproductive and functional interactions with their environment and with humans. May apply toward the Core Curriculum requirement in Life and Physical Sciences. Course Fees: IUS1 \$15; LRC1 \$12; LRS1 \$45; STSI \$21.

ES 1121. Environmental Zoology Laboratory. (0-3) 1 Credit Hour. (TCCN = BIOL 1113)

Laboratory studies to accompany Environmental Zoology Lecture. Selected laboratories pertaining to the taxonomy, molecular biology, and ecology of animals. Course Fees: IUS1 \$15; L001 \$30; LRS1 \$15; STSI \$7.

ES 1123. Environmental Zoology. (3-0) 3 Credit Hours. (TCCN = BIOL 1313)

Study of the principles of taxonomy, molecular biology, and ecology as they relate to animal form and function, diversity, behavior, and evolution. May apply toward the Core Curriculum requirement in Life and Physical Sciences. Course Fees: LRC1 \$12; LRS1 \$45; STSI \$21.

ES 1211. Environmental Geology Laboratory. (0-3) 1 Credit Hour. (TCCN = GEOL 1105)

Laboratory studies to accompany Environmental Geology Lecture. Selected laboratories pertaining to urban and regional land use planning. Course Fees: IUS1 \$15; L001 \$30; LRS1 \$15; STFE \$40; STSI \$7.

ES 1213. Environmental Geology. (3-0) 3 Credit Hours. (TCCN = GEOL 1305)

The earth as a habitat. Interrelationships between humans and the environment. Geologic factors in urban and regional land use planning. May apply toward the Core Curriculum requirement in Life and Physical Sciences. Course Fees: LRC1 \$12; LRS1 \$45; STSI \$21.

ES 1314. Environmental Statistics. (3-3) 4 Credit Hours. (TCCN = MATH 1442)

Collection, analysis, presentation and interpretation of environmental data, and probability. Analysis includes descriptive statistics, correlation and regression, confidence intervals and hypothesis testing. Use of appropriate technology, including statistical software. Course Fees: IUS1 \$15; LRS1 \$60; STSI \$28.

ES 2013. Introduction to Environmental Science I. (3-0) 3 Credit Hours. (TCCN = ENVR 1301)

An introduction to the scientific principles, concepts, and methodologies needed to understand the interactions of the biotic component of the natural world, to identify and analyze environmental problems within the biotic component of natural world, risk assessment of these environmental problems, and to examine alternate solutions. General attention is given to the biotic concepts of growth, processes, and changes occurring in ecosystems and social structures. May apply toward the Core Curriculum requirement in Life and Physical Sciences. Generally offered: Fall, Spring. Course Fees: DL01 \$75; LRC1 \$12; LRS1 \$45; STSI \$21.

ES 2021. Introduction to Environmental Science I Laboratory. (0-3) 1 Credit Hour.

Concurrent enrollment in ES 2013 is recommended. Qualitative and quantitative methods in the study of biotic environmental systems. Generally offered: Fall, Spring. Course Fees: IUS1 \$15; L001 \$30; LRS1 \$15; STSI \$7.

ES 2023. Introduction to Environmental Science II. (3-0) 3 Credit Hours. (TCCN = ENVR 1302)

An introduction to the scientific principles, concepts, and methodologies needed to understand the interactions of the abiotic component of the natural world, to identify and analyze environmental problems within the abiotic component of the natural world, risk assessment of these environmental problems, and to promote environmental sustainability. General attention is given to the abiotic environmental factors including natural hazards, pollution processes, energy resources, sustainability, and changes occurring in ecosystems. May apply toward the Core Curriculum requirement in Life and Physical Sciences. Generally offered: Fall, Spring. Course Fees: LRC1 \$12; LRS1 \$45; STSI \$21.

ES 2031. Introduction to Environmental Science II Laboratory. (0-3) 1 Credit Hour.

Concurrent enrollment in ES 2023 is recommended. Qualitative and quantitative methods in the study of abiotic environmental systems. Generally offered: Fall, Spring. Course Fees: IUS1 \$15; L001 \$30; LRS1 \$15; STSI \$7.

ES 2113. Fundamentals of Geographic Information Systems (GIS). (2-2) 3 Credit Hours.

This course will serve as a basic introduction to the concepts and techniques of utilizing a Geographic Information System (GIS) to study and model environmental issues. In lecture and laboratory, students will study methods of querying, analyzing, creating and displaying GIS data utilizing industry standard software. Students will also be introduced to using the Global Positioning System (GPS) as a means for creating GIS data. (Credit cannot be earned for both ES 2113 and GEO 2113.) Course Fees: IUS1 \$15; LRS1 \$45; STSI \$21.

ES 3033. Environmental Ecology. (3-0) 3 Credit Hours.

Prerequisites: ES 2013 and ES 2023, or equivalents. Examination of the interactions of biotic and abiotic systems, including interactions of plants, animals, and the environment. (Formerly ES 3034. Credit cannot be earned for more than one of the following: ES 3033, ES 3034 or BIO 3283.) Generally offered: Fall, Spring. Differential Tuition: \$150.

ES 3042. Environmental Ecology Laboratory. (0-6) 2 Credit Hours.

Prerequisites: ES 2013, ES 2021, ES 2023 and ES 2031, or equivalents. Concurrent enrollment in ES 3033 is recommended. A field-oriented course emphasizing modern ecological techniques, including examinations of plant and animal populations and measurement of selected chemical and physical parameters. (Credit cannot be earned for both ES 3042 and BIO 3292.) Generally offered: Fall, Spring. Differential Tuition: \$100. Course Fees: IUS1 \$15; L001 \$30; STFE \$40.

ES 3053. Environmental Remediation. (3-0) 3 Credit Hours.

Prerequisites: CHE 1083, CHE 1093, ES 2013, and ES 2023, or equivalents. This course will focus on the fundamentals associated with environmental remediation in relation to the overall environmental quality and protection. Topics covered include contaminant fate and transport; physical, chemical, and biological processes/characteristics of the air, soil, and water; remediation/restoration methods; environmental monitoring; environmental assessments; environmental regulations; and water/wastewater treatment. (Formerly ES 3054. Credit cannot be earned for both ES 3053 and ES 3054.) Generally offered: Spring. Differential Tuition: \$150.

ES 3061. Environmental Remediation Laboratory. (0-3) 1 Credit Hour.

Prerequisites: CHE 1083, CHE 1093, ES 2013, and ES 2023, or equivalents. Concurrent enrollment in ES 3053 is recommended. This laboratory and field-based course will provide hands-on experience in environmental remediation that will focus on regulatory aspects of assessing environmental contamination, technologies/strategies used to remediate, and current literature research investigations into remediation. Generally offered: Spring. Differential Tuition: \$50. Course Fee: IUS1 \$15.

ES 3103. Environmental Microbiology. (3-0) 3 Credit Hours.

Prerequisites: CHE 1083, CHE 1093, ES 2013, and ES 2023, or equivalents; or consent of instructor. This course will survey environmental microbiology and will emphasize microbial interactions in terrestrial and aquatic environments as well as the fate of microbial pathogens. Topics covered include microbial environments, detection of bacteria and their activities in the environment, microbial biogeochemical cycling, bioremediation of organic and inorganic pollutants, and water quality. (Formerly ES 3104. Credit cannot be earned for more than one of the following: ES 3103, ES 3104 or BIO 3713.) Differential Tuition: \$150.

ES 3113. Ichthyology. (3-0) 3 Credit Hours.

Prerequisites: ES 2013, ES 2021, ES 2023, and ES 2031, or equivalents. Study of fishes, and includes a wide range of topics including taxonomy, systematics, and biogeography, anatomy and physiology, and behavior and ecology. This course will focus on form and function, behavior, life history, ecology, and key taxonomic characteristics of most of the orders of fishes. Field trips may be required. Differential Tuition: \$150. Course Fees: IUS1 \$15; STFE \$40.

ES 3121. Introduction to Soils Laboratory. (0-3) 1 Credit Hour.

Prerequisites: CHE 1083 and CHE 1093, or equivalents. Laboratory exercise and field trips designed to develop student competency in soil description, analysis, and assessment. Course Fees: Differential Tuition: \$50. Course Fees: IUS1 \$15; L001 \$30.

ES 3123. Introduction to Soils. (3-0) 3 Credit Hours.

Prerequisites: CHE 1083 and CHE 1093, or equivalents. A study of soil properties and processes and relationships to land use, plant growth, environmental quality, and society. Differential Tuition: \$150.

ES 3133. Oceanography. (3-0) 3 Credit Hours.

Prerequisite: ES 1213 or equivalent. Description of the oceans. Emphasis on relations of biology, chemistry, geology, and physics in marine environments. Examination of relationships and interactions at macro and micro scales in the ocean. Field trips may be required. (Credit cannot be earned for both ES 3133 and GEO 3163.) Differential Tuition: \$150.

ES 3141. Watershed Processes Laboratory. (0-3) 1 Credit Hour.

Prerequisites: ES 2013, ES 2023, ES 1213, and ES 2113, or equivalents. Laboratory exercises and field trips designed to develop an understanding of watershed processes, watershed assessment, and watershed management. Differential Tuition: \$50. Course Fees: IUS1 \$15; L001 \$30; STFE \$40.

ES 3143. Watershed Processes. (3-0) 3 Credit Hours.

Prerequisites: ES 2013, ES 2023, ES 1213, and ES 2113, or equivalents. This course focuses on watershed processes, watershed assessment, and watershed management. Differential Tuition: \$150. Course Fee: STFE \$40.

ES 3153. Environmental Chemistry. (3-0) 3 Credit Hours.

Prerequisites: CHE 1083, CHE 1093, ES 2013, and ES 2023, or equivalents. This course explores the chemistry of the environment, the chemistry underlying environmental problems and solutions to environmental problems. Emphasis is placed on thermodynamics and kinetics of reaction cycles; sources, sinks and transport of chemical species; and quantitation of chemical species. Examples are selected from the chemistry of natural and contaminated air, water, and soil. (Same as CE 4613. Credit cannot be earned for both ES 3153 and CE 4613.) Differential Tuition: \$150.

ES 3163. Ornithology. (3-0) 3 Credit Hours.

Prerequisite: ES 3033 or BIO 3283, or equivalents. A course covering various aspects of the biology of birds, including anatomy, physiology, systematics, evolution, behavior, ecology, and biogeography. Field trips may be required. (Same as BIO 4063. Credit cannot be earned for both ES 3163 and BIO 4063.) Course Fees: Differential Tuition: \$150. Course Fee: IUS1 \$15.

ES 3173. Mammalogy. (3-0) 3 Credit Hours.

Prerequisite: ES 3033 or BIO 3283, or equivalents. A course covering various aspects of the biology of mammals, including anatomy, physiology, systematics, evolution, behavior, ecology, and biogeography. Field trips may be required. Differential Tuition: \$150. Course Fee: IUS1 \$15.

ES 3183. Entomology. (3-0) 3 Credit Hours.

Prerequisite: ES 3033 or BIO 3283, or equivalents. A course covering various aspects of the biology of insects, including anatomy, physiology, systematics, evolution, behavior, ecology, and biogeography. Field trips may be required. Differential Tuition: \$150.

ES 3193. Herpetology. (3-0) 3 Credit Hours.

Prerequisite: ES 3033 or BIO 3283, or equivalents. A course covering various aspects of the biology of amphibians and reptiles, including anatomy, physiology, systematics, evolution, behavior, ecology, and biogeography. Field trips may be required. Differential Tuition: \$150. Course Fee: IUS1 \$15.

ES 3203. Environmental Law. (3-0) 3 Credit Hours.

Present-day environmental enabling acts and regulations will be covered, with emphasis on federal acts, such as the National Environmental Policy Act, Clean Water Act, Resource Conservation and Recovery Act, and associated regulations. Generally offered: Spring. Differential Tuition: \$150.

ES 3213. Biology of Flowering Plants. (2-3) 3 Credit Hours.

Prerequisite: Junior or senior status; a minimum of 60 semester credit hours. A study of the wildflowers of Texas emphasizing identification of the more common wildflowers, as well as family characteristics, flower anatomy, plant morphology, and plant-collecting techniques will be included. Lecture, laboratory, and fieldwork will be included as part of the course. (Same as BIO 3273. Credit can only be earned for ES 3213 or BIO 3273.) Differential Tuition: \$150. Course Fees: L001 \$30; STFE \$40.

ES 3223. Woody Plants. (2-3) 3 Credit Hours.

Prerequisite: Junior or senior status; a minimum of 60 semester credit hours. A study of the woody plants emphasizing the characteristics of family, genus, and species. Includes identification of the common woody plants. Leaf, stem, and flower morphology, anatomy, and collecting techniques. Lecture, laboratory, and fieldwork will be included as part of the course. (Same as BIO 3263. Credit can only be earned for ES 3223 or BIO 3263.) Differential Tuition: \$150. Course Fees: L001 \$30; STFE \$40.

ES 3313. Advanced Geographic Information Systems (GIS). (3-0) 3 Credit Hours.

Prerequisite: ES 2113 or equivalent. This course is an undergraduate level course directed at developing more advanced Geographic Information Systems skills. The class is not introductory and students will begin using more advanced analysis tools in ESRI GIS software (ArcGIS 10.3). Applications of the technology for scientific discovery and exploration will be used as case study examples. Differential Tuition: \$150.

ES 3953. Topics in Environmental Science. (3-0) 3 Credit Hours.

Prerequisite: Consent of instructor. An organized course offering the opportunity for specialized study not normally or not often available as part of the regular course offerings. Field trips may be required. May be repeated for credit when topics vary. Differential Tuition: \$150.

ES 4023. Aquatic Ecology. (3-0) 3 Credit Hours.

Prerequisites: ES 2013, ES 2021, ES 2023, and ES 2031, or equivalents. Study of aquatic ecosystems including streams, wetlands, and lakes. Topics include watershed processes, biological communities, physical habitats, nutrient cycling, energy flow, and management issues. The course culminates with individual research projects focused on local watersheds. Field trips may be required. Course Fees: Differential Tuition: \$150. Course Fee: STFE \$40.

ES 4033. Plant Physiological Ecology. (3-0) 3 Credit Hours.

Prerequisites: ES 3033 and ES 3042, or equivalents. A survey of physiological approaches to understanding plant-environment interactions from the functional perspective. Differential Tuition: \$150.

ES 4103. Global Change. (3-0) 3 Credit Hours.

Prerequisites: CHE 1083, CHE 1093, ES 2013, and ES 2023, or equivalents; and junior or senior status. Changes in the global distribution of plants and animals and the causes of the changes will be examined. Factors that are apparently coupled to changes in these distributions will be examined including, but not limited to, atmospheric composition change and temperature change. Additionally, examination of the impact of humans and their activities on the environment: their effect on aquatic, marine, and terrestrial plant, animal, and human resources. (Formerly ES 4104. Credit cannot be earned for both ES 4103 and ES 4104.) Generally offered: Fall. Differential Tuition: \$150.

ES 4111. Field Biology Laboratory. (0-3) 1 Credit Hour.

Prerequisite: Junior or senior status: a minimum of 60 semester credit hours, or consent of instructor. Concurrent enrollment in ES 4113 is recommended. A field-oriented course offering the opportunity for practical experience observing, collecting, and identifying Texas plants and animals. (Same as BIO 4241. Credit cannot be earned for both ES 4111 and BIO 4241.) Differential Tuition: \$50. Course Fee: IUS1 \$15.

ES 4113. Field Biology. (3-0) 3 Credit Hours.

Prerequisite: Junior or senior status: a minimum of 60 semester credit hours, or consent of instructor. Concurrent enrollment in ES 4111 is recommended. A study of the natural history of plants and animals in their native environment. Techniques for the identification of birds, mammals, reptiles, amphibians, insects, and the dominant flowering plants will be discussed. (Same as BIO 4233. Credit cannot be earned for both ES 4113 and BIO 4233.) Differential Tuition: \$150. Course Fee: IUS1 \$15.

ES 4123. Desert Biology. (3-0) 3 Credit Hours.

Prerequisite: Junior or senior status: a minimum of 60 semester credit hours, or consent of instructor. An introduction to wildlife biology and management including ecological principles dealing with ecosystems, natural communities, and populations. The importance of animal behavior, the availability of food, cover, wildlife diseases, predators, hunting, and trapping will be included. Field studies will allow students to observe and apply classroom topics. Differential Tuition: \$150. Course Fee: IUS1 \$15.

ES 4133. Natural Resource Policy and Administration. (3-0) 3 Credit Hours.

Prerequisite: Junior or senior status. Factors in evolution of forest, range, wildlife and related natural resources administration and policies in the United States; policy components; policy formation implementation, administration and change processes; introduction to criteria for evaluating effectiveness of policies and administration. Differential Tuition: \$150.

ES 4153. Introduction to Sustainability. (3-0) 3 Credit Hours.

Prerequisites: ES 2023 and junior or senior status: a minimum of 60 semester credit hours, or consent of instructor. This course will examine the major environmental issues and trends happening in modern society from a scientific and practical perspective, including biodiversity, population, food and water resources, climate change, energy, public health, and the overall forecast for the environment for the next several decades. Differential Tuition: \$150.

ES 4163. Renewable Energy. (3-0) 3 Credit Hours.

Prerequisites: ES 2023 and junior or senior status: a minimum of 60 semester credit hours, or consent of instructor. This course is an introduction to energy systems and renewable energy resources, with a scientific examination of the energy field and an emphasis on alternate energy sources and their technology and application. Differential Tuition: \$150.

ES 4173. Waste Water Treatment. (2-3) 3 Credit Hours.

Prerequisite: ES 2023 and junior or senior status: a minimum of 60 semester credit hours, or consent of instructor. The application of chemical, biochemical, and physical processes to water treatment, wastewater treatment, and pollution control. Differential Tuition: \$150. Course Fees: IUS1 \$15; STFE \$40.

ES 4183. Environmental Toxicology. (3-0) 3 Credit Hours.

Prerequisites: CHE 1083, CHE 1093, ES 2013, and ES 2023, or equivalents. Examination of advanced or specialized hazardous or toxic waste treatment methods. Emphasis will be on physical, chemical, and biological processes in treatment and processing of hazardous wastes materials. (Same as ES 4003. Credit cannot be earned for both ES 4183 and ES 4003.) Differential Tuition: \$150.

ES 4193. Planning and Response to Environmental Disasters. (3-0) 3 Credit Hours.

Prerequisites: CHE 1083, CHE 1093, ES 2013, and ES 2023, or equivalents. Mitigation of preparation for, response to, and recovery from environmental disasters. Differential Tuition: \$150.

ES 4203. Environmental Assessment. (3-0) 3 Credit Hours.

Prerequisites: ES 2013 and ES 2023, or equivalents. This course evaluates the framework of an impact assessment and details regarding the environment (air, water, soil), its pollutants (atmospheric, noise, water, solid waste), their impacts (physical, social, economic), relevant regulations, and pollution minimization or management strategies. Students use this information to review and comment on an existing Environmental Impact Statement (EIS). Generally offered: Spring. Differential Tuition: \$150.

ES 4211. Senior Seminar. (1-0) 1 Credit Hour.

Prerequisite: Senior status: Environmental Science majors and a minimum of 90 credit hours. The techniques of seminar presentation will be studied by preparing and presenting individual seminars on topics of interest. Enrollment for credit is limited to, and required of, all senior students majoring in environmental studies. Differential Tuition: \$50.

ES 4212. Senior Seminar. (2-0) 2 Credit Hours.

Prerequisite: Senior status: Environmental Science majors and a minimum of 90 credit hours. The techniques of seminar presentation will be studied by preparing and presenting individual seminars on topics of interest. Enrollment for credit is limited to, and required of, all senior students majoring in environmental studies. (Formerly ES 4211. Credit cannot be earned for both ES 4212 and ES 4211). Differential Tuition: \$100.

ES 4213. Conservation Biology. (3-0) 3 Credit Hours.

Prerequisite: ES 3033 or BIO 3283, or equivalents. The class topics will include studying the nature of the biosphere, threats to its integrity, and ecologically sound responses to these threats. Also included will be the origin and preservation of biotic diversity, how the rich variety of plant and animal life around us arose, how it has been maintained by natural processes, and how we can prevent its destruction. (Same as BIO 4033. Credit cannot be earned for both ES 4213 and BIO 4033.) Differential Tuition: \$150.

ES 4223. Urban Wildlife Ecology. (3-0) 3 Credit Hours.

Prerequisites: ES 3033 and ES 3042, or equivalents. Fundamentals of urban ecology, field methods including urban wildlife and human surveys, and urban wildlife management and conservation strategies. Differential Tuition: \$150.

ES 4233. Restoration Ecology. (3-0) 3 Credit Hours.

Prerequisite: ES 3033 or BIO 3283, or equivalents. Applies ecological principles to the restoration of disturbed terrestrial, wetland, and aquatic ecosystems. Includes the restoration of soils and waterways, of flora and fauna, and of natural ecological processes such as plant succession and nutrient cycling. Differential Tuition: \$150.

ES 4243. Wildlife Management. (3-0) 3 Credit Hours.

Prerequisite: ES 3033 or BIO 3283, or equivalents. An introduction to wildlife biology and management including ecological principles dealing with ecosystems, natural communities, and populations. The importance of animal behavior, the availability of food, cover, wildlife diseases, predators, hunting, and trapping will be included. Field studies will allow students to observe and apply classroom. (Same as BIO 4053. Credit cannot be earned for both ES 4243 and BIO 4053.) Differential Tuition: \$150.

ES 4253. Sources, Fate, and Transport of Chemicals in the Environment. (3-0) 3 Credit Hours.

Prerequisites: ES 2013, ES 2023, and MAT 1093, or equivalents. Sources of chemicals in the environment. Processes regulating fate and transport of metals, organics, nutrients, salts, pathogens, and radionuclides in the environment. Differential Tuition: \$150.

ES 4911. Independent Study. (0-0) 1 Credit Hour.

Prerequisites: Permission in writing (form available) of the instructor, the student's advisor, the Department Chair, and Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. Differential Tuition: \$50.

ES 4912. Independent Study. (0-0) 2 Credit Hours.

Prerequisites: Permission in writing (form available) of the instructor, the student's advisor, the Department Chair, and Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. Differential Tuition: \$100.

ES 4913. Independent Study. (0-0) 3 Credit Hours.

Prerequisites: Permission in writing (form available) of the instructor, the student's advisor, the Department Chair, and Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. Differential Tuition: \$150.

ES 4953. Special Studies in Environmental Science. (3-0) 3 Credit Hours.

Prerequisite: Consent of instructor. An organized course offering the opportunity for specialized study not normally or not often available as part of the regular course offerings. Special Studies may be repeated for credit when the topics vary, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. Differential Tuition: \$150.

ES 4963. Internship. (0-0) 3 Credit Hours.

Prerequisite: Consent of the Undergraduate Advisor of Record. An opportunity for students to work in a setting that permits them to apply what they have learned in the formal instruction part of the program. Course Fees: Differential Tuition: \$150.

Finance (FIN)

Finance (FIN) Courses

FIN 3003. Survey of Finance. (3-0) 3 Credit Hours.

Prerequisite: ACC 2003 or ACC 2013 or the equivalent. A basic survey course focusing on three aspects of finance: the financial system, corporate finance, and investments. The financial environment will be described along with how the financial system interacts with the economy. Business decisions, efficient allocation of financial resources, and fundamentals of investment will be introduced. This course may not be applied toward a major or a minor in finance. Generally offered: Fall, Spring. Differential Tuition: \$126.

FIN 3013. Principles of Business Finance. (3-0) 3 Credit Hours.

Prerequisites: ACC 2013, ECO 2013, MAT 1133, and MS 1023, or their equivalents. Completion or concurrent enrollment in ACC 2033. Introduction to financial management techniques. Topics may include time value of money, valuation of stocks and bonds, risk and return, capital budgeting analysis, financing alternatives, financial planning, ratio analysis, short-term financial decisions, working capital, sources and uses of funds, capital structure, dividend policy, lease analysis, options, international financial management, and other topics associated with successful business finance decisions in an internationally competitive environment. (Formerly FIN 3014. Credit cannot be earned for both FIN 3014 and FIN 3013.) Generally offered: Fall, Spring, Summer. Differential Tuition: \$126.

FIN 3023. Intermediate Corporate Finance. (3-0) 3 Credit Hours.

Prerequisites: FIN 3013, or the equivalent, with a grade of "C-" or better and successful completion of the Finance Assessment of Competency Test (FACT). Completion or concurrent enrollment in ACC 3023 or ACC 3053. Advanced discussion of subjects essential to corporate financial management, including short-term credit policies, capital budgeting, risk, sources of long-term funds, financial leverage, and the cost of capital. Special topics such as mergers, bankruptcy, and reorganization may also be considered. Generally offered: Fall, Spring, Summer. Differential Tuition: \$126.

FIN 3033. Principles of Investment. (3-0) 3 Credit Hours.

Prerequisite: FIN 3013, or the equivalent, with a grade of "C-" or better. Introduction to securities markets; analysis of money market instruments, mutual funds, stocks, bonds, options, futures, and other securities; investment management in the light of tax considerations, timing, and selected portfolio needs. Generally offered: Fall, Spring, Summer. Differential Tuition: \$126.

FIN 3053. Introduction to Personal Finance. (3-0) 3 Credit Hours.

Prerequisite: Completion of Math core component course. This course is an introduction to personal finance, including goal setting, cash management, credit, insurance, taxes, housing, investment alternatives, and retirement plans. This course may not be applied toward a major or a minor in finance. Further, it cannot be used as a substitute for FIN 3013 or as a Finance Elective. However, other business majors can use this course to only satisfy their free elective requirements. Differential Tuition: \$126.

FIN 3313. Money and Banking. (3-0) 3 Credit Hours.

Prerequisite: ECO 2013 or the equivalent. Elements of monetary theory; relationships between money, prices, production, and employment; factors determining money supply; and operation of capital markets with reference to the United States. (Same as ECO 3313. Credit cannot be earned for both ECO 3313 and FIN 3313.) Generally offered: Fall, Spring, Summer. Differential Tuition: \$126.

FIN 3423. Security Analysis. (3-0) 3 Credit Hours.

Prerequisite: FIN 3033 or the equivalent. Advanced financial analysis; examination of statements and supplementary data of industrial, commercial, financial intermediary, and public enterprises; preparation of reports relevant to achieving an understanding of financial management policies. Generally offered: Fall. Differential Tuition: \$126.

FIN 3433. Principles of Real Estate. (3-0) 3 Credit Hours.

General introduction to the subject matter and terminology of real estate as a business and profession. This course introduces students to how real estate builds wealth. Topics may include legal and regulatory concerns, legal foundations to value, conveying real property interests, market based valuation, introduction to appraisal, mortgage financing, real estate brokerage, real property management, and real estate contracts. This course serves as the foundation to further study in real estate finance and development. Generally offered: Fall, Spring, Summer. Differential Tuition: \$126. Course Fee: DL01 \$75.

FIN 3453. Derivative Markets. (3-0) 3 Credit Hours.

Prerequisite: FIN 3033. This course covers the theoretical and practical aspects of futures, options, and other derivative instruments, which have become some of the most important tools of modern finance. While the primary focus is on financial derivatives, contracts based on commodities, and other nonfinancial variables are also covered. Topics include market institutions and trading practices, valuation models, hedging, and other risk management techniques. Differential Tuition: \$126.

FIN 3463. Debt Markets. (3-0) 3 Credit Hours.

Prerequisites: FIN 3023 and FIN 3033. Describes important fixed income securities and markets, and develops tools for valuing fixed income securities, managing interest rate risk and constructing fixed income portfolios. The course covers traditional bonds and term structure concepts as well as securitized products, fixed income derivatives, and interest rate models. Various data sources and financial software are used to integrate theoretical concepts with practical applications. Differential Tuition: \$126.

FIN 4323. Financial Institutions Management. (3-0) 3 Credit Hours.

Prerequisite: FIN 3013 with a grade of "C-" or better. Direction and coordination of the various functions of the financial firm, including money position, lending, and capital management. Emphasis on asset and liability management in a changing environment of regulation, competition, and financial intermediation. Generally offered: Spring. Differential Tuition: \$126.

FIN 4333. Business Finance for Entrepreneurs. (3-0) 3 Credit Hours.

Prerequisite: FIN 3013 with a grade of "C-" or better. Development of financial management techniques for developing businesses. Topics include cash flow projections, managing cash and working capital, estimating cost of capital, project evaluation, issues of limited diversification, and nontraditional sources of funds as well as growth and exit strategies. Generally offered: Fall, Spring. Differential Tuition: \$126.

FIN 4423. Investment Portfolio Management. (3-0) 3 Credit Hours.

Prerequisites: MGT 3003 and FIN 3033 or the equivalent. Application of investment principles to management of investment portfolios of individuals and institutions; consideration of business cycles, investment constraints, portfolio construction, investment timing, and securities selection. Analysis of derivative securities and their use in the portfolio context. Generally offered: Summer. Differential Tuition: \$126.

FIN 4523. Introduction to Risk Management. (3-0) 3 Credit Hours.

Prerequisites: MGT 3003 and FIN 3013 or consent of instructor and approval of the Department Chair and the Dean of the College. Develop an understanding of the risk management process including risk identification, risk analysis, and risk measurement; investigate methods of risk mitigation techniques such as immunization, diversification, risk financing, risk control, hedging and insurance with applications. Generally offered: Spring. Differential Tuition: \$126.

FIN 4543. Credit Analysis. (3-0) 3 Credit Hours.

Prerequisites: MGT 3003 and FIN 3013 or consent of instructor and approval of the Department Chair and the Dean of the College. The course will provide an introduction to credit analysis. Topics covered will include: financial statement analysis; identification of relevant factors affecting the economy, industry, and the firm; default risk measures and recovery rates; structure and documentation of debt contracts; and tools to mitigate default risk. Differential Tuition: \$126.

FIN 4613. Introduction to International Finance. (3-0) 3 Credit Hours.

Prerequisites: MGT 3003 and FIN 3013 or the equivalent. Study of underlying forces in international financial relations and the unique problems of international trade, investments, and operations; examination of multinational business finance and its economic, legal, and political dimensions. Generally offered: Fall, Spring, Summer. Differential Tuition: \$126.

FIN 4713. Mortgage Banking and Real Estate Finance. (3-0) 3 Credit Hours.

Prerequisites: FIN 3013 and FIN 3433. Planning, structure, and analysis of real estate financing from the viewpoints of both the users and suppliers of funds; examination of various techniques and legal instruments; institutional constraints and their effects on real estate lending activities; and federal, state, and local laws governing housing discrimination, equal credit opportunity, and community reinvestment. Generally offered: Fall. Differential Tuition: \$126.

FIN 4723. Principles of Real Estate Investment. (3-0) 3 Credit Hours.

Prerequisites: FIN 3013 and FIN 3433. Analysis of real estate investment alternatives; feasibility and site analysis; tax considerations; income and expense analysis; discounted cash flow analysis; profitability measurement; and forms of ownership. Generally offered: Spring. Differential Tuition: \$126.

FIN 4733. Principles of Sustainable Real Estate Development. (3-0) 3 Credit Hours.

Prerequisites: FIN 3013, FIN 3433, and FIN 4713 or FIN 4723. The examination of the principles involved in creating value through the real estate development process. Economic, regulatory, planning, financing, management and disposition issues are considered in the marketing and financial analyses of development prospects. (Same as RFD 4733. Credit cannot be earned for both FIN 4733 and RFD 4733. Finance majors cannot take RFD 4733 as an upper-division finance elective.) Differential Tuition: \$126.

FIN 4813. Property-Liability Insurance Finance. (3-0) 3 Credit Hours.

Prerequisites: MGT 3003 and FIN 3013 or the equivalent. Analysis and management of risk and insurance, including the insurance contract, property insurance, liability insurance, business insurance, the insurance agency, financial structure and management of property-liability companies, and contemporary problems of property-liability insurance. Generally offered: Spring. Differential Tuition: \$126.

FIN 4823. Life and Health Insurance Finance. (3-0) 3 Credit Hours.

Prerequisites: MGT 3003 and FIN 3013 or the equivalent. Philosophy of the life risk is developed, as well as an understanding of the special character of life and health insurance, human life value, the customary and special uses of life insurance, and the history of life insurance companies. Life, health, and disability insurance contracts are investigated in addition to term and whole life insurance, agency structure, and current issues of life and health insurance. Generally offered: Fall. Differential Tuition: \$126.

FIN 4853. Real Estate Appraisal. (3-0) 3 Credit Hours.

Prerequisites: FIN 3013 and FIN 3433. Functions and methods of property valuation, including comparable sales analysis, cost depreciation analysis, and income capitalization; residential and income property appraisal techniques and reporting. (Same as RFD 4853. Credit cannot be earned for both FIN 4853 and RFD 4853. Finance majors cannot take RFD 4853 as an upper-division finance elective.) Differential Tuition: \$126.

FIN 4873. Computer Modeling of Financial Applications. (3-0) 3 Credit Hours.

Prerequisites: MGT 3003, IS 3003, and FIN 3013 or their equivalents. Provides the opportunity to develop computer modeling skills and techniques for analyzing financial situations encountered in business, including the analysis of financial statements, forecasting, capital budgeting, and principles of investment analysis of securities. Financial issues involving uncertainty are examined. Generally offered: Fall, Spring, Summer. Differential Tuition: \$126.

FIN 4893. Cases and Problems in Finance. (3-0) 3 Credit Hours.

Prerequisites: ACC 3023 or ACC 3053, FIN 3023, FIN 3033, and FIN 3313 with grade of "C-" or better in each course, senior standing, and 3 hours of additional finance electives. Students are also required to meet all University regulations related to good academic standing and maintain a minimum grade point average of 2.0 in all courses, and in UTSA College of Business courses, and in all courses for the major. Approval is obtained through the academic advisor. Integration of financial concepts and financial tools to enable strategic financial decision making in a wide variety of situations. Topics include corporate finance, investments, international finance, risk management, and other aspects of finance. Generally offered: Fall, Spring. Differential Tuition: \$126.

FIN 4913. Independent Study. (0-0) 3 Credit Hours.

Prerequisites: A 3.0 College of Business grade point average, MGT 3003 and permission in writing from the instructor, the Department Chair, and the Dean of the College of Business. See academic advisor for required forms. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Differential Tuition: \$126.

FIN 4933. Internship in Finance. (0-0) 3 Credit Hours.

Prerequisites: MGT 3003, 6 semester credit hours of upper-division finance courses, a 2.5 UTSA grade point average, and approval in writing from the instructor, the Department Chair, and the Associate/Assistant Dean of Undergraduate Studies in the College of Business. Directed internship of at least 200 hours of work under the supervision of a finance professional, providing students with opportunities to apply concepts, principles, and techniques learned in the classroom. Written report required. A proposal form must be completed and approved prior to registration. May be repeated once for credit (for a total of 6 semester credit hours). Generally offered: Fall, Spring, Summer. Differential Tuition: \$126.

FIN 4951. Special Studies in Finance. (1-0) 1 Credit Hour.

Prerequisites: MGT 3003 and consent of instructor, and approval of the Department Chair and the Dean of the College. An organized course offering the opportunity for specialized study not normally or not often available as part of the regular course offerings. Special Studies may be repeated for credit when the topics vary, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. Differential Tuition: \$42.

FIN 4953. Special Studies in Finance. (3-0) 3 Credit Hours.

Prerequisites: MGT 3003 and consent of instructor, and approval of the Department Chair and the Dean of the College. An organized course offering the opportunity for specialized study not normally or not often available as part of the regular course offerings. Special Studies may be repeated for credit when the topics vary, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. Differential Tuition: \$126.

Foreign Languages (FL)

Foreign Languages (FL) Courses

FL 1034. Beginning Language Study Abroad. (0-0) 4 Credit Hours.

Prerequisite: Consent of instructor. Opportunity to begin developing oral and written communication skills in the target language, along with enhanced comprehension skills in listening and reading. Linguistic and cultural immersion. May be repeated up to 8 semester credit hours in each language. Generally offered: Spring. Course Fees: LRLF \$10; MM01 \$7; STLF \$24.

FL 1038. Beginning Language Study Abroad. (0-0) 8 Credit Hours.

Prerequisite: Consent of instructor. Opportunity to begin developing oral and written communication skills in the target language, along with enhanced comprehension skills in listening and reading. Linguistic and cultural immersion. May be repeated up to 8 semester credit hours in each language. Course Fee: Course Fees: LRLF \$10; MM01 \$7; STLF \$48.

FL 1044. Individualized Instruction in Basic Language. (0-0) 4 Credit Hours.

Prerequisite: Consent of instructor. Opportunity to develop basic oral and written communication skills in the target language, along with enhanced comprehension skills in listening and reading. Generally restricted to special projects or languages not regularly offered as organized classes. May be repeated up to 8 semester credit hours in each language. Course Fees: LRLF \$10; MM01 \$7; STLF \$24.

FL 2033. Intermediate Language Study Abroad. (0-0) 3 Credit Hours.

Prerequisites: Consent of instructor and 1008, 1024, or the equivalent in the selected foreign language. Opportunity to develop intermediate-level oral and written communication skills in the target language, along with increased comprehension skills in listening and reading. Linguistic and cultural immersion. May be repeated up to 6 semester credit hours in each language. Course Fees: LRLF \$10; MM01 \$7; STLF \$18.

FL 2036. Intermediate Language Study Abroad. (0-0) 6 Credit Hours.

Prerequisites: Consent of instructor and 1008, 1024, or the equivalent in the selected foreign language. Opportunity to develop intermediate-level oral and written communication skills in the target language, along with increased comprehension skills in listening and reading. Linguistic and cultural immersion. May be repeated up to 6 semester credit hours in each language. Course Fees: LRLF \$10; MM01 \$7; STLF \$36.

FL 2043. Individualized Instruction in Intermediate-Level Language. (0-0) 3 Credit Hours.

Prerequisites: Consent of instructor and 1008, 1024, or the equivalent in the selected foreign language. Opportunity to develop intermediate-level oral and written communication skills in the target language, along with increased comprehension skills in listening and reading. Generally restricted to special projects or languages not regularly offered as organized classes. May be repeated up to 6 semester credit hours in each language. Course Fees: LRLF \$10; MM01 \$7; STLF \$18.

FL 3033. Advanced Language Study Abroad. (0-0) 3 Credit Hours.

Prerequisites: Consent of instructor and 2006, 2023, or the equivalent in the selected foreign language. Opportunity to develop advanced-level oral and written communication skills in the target language, along with enhanced comprehension skills in listening and reading. Linguistic and cultural immersion. May be repeated up to 6 semester credit hours in each language. Generally offered: Summer. Course Fees: LRLF \$10; MM01 \$7; STLF \$18.

FL 3036. Advanced Language Study Abroad. (0-0) 6 Credit Hours.

Prerequisites: Consent of instructor and 2006, 2023, or the equivalent in the selected foreign language. Opportunity to develop advanced-level oral and written communication skills in the target language, along with enhanced comprehension skills in listening and reading. Linguistic and cultural immersion. May be repeated up to 6 semester credit hours in each language. Course Fees: LRLF \$10; MM01 \$7; STLF \$36.

FL 3043. Individualized Instruction in Advanced-Level Language. (0-0) 3 Credit Hours.

Prerequisites: Consent of instructor and 2006, 2023, or the equivalent in the selected foreign language. Opportunity to develop advanced-level oral and written communication skills in the target language, along with enhanced comprehension skills in listening and reading. Generally restricted to special projects or languages not regularly offered as organized classes. May be repeated up to 6 semester credit hours in each language. Generally offered: Summer. Course Fees: LRLF \$10; MM01 \$7; STLF \$18.

FL 3101. Languages Across the Curriculum. (0-0) 1 Credit Hour.

Prerequisite: Consent of instructor. Online add-on course offering a concurrent language component for courses in other disciplines, such as art, anthropology, history, humanities, music and political science. May be repeated for credit when topics vary. Course Fees: LRLF \$10; MM01 \$7; STLF \$6.

FL 4933. Internship. (0-0) 3 Credit Hours.

Prerequisite: Permission of Department Chair. Supervised experience in a setting that provides the opportunity to integrate theory and practice in language usage. May be repeated once for credit. Course Fees: LRLF \$10; MM01 \$7; STLF \$18.

FL 4953. Special Projects. (0-0) 3 Credit Hours.

Prerequisite: Permission of Department Chair. Opportunity to apply advanced-level oral and written language skills in a research project. This course is especially designed as the Signature Experience for language majors. May be repeated up to 6 semester credit hours in each language. Course Fees: LRLF \$10; MM01 \$7; STLF \$18.

FL 4993. Honors Research. (0-0) 3 Credit Hours.

Prerequisite: Consent of the undergraduate advisor. Supervised research and preparation of an honors thesis. May be repeated once for credit, with approval. Course Fees: LRLF \$10; MM01 \$7; STLF \$18.

French (FRN)

French (FRN) Courses

FRN 1014. Elementary French I. (3-2) 4 Credit Hours. (TCCN = FREN 1411)

Fundamentals of French offering the opportunity to develop listening, speaking, reading, and writing skills. Emphasis on listening and speaking. Introduction to French culture. May be applied toward the Core Curriculum requirement in Language, Philosophy and Culture. Generally offered: Fall. Course Fees: LRC1 \$16; LRLF \$10; MM01 \$7; STLF \$24.

FRN 1024. Elementary French II. (3-2) 4 Credit Hours. (TCCN = FREN 1412)

Prerequisite: FRN 1014, the equivalent, an appropriate placement test score, or consent of instructor. Fundamentals of French offering the opportunity to develop listening, speaking, reading, and writing skills. Further study of French culture. Generally offered: Spring. Course Fees: LRLF \$10; MM01 \$7; STLF \$24.

FRN 2013. Intermediate French I. (3-1) 3 Credit Hours. (TCCN = FREN 2311)

Prerequisite: FRN 1024, the equivalent, an appropriate placement test score, or consent of instructor. Continued opportunity to develop listening, reading, speaking, and writing skills. Grammar review and further study of French culture. Generally offered: Fall. Course Fees: LRLF \$10; MM01 \$7; STLF \$18.

FRN 2023. Intermediate French II. (3-1) 3 Credit Hours. (TCCN = FREN 2312)

Prerequisite: FRN 2013, the equivalent, an appropriate placement test score, or consent of instructor. Continued opportunity to develop listening, reading, speaking, and writing skills. Grammar review and further study of French culture. Generally offered: Spring. Course Fees: LRLF \$10; MM01 \$7; STLF \$18.

FRN 2333. French Literature in English Translation. (3-0) 3 Credit Hours.

Major works of French literature across time, genres, and movements. May be applied toward the Core Curriculum requirement in Language, Philosophy and Culture. (Formerly FRN 3333. Credit cannot be earned for both FRN 2333 and FRN 3333.) Course Fees: LRC1 \$12; LRLF \$10; MM01 \$7; STLF \$18.

FRN 3023. Advanced Language Skills. (3-0) 3 Credit Hours.

Prerequisite: FRN 2023 or consent of instructor. Development of oral and written language skills using contemporary readings, media, and oral discourse. Emphasis on increasing fluency through vocabulary expansion activities and selective grammar review. May be repeated for credit when topics vary. Generally offered: Spring. Course Fees: LRLF \$10; MM01 \$7; STLF \$18.

FRN 3413. Survey of French Literature and Culture. (3-0) 3 Credit Hours.

Prerequisite: FRN 2023 or consent of instructor. Selections from French literature and culture studied as reflections and interpretations of central movements in French cultural history. Introduction to concepts of style, genre, and period. May be repeated for credit when topics vary. Course Fees: LRLF \$10; MM01 \$7; STLF \$18.

FRN 4003. Topics in French Literature. (3-0) 3 Credit Hours.

Prerequisite: FRN 2023 or consent of instructor. Focus on a specific area of French literature, from the medieval period through the 21st century. Selected texts are studied as examples of representative movements, genres, or authors in French literary history. May be repeated for credit when topics vary. Course Fees: LRLF \$10; MM01 \$7; STLF \$18.

FRN 4213. Topics in French Culture and Linguistics. (3-0) 3 Credit Hours.

Prerequisite: FRN 2023 or consent of instructor. Selected topics of cultural history or linguistics from medieval period through the 21st century. May be repeated for credit when topics vary. Course Fees: LRLF \$10; MM01 \$7; STLF \$18.

FRN 4913. Independent Study. (0-0) 3 Credit Hours.

Prerequisites: Permission in writing (form available) of the instructor, the student's advisor, the Department Chair, and the Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Course Fees: LRLF \$10; STLF \$18.

FRN 4933. Internship in French. (0-0) 3 Credit Hours.

Prerequisite: Permission of Department Chair. Supervised experience in a setting that provides the opportunity to integrate theory and practice in language usage. May be repeated once for credit. Course Fees: LRLF \$10; STLF \$18.

FRN 4953. Special Studies in French. (3-0) 3 Credit Hours.

Prerequisite: Consent of instructor. An organized course offering the opportunity for specialized study not normally or not often available as part of the regular course offerings. Special Studies may be repeated for credit when topics vary, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. Course Fees: LRLF \$10; MM01 \$7; STLF \$18.

FRN 4993. Honors Research. (0-0) 3 Credit Hours.

Prerequisite: Consent of the undergraduate advisor. Supervised research and preparation of an honors thesis. May be repeated once for credit, with approval. Course Fees: LRLF \$10; STLF \$18.

General Business Administration (GBA)

General Business Administration (GBA) Courses

GBA 2013. Legal, Social and Ethical Issues in Business. (3-0) 3 Credit Hours.

A study of the legal, social, and ethical responsibilities of business organizations and of the people who work in those organizations. Generally offered: Fall, Spring, Summer. Course Fees: BISP \$10; BTSI \$15; DL01 \$75; LRB1 \$15.

GBA 3013. Introduction to Academic Research. (3-0) 3 Credit Hours.

Prerequisites: Consent of the instructor. This course will introduce students to the nature and scope of research conducted in a variety of business disciplines. Students will participate in a broad review of business research literature. This course will also explore the nature of doctoral programs and careers in academe. Finally, this course will describe methods and approaches that students can take to prepare for admission into graduate programs of interest. Differential Tuition: \$126.

GBA 4023. Conducting Cutting Edge and Innovative Research and Discovery. (3-0) 3 Credit Hours.

Prerequisites: GBA 3013, MS 3043, and consent of instructor. This course is the first in a two-part sequence providing students with practical knowledge, skills, and hands-on experience needed to conduct pragmatic and professional research in an application area of interest. Students will meet with their peers, if any, and the instructor, for the purpose of facilitating the research work. During this course, students will engage in the following steps of the research and knowledge discovery process: problem definition, question formulation, hypothesis development, methodological selection, preliminary analytics, analytical design, data acquisition, data preparation and pre-processing, visualization, and data analysis. Differential Tuition: \$126.

GBA 4033. Communication and Visualization of Impactful Research. (3-0) 3 Credit Hours.

Prerequisite: GBA 4023 and consent of instructor. This course is the second in a two-part sequence aiming to give students hands-on research experience in a pragmatic and professional manner. Students will continue and finish their major data analytics project, focusing on post hoc or auxiliary analysis and presentation of results portion of the process. The next steps will be detailed data analysis and feedback, conclusion drawing, report preparation and refinement, presentation preparation and final presentation. The course will culminate in a formal, completed report to the supporting organization, as well as to peers and professionals in the field. Students and mentoring faculty may consider submission to professional conference and/or additional publication or presentation venues to further enhance the research experience. Differential Tuition: \$126.

GBA 4873. Global Business Immersion I. (3-0) 3 Credit Hours.

Prerequisite: Completion of 9 semester credit hours of College of Business (COB) courses and official admission into the COB Business Immersion Program. This course provides students with first-hand experience into how business is conducted in the locations visited. The pre-departure activities provide students with an introduction to the local business climate and culture. The in-country activities include visits to local companies and workshops hosted by local professors. The post-immersion components engage students in reflection opportunities and applied project experiences. This course relies heavily on experiential components; as a result, attendance to all official course events is required. Differential Tuition: \$126.

GBA 4883. Global Business Immersion II. (3-0) 3 Credit Hours.

Prerequisite: Completion of 9 semester credit hours of College of Business (COB) courses and official admission into the COB Business Immersion Program. This course provides students with first-hand experience into how business is conducted in the locations visited. The pre-departure activities provide students with an introduction to the local business climate and culture. The in-country activities include visits to local companies and workshops hosted by local professors. The post-immersion components engage students in reflection opportunities and applied project experiences. This course relies heavily on experiential components; as a result, attendance to all official course events is required. Differential Tuition: \$126.

GBA 4933. Business Global Internship. (0-0) 3 Credit Hours.

Prerequisite: Completion of 12 semester credit hours of College of Business (COB) courses and official admission into the COB international internship program. An international internship offers students the opportunity to work and learn in a non-US environment. This global internship experience helps students apply their classroom teachings to a work environment. Students participating in this program will gain first-hand knowledge of the behaviors, customs, and norms of another culture and business practices. A proposal form must be completed and approved prior to registration. Differential Tuition: \$126.

GBA 4953. Special Studies in General Business Administration. (3-0) 3 Credit Hours.

Prerequisites: Consent of instructor, Department Chair, and Dean of the College. An organized course offering the opportunity for specialized study not normally or not often available as part of the regular course offerings. Special Studies may be repeated for credit when the topics vary, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. Generally offered: Spring, Summer. Differential Tuition: \$126.

GBA 4993. Honors Thesis. (0-0) 3 Credit Hours.

Prerequisite: Enrollment limited to students in the Business Honors Program. Supervised research and preparation of an honors thesis in any business discipline including accounting, economics, finance, information systems, management, marketing, management science, and data sciences among others. May be repeated once for credit with advisor's approval. Generally offered: Fall, Spring. Differential Tuition: \$126.

Geography and Environmental Sustainability (GES)

Geography and Environmental Sustainability (GES) Courses

GES 1013. Fundamentals of Geography. (3-0) 3 Credit Hours.

Introduction to the study of physical and cultural features of the earth and their distributions, causes, and consequences to humans. Topics include landforms, climate, natural resources, population, human behavior in spatial context, economic growth, urbanization, and political systems. May apply toward the Core Curriculum requirement in Social and Behavioral Sciences. (Formerly GRG 1013. Credit cannot be earned for both GRG 1013 and GES 1013.) Generally offered: Fall, Spring. Course Fees: DL01 \$75; LRC1 \$12; LRLF \$10; STLF \$18.

GES 1023. World Regional Geography. (3-0) 3 Credit Hours. (TCCN = GEOG 1303)

Study of the world's regions, focusing on salient physical, cultural, economic, and political characteristics, including physiography, climate, natural resources, population, economic structure and development, globalization, urban growth, cultural institutions, and political structure. Regions include North America, Latin America, Europe, Middle East/North Africa, Sub-Saharan Africa, South Asia, Japan, China and East Asia, the Russian Federation, and Australasia. May apply toward the Core Curriculum requirement in Language, Philosophy and Culture. (Formerly GRG 1023. Credit cannot be earned for both GRG 1023 and GES 1023.) Generally offered: Fall, Spring, Summer. Course Fees: DL01 \$75; LRC1 \$12; LRLF \$10; STLF \$18.

GES 2613. Physical Geography. (3-0) 3 Credit Hours. (TCCN = GEOG 1301)

Study of the earth's major landforms and climatic patterns, the processes giving rise to these patterns, and their relationship to human activity. Includes the geomorphology of volcanoes, glaciers, coral reefs, mountains, caves, dunes, and plate tectonics; weather and climate; and the relationship of these agents to physical and human landscapes. May apply towards the Core Curriculum requirement in Life and Physical Sciences. (Formerly GRG 2613. Credit cannot be earned for both GRG 2613 and GES 2613.) Generally offered: Fall, Spring, Summer. Course Fees: DL01 \$75; LRC1 \$12; LRLF \$10; STLF \$18.

GES 2623. Human Geography. (3-0) 3 Credit Hours. (TCCN = GEOG 1302)

An introduction to the study of human patterns and behaviors across the globe. Topics include population and migration; language, religion, gender, and ethnicity; political geography; development; economic geography; urban patterns; and resource issues. May apply towards the Core Curriculum requirement in Social and Behavioral Sciences. (Formerly GRG 2623. Credit cannot be earned for both GRG 2623 and GES 2623.) Generally offered: Fall. Course Fees: LRC1 \$12; LRLF \$10; STLF \$18.

GES 3003. Global Sustainability. (3-0) 3 Credit Hours.

This course introduces the student to the concepts, principles, and practices of sustainability in the context of physical and human geography. It focuses on key knowledge areas including environmental and ecosystem change; water, food, and energy resources; urban and economic development; social equity; and cultural preservation. The course will help the student respond to critical global challenges such as climate change, natural disasters, food shortages, environmental degradation, and social inequalities. Course Fees: LRLF \$10; STLF \$18.

GES 3113. Geography of the United States and Canada. (3-0) 3 Credit Hours.

Study of selected geographic aspects of the major regions of the United States and Canada, emphasizing current social and economic issues in these regions. From a contextualizing treatment of the continent's physical geographies, the course proceeds to the social geographies of the major ethnic groups, showing how the historical management and appropriation of space has been integral to determining the character of the contemporary social hierarchy at the national level. The course proceeds through analyses of social and economic patterns of development, including the national and internal geographical patterns of North American cities. (Formerly GRG 3113. Credit cannot be earned for both GRG 3113 and GES 3113.) Course Fees: LRLF \$10; STLF \$18.

GES 3123. Geography of Latin America. (3-0) 3 Credit Hours.

Beginning with basic aspects of the physical environment, the course examines the social geographies of pre-colonial and colonial Latin America. The structural factors of Latin American economies and cultural institutions are then examined. Emphasis is on their spatial manifestations and their role in producing a Latin America often termed "underdeveloped." The emerging role of Latin America in the democratic world order of the post-1990s is also examined. (Formerly GRG 3123. Credit cannot be earned for both GRG 3123 and GES 3123.) Course Fees: LRLF \$10; STLF \$18.

GES 3133. Geography of Europe. (3-0) 3 Credit Hours.

Survey of the European culture area, including Western Europe, Eastern Europe, and the Baltics. Discussion of historical, urban, political, ethnic, and economic forces shaping the 21st-century geography of Europe, including the European Union and the Russian Federation. (Formerly GRG 3133. Credit cannot be earned for both GRG 3133 and GES 3133.) Generally offered: Spring. Course Fees: LRLF \$10; STLF \$18.

GES 3143. Geography of Mexico. (3-0) 3 Credit Hours.

Investigation of Mexico's physical and social geography, including climatic and geomorphologic influences, the historical imprint of the Amerindians and the Spanish, population growth and migration, urbanization, political reform, social and cultural change, agriculture and industry, trade liberalization and the impact of NAFTA. (Formerly GRG 3143. Credit cannot be earned for both GRG 3143 and GES 3143.) Course Fees: LRLF \$10; STLF \$18.

GES 3153. Geography of Texas. (3-0) 3 Credit Hours.

A topical and regional examination of the physical, historical, cultural, and economic patterns of the state. Includes demographic characteristics, agriculture, mining, manufacturing, and selected urban areas. The role of historical and political forces in creating social inequities in contemporary Texas are examined in detail, including environmental degradation, rural health, higher education, and patterns of wealth and economic growth. May include a field trip to the nonmetropolitan hinterland of San Antonio. (Formerly GRG 3153. Credit cannot be earned for both GRG 3153 and GES 3153.) Course Fees: LRLF \$10; STLF \$18.

GES 3213. Cultural Geography. (3-0) 3 Credit Hours.

A thematic exploration of the nature and distribution of human culture hearths, population, folk culture, popular culture, agriculture, industrialization, languages, and religion. Topics are defined and examined in the context of their manifestations and influences as regions, cultural diffusion, ecology, cultural interaction, and landscapes. (Formerly GRG 3213. Credit cannot be earned for both GRG 3213 and GES 3213.) Generally offered: Fall. Course Fees: LRLF \$10; STLF \$18.

GES 3223. Revealing Geography through Film and Pop Culture. (3-0) 3 Credit Hours.

This course explores global geographic issues by means of contemporary cinema, elaborated upon in selected readings. By the use of film, the course immerses the student in the socio-cultural, geo-political, economic, and environmental dimensions of the contemporary world. It examines places and people that are often marginalized, such as certain ethnic and racial groups, women, and the economically disadvantaged. Course Fees: LRLF \$10; STLF \$18.

GES 3314. Introduction to Geographic Information Systems. (3-2) 4 Credit Hours.

An introductory course on the application of the computer to the acquisition, manipulation, analysis, and display of geographic data; and an overview of projection systems, data acquisition issues, and presentation techniques. Three lecture and two laboratory hours per week. (Formerly GRG 3313 and GRG 3314. Credit cannot be earned for GRG 3314 or GRG 3313 and GES 3314.) Generally offered: Fall. Course Fees: GIS1 \$32; LRLF \$10; STLF \$24.

GES 3323. Spatial Analysis. (3-0) 3 Credit Hours.

Conceptualization, operationalization, and analysis of relationships in geography and the social sciences. Includes the scientific method, research design, sampling, interpretation of spatial patterns, statistics, and univariate and multivariate analysis. Involves use of computer software in the analysis and display of data. Students will have the opportunity to explore their own interests within the course. (Formerly GRG 3323. Credit cannot be earned for both GRG 3323 and GES 3323.) Generally offered: Spring. Course Fees: GIS1 \$32; LRLF \$10; STLF \$18.

GES 3334. Advanced Geographic Information Systems. (3-2) 4 Credit Hours.

Prerequisite: GES 3314. Advanced topics in the use of computer-based analysis of geographic information including data acquisition, modeling complex datasets, and an introduction to scripting to customize an industry-standard software package. Three lecture and two laboratory hours per week. (Formerly GRG 3333 and GRG 3334. Credit cannot be earned for GRG 3333 or GRG 3334 and GES 3334.) Course Fees: GIS1 \$32; LRLF \$10; STLF \$24.

GES 3343. Analytical and Computer Cartography. (2-2) 3 Credit Hours.

The design, construction, production, and reproduction of maps using computer hardware and software. Topics may include cartographic theory, principles of visual communication, and the techniques of geographic visualization, including 3-D and 4-D modeling and animation. (Formerly GRG 3343. Credit cannot be earned for both GRG 3343 and GES 3343.) Course Fees: GIS1 \$32; LRLF \$10; STLF \$18.

GES 3353. Critical Qualitative GIS. (3-0) 3 Credit Hours.

This course will serve as an introduction to the concepts, techniques, and histories that enable mapping as a creative and artistic practice, with particular attention to critical and qualitative interventions into the GISciences. It covers the centrality of the map in everyday life and considers the changing role of the map-maker as society becomes increasingly saturated by digital information technologies. The course introduces more recent innovative applications of GIS and mapping in representing social groups through participatory and voluntary mapping practices. Course Fees: GIS1 \$32; LRLF \$10; STLF \$18.

GES 3363. GIS Cartography. (3-0) 3 Credit Hours.

This course is focused on creating and designing high-quality digital maps. Introduces the basic concepts and techniques of digital map making and the broader field of geographic visualization. Topics may include map symbolization, scale, generalization and cognition, virtual environments, designing user interfaces for GIS, and map animations using Online GIS and Google Earth.

GES 3413. Geography of the Middle East and North Africa. (3-0) 3 Credit Hours.

An analysis of the states spanning the Maghreb from Morocco to Libya; Egypt; and the Middle East from Turkey and the Arabian Peninsula to Pakistan. Examination of the region's physical and social geography and its political and economic dynamics from early history to modern times. (Formerly GRG 3413. Credit cannot be earned for both GRG 3413 and GES 3413.) Course Fees: LRLF \$10; STLF \$18.

GES 3423. Geopolitics of Russia and Eurasia. (3-0) 3 Credit Hours.

Multidisciplinary introduction and regional study of the Russian Federation and the Eurasian realm, including the Caucasus, Central Asian nations, Afghanistan, and Mongolia. Both the geography and the politics of this area will be analyzed. Historical and contemporary geopolitical topics include nation-building, regional civilizations, revolution, terrorism, the 19th-century "Great Game," the rise of the USSR, and the current transition of the Russian Federation to an uncertain future. (Same as GLA 3423 and POL 3423. Formerly GRG 3423. Credit cannot be earned for more than one of the following: GLA 3423, GRG 3423, POL 3423, or GES 3423.) Course Fees: LRLF \$10; STLF \$18.

GES 3433. The Geography and Politics of the Asian Rim. (3-0) 3 Credit Hours.

An analysis of the states spanning from the Indian subcontinent through Indo-China to Japan and China. Examination of their physical and social geographies and the regional political dynamics prevalent in the modern era. Selected themes will include population dynamics, cultural hearths, immigration patterns, economic development, and regional integration. (Formerly GRG 3433. Credit cannot be earned for both GRG 3433 and GES 3433.) Course Fees: LRLF \$10; STLF \$18.

GES 3443. Medical Geography. (3-0) 3 Credit Hours.

The human ecology of health and disease. Topics may include analysis of the cultural/ environmental interactions that explain world patterns of disease; the diffusion and treatment of infectious disease; maps and GIS in medical geography; the ecology of non-communicable diseases; and health care promotion and delivery. (Formerly GRG 3443. Credit cannot be earned for both GRG 3443 and GES 3443.) Course Fees: LRLF \$10; STLF \$18.

GES 3453. Population Geography. (3-0) 3 Credit Hours.

Study of the spatial dimensions of population distribution, growth, and mobility. Includes the historical and modern reasons for global patterns of population, changes in birth and death rates over time, and levels of development as explained by the demographic transition and population policies. Special attention will be given to human migration theories, models, and case studies at the intra-urban, internal, and international levels. Global issues related to population growth and movement such as political conflict and governance, disease, and immigration policy will be covered. (Formerly GRG 3453. Credit cannot be earned for both GRG 3453 and GES 3453.) Course Fees: LRLF \$10; STLF \$18.

GES 3513. Urban Geography. (3-0) 3 Credit Hours.

A geographic examination of the environmental settings and impacts, history, structure, growth, area of influence, economic base, social structure, and culture of cities. Topics may include the physiography and climate of cities, preindustrial and industrial cities in history, factors that influence the growth and decline of cities, urbanization, the rise of global cities, the imagined city, cities as urban service centers, urban cultural diversity, social area analysis, and urban cultural conflicts. Focus of the course may be local, national, or international. (Formerly GRG 3513. Credit cannot be earned for both GRG 3513 and GES 3513.) Generally offered: Fall. Course Fees: LRLF \$10; STLF \$18.

GES 3533. Geography of Local Economic Activity. (3-0) 3 Credit Hours.

Investigates the location of agricultural, industrial, retail and service activities, and transportation flows at the scale of town and community, through relevant theories and models. Includes case studies of agricultural land use around cities, the community economic base, global impacts on the local economy, and central place principles of threshold, range, primacy, and hierarchy. Students will apply these concepts and models to local communities. Course Fees: LRLF \$10; STLF \$18.

GES 3543. Behavioral Geography. (3-0) 3 Credit Hours.

Study of human spatial perception and behavior as a function of the social, built, and natural environments. Topics include the formation of beliefs and attitudes toward places and peoples; how humans lay claim to and defend proximal spaces and territories; perception of the physical environment; the diffusion of technologies, ideas, people, and diseases over space; and the causes and effects of contemporary human migrations. Students will directly observe human personal space defense in the field, and present their observations in written and/or verbal form. Course Fees: LRLF \$10; STLF \$18.

GES 3573. Urban Planning and Development. (3-0) 3 Credit Hours.

An exploration and analysis of the planning and development processes of cities and urban regions. Themes and issues may include the history of urbanization; planning tools such as the master plan, zoning and subdivision regulations; property rights and the legal basis for planning and real estate development; economic development; planning and politics; historic preservation and urban design; growth management and sustainability; environmental issues; housing and social issues; and transportation and land use. (Same as POL 3413. Formerly GRG 3523 and GES 3523. Credit can only be earned for one course: GES 3573, POL 3413, GRG 3523, or GES 3523.) Course Fees: LRLF \$10; STLF \$18.

GES 3613. Conservation of Resources. (3-0) 3 Credit Hours.

A survey of natural resources, environmental policies, global consumption patterns, and the competing values that affect them. Topics include agriculture, water resources, air pollution, waste disposal, land management, wildlife preservation, habitat conservation, biodiversity, energy production, urban sprawl, economic growth, and other selected components of built and natural systems. (Formerly GRG 3613. Credit cannot be earned for both GRG 3613 and GES 3613.) Generally offered: Fall. Course Fees: LRLF \$10; STLF \$18.

GES 3623. Geography of Natural Hazards. (3-0) 3 Credit Hours.

This course introduces students to the geophysical phenomena that are the root causes of natural disasters, as well as the social institutions and human geographies that exacerbate them. Hazards covered in this class may include earthquakes, tsunamis, volcanic eruptions, hurricanes, tornados, floods, drought, wildfire, and global climate. (Formerly GRG 3623. Credit cannot be earned for both GRG 3623 and GES 3623.) Course Fees: LRLF \$10; STLF \$18.

GES 3633. Geography of Globalization and Development. (3-0) 3 Credit Hours.

Survey and analysis of economic growth and social change in different parts of the world, with an emphasis on less-developed countries. Topics may include defining development, modernization and neo-liberalism, structuralism and post-development, major theories of development and underdevelopment, poverty and inequality, sustainable and grassroots development, cultural globalization, and hyper-urbanization. (Formerly GRG 3633. Credit cannot be earned for both GRG 3633 and GES 3633.) Course Fees: LRLF \$10; STLF \$18.

GES 3643. Political Geography. (3-0) 3 Credit Hours.

Investigates the role of the political state in society and the evolution of state organization from classical times to the present. Topics may include centrifugal and centripetal forces, geopolitics, territorial morphology, boundaries, core areas, emerging supranationalism, and the spatial and political problematics associated with the globalization of capitalist exchange. (Formerly GRG 3643. Credit cannot be earned for both GRG 3643 and GES 3643.) Course Fees: LRLF \$10; STLF \$18.

GES 3653. Gender and Cities: An Introduction to Feminist Geography. (3-0) 3 Credit Hours.

The course studies the role of women in the spatial organization of society. Topics may include analysis of gendered spaces, the importance of gender relations in shaping physical, social, and built environments, and the spatial-economic consequences of gender-based policies. In addition to the role of gender, this course explores the roles of race, religion, disability, and sexual orientation in shaping the urban environment. (Formerly GRG 3653. Credit cannot be earned for both GRG 3653 and GES 3653.) Generally offered: Spring. Course Fees: LRLF \$10; STLF \$18.

GES 3663. Urban Sustainability in Global Context. (3-0) 3 Credit Hours.

This course explores the challenges of achieving environmentally and socially sustainable communities, neighborhoods, and cities. It investigates how and in what contexts we can move towards urban ecological integrity, economic security, empowerment, social responsibility and social well-being as exemplified by sustainable communities globally. Students will be introduced to the concepts, theories, tools, and techniques of this vibrant, emerging field. Course Fees: LRLF \$10; STLF \$18.

GES 3673. Space and Identity Crisis in the Postmodern Era. (3-0) 3 Credit Hours.

This course examines the growing crisis of personal and collective identity as a consequence of the globalization of capitalist exchange. The human need for 'belonging' to different social communities at different spatial, social, and cultural levels is challenged by rapid changes in economic production, technology and the corresponding integration with formerly external areas. Common manifestations of these processes are expressed through supranationalism (EC, NAFTA, etc.), gentrification, 'anti-immigrationism', the renewal of recently tainted racial, ethnic, and gender conceptions, among others. This course reveals the systemic underpinnings to growing sectarian strife at the local and international level. Course Fees: LRLF \$10; STLF \$18.

GES 3683. Sustainable Landscape Management. (3-0) 3 Credit Hours.

This course will provide students with the opportunity to understand and apply sustainability principles and practices to landscape management and land uses that are responsive to both natural and human needs. They will develop an ability to "read" the landscape and become aware of what has or is happening with the land we inhabit. Students will be introduced to the tools and techniques used by planners, managers, and citizens to achieve desired future land conditions. Issues will include landscape ecology, reconciliation ecology, storm water management, habitat conservation, designing with nature, and related topics. Course Fees: LRLF \$10; STLF \$18.

GES 3713. Weather and Climate. (3-0) 3 Credit Hours.

Analysis of the elements and causes of daily weather, climatic classifications, and climate change. Study of world distributions and components of climate, air pressure, precipitation, air masses, optical phenomena, and wave cyclones. Regional attention to weather patterns, including tornadoes and hurricanes. (Formerly GRG 3713. Credit cannot be earned for both GRG 3713 and GES 3713.) Generally offered: Fall. Course Fees: LRLF \$10; STLF \$18.

GES 3723. Physiography. (3-0) 3 Credit Hours.

This course provides a study of landforms, the description and interpretation of relief features of the surface of the earth, and the processes and materials that form and change them over time. Students will be introduced to the impacts of human intervention in landscape-shaping processes. Emphasis will be placed on the landforms of a selected region, such as the Southwestern United States. (Formerly GRG 3723. Credit cannot be earned for both GRG 3723 and GES 3723.) Course Fees: LRLF \$10; STLF \$18.

GES 3733. Urban and Regional Analysis. (3-0) 3 Credit Hours.

Applied models of urban and regional growth, structure, interaction, influence, and inequality over space, with emphasis on the United States. The course introduces the student to theories and concepts of urban and regional development, stressing practical skills for analyzing social, political, economic, and demographic characteristics of the urban scene, with an emphasis on sustainable development. (Formerly GRG 3733. Credit cannot be earned for both GRG 3733 and GES 3733.) Course Fees: LRLF \$10; STLF \$18.

GES 3743. Biogeography. (3-0) 3 Credit Hours.

The study of the distribution of species and ecosystems in geographic space and over time. Topics may include the prehistoric and historic diffusion of plant and animal species, the global distribution of flora, fauna and soils, the impacts of plants and animals on settlement and globalization, and the consequences of human activity for the biosphere. (Formerly GRG 3743. Credit cannot be earned for both GRG 3743 and GES 3743.) Course Fees: LRLF \$10; STLF \$18.

GES 3753. Climate Change. (3-0) 3 Credit Hours.

Examines changes in climatic systems over both short and long time periods, their physical and human causes, and their impacts on physical and ecological systems. Discusses past, present, and future changes in climatic conditions and the methods used to evaluate changes in temperature, precipitation, and other climatic indicators. (Formerly GRG 3753. Credit cannot be earned for both GRG 3753 and GES 3753.) Course Fees: LRLF \$10; STLF \$18.

GES 4853. Study Abroad. (3-0) 3 Credit Hours.

Prerequisite: Permission of instructor. Lecture course associated with a study abroad program. Involves international travel and field trips. May be repeated once for credit when the destination varies. Course Fees: LRLF \$10; STLF \$18.

GES 4856. Study Abroad. (6-0) 6 Credit Hours.

Prerequisite: Permission of instructor. Lecture course associated with a study abroad program. Involves international travel and field trips. Course Fees: LRLF \$10; STLF \$36.

GES 4911. Independent Study. (0-0) 1 Credit Hour.

Prerequisites: Permission in writing (form available) of the instructor, the student's advisor, the Department Chair, and the Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. (Formerly GRG 4911). Course Fees: LRLF \$10; STLF \$6.

GES 4912. Independent Study. (0-0) 2 Credit Hours.

Prerequisites: Permission in writing (form available) of the instructor, the student's advisor, the Department Chair, and the Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. (Formerly GRG 4912.) Course Fees: LRLF \$10; STLF \$12.

GES 4913. Independent Study. (0-0) 3 Credit Hours.

Prerequisites: Permission in writing (form available) of the instructor, the student's advisor, the Department Chair, and the Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. (Formerly GRG 4913). Course Fees: LRLF \$10; STLF \$18.

GES 4933. Internship in Geography. (0-0) 3 Credit Hours.

Prerequisites: Consent of internship coordinator and faculty supervisor. Supervised experience relevant to geography within selected community organizations. A maximum of 6 semester credit hours may be earned through the internship. (Formerly GRG 4933). Course Fees: LRLF \$10; STLF \$18.

GES 4936. Internship in Geography. (0-0) 6 Credit Hours.

Prerequisites: Consent of internship coordinator and faculty supervisor. Supervised experience relevant to geography within selected community organizations. A maximum of 6 semester credit hours may be earned through the internship. (Formerly GRG 4936. Credit cannot be earned for both GRG 4936 and GES 4936.) Course Fees: LRLF \$10; STLF \$36.

GES 4953. Special Studies in Geography. (3-0) 3 Credit Hours.

An organized course offering the opportunity for specialized study not normally or not often available as part of the regular course offerings. Special Studies may be repeated for credit when topics vary, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. (Formerly GRG 4953.) Course Fees: LRLF \$10; STLF \$18.

GES 4983. Research Practicum. (0-0) 3 Credit Hours.

Prerequisites: Permission in writing (form available) of the instructor, the student's advisor and the Department Chair. The practicum provides students with the opportunity to focus on a specific research issue under the guidance of a professor. The student would engage in a professor's research project or another broader research initiative. The student might be involved in data collection, report writing, preparing presentations or publications, or gaining applied research experience working with several students or professors in a collective research environment such as the GIS lab or in the field. (Formerly GRG 4983. Credit cannot be earned for both GRG 4983 and GES 4983.) Course Fees: LRLF \$10; STLF \$18.

GES 4993. Honors Thesis. (0-0) 3 Credit Hours.

Prerequisites: A minimum grade point average of 3.0 at UTSA, a 3.5 grade point average in the major, and recommendation by a member of the Political Science and Geography faculty. Supervised research and preparation of an honors thesis. May be repeated once with advisor's approval. Students who are approved will enroll in the appropriate honors thesis courses during their final two semesters at UTSA. To earn honors, the thesis must be passed by an Honors Committee that will be formed with the recommending faculty and another faculty member. Students interested in enrolling should contact the Department Undergraduate Advisor of Record for additional information. (Formerly GRG 4993.) Course Fees: LRLF \$10; STLF \$18.

Geology (GEO)

NOTE: All prerequisites required for Geology (GEO) courses or courses counted toward major or minor requirements in geology must be completed with a grade of "C-" or better.

Geology (GEO) Courses

GEO 1013. The Third Planet. (3-0) 3 Credit Hours. (TCCN = GEOL 1301)

Evolution of ideas concerning the earth's origin, structure, and age; social impact of recognizing the antiquity of the planet and humankind's brief presence; examination of how the distribution of planetary resources influenced the rise and clash of civilizations. May not be applied to a major in geology. May apply toward the Core Curriculum requirement in Life and Physical Sciences. Generally offered: Fall, Spring, Summer. Course Fees: DL01 \$75; LRC1 \$12; LRS1 \$45; STSI \$21.

GEO 1103. Physical Geology. (3-0) 3 Credit Hours. (TCCN = GEOL 1303)

Prerequisites: Completion of or concurrent enrollment in CHE 1103, CHE 1121, and MAT 1093 or higher, or satisfactory performance on placement exam. Completion of or concurrent enrollment in GEO 1111 required. This course is intended for geology majors and minors as well as others interested in the geologic sciences. It constitutes an introduction to the geology major and skillsets needed by the practicing geologist including; mineral and rock identification, microscopy, deep time, outcrop descriptions, and mapping. The course includes an introduction to the theory of plate tectonics and its relation to the Earth's internal structure, surface features, hydrosphere, earthquakes, and volcanism. One or more field trips may be required. Generally offered: Fall, Spring. Course Fees: LRS1 \$45; STSI \$21.

GEO 1111. Physical Geology Laboratory. (1-3) 1 Credit Hour. (TCCN = GEOL 1103)

Prerequisite: Completion of or concurrent enrollment in GEO 1103. Relation of the earth's present processes to its resources, structure, and internal composition. Field and laboratory study of minerals, rocks, maps, and aerial and satellite photos. Field trips may be required. (Formerly titled "Introduction to Earth Systems Laboratory.") Generally offered: Fall, Spring. Course Fees: IUE1 \$15; LRS1 \$15; STSI \$7.

GEO 1123. Life Through Time. (3-0) 3 Credit Hours. (TCCN = GEOL 1304)

Concurrent enrollment in GEO 1131 recommended. A study of the origin and evolution of life on Earth including major events from the beginning of the Earth and solar system to the present, as well as the interaction of life with the lithosphere, atmosphere, and hydrosphere. This course will explore the fossil record, sedimentary rocks, plate tectonics, evolution, and climate change. May apply toward the Core Curriculum requirement in Life and Physical Sciences. Generally offered: Fall, Spring. Course Fees: LRC1 \$12; LRS1 \$45; STSI \$21.

GEO 1131. Life Through Time Laboratory. (1-3) 1 Credit Hour. (TCCN = GEOL 1104)

Prerequisite: Completion of or concurrent enrollment in GEO 1123. Laboratory and field study of minerals, rocks, fossils, sequences of rocks, and mapping for the interpretation of life through time and the interpretation of Earth history. This course is intended and required for Geological Science majors and minors and will introduce students to many concepts covered in upper level courses. Field trips may be required. Generally offered: Fall, Spring. Course Fees: IUE1 \$15; LRS1 \$15; STSI \$7.

GEO 2003. Mineralogy. (3-0) 3 Credit Hours.

Prerequisites: CHE 1103, CHE 1121, GEO 1103, GEO 1111, MAT 1093 or higher, or satisfactory performance on placement exam. Completion of or concurrent enrollment in GEO 2011. Crystallography, crystal chemistry, and the physical and optical properties of minerals. Principles of optical mineralogy and the microscopic determination of nonopaque minerals. Field trips may be required. Generally offered: Fall. Course Fees: LRS1 \$45; STSI \$21.

GEO 2011. Mineralogy Laboratory. (1-4) 1 Credit Hour.

Corequisite: GEO 2003. Laboratory study of crystal models, crystals, and minerals. Use of physical properties and the petrographic microscope for mineral identification. Field trips may be required. (Formerly GEO 2012. Credit cannot be earned for both GEO 2011 and GEO 2012.) Generally offered: Fall. Course Fees: IUE1 \$15; LRS1 \$15; STSI \$7.

GEO 2113. Fundamentals of Geographic Information Systems (GIS). (2-2) 3 Credit Hours.

Prerequisite: CS 1173 or equivalent. This course will serve as a basic introduction to the concepts and techniques of utilizing a Geographic Information System (GIS) to study and model environmental issues. In lecture and laboratory, students will study methods of querying, analyzing, creating and displaying GIS data utilizing industry standard software. Students will also be introduced to using the Global Positioning System (GPS) as a means for creating GIS data. (Credit cannot be earned for both GEO 2113 and ES 2113.) Generally offered: Fall, Spring. Course Fees: LRS1 \$45; STSI \$21.

GEO 3001. Preparation for the Geoscience Workforce. (1-0) 1 Credit Hour.

Prerequisites: GEO 1103, GEO 1123, and at least junior standing. This course provides the opportunity to engage in professional development activities in preparation for a career in the geosciences and aligned fields. Activities will include workshops, seminars, and assignments. Differential Tuition: \$50.

GEO 3003. Fundamentals of Meteorology. (3-0) 3 Credit Hours.

Prerequisites: GEO 1103 and GEO 1123. Introduction to atmospheric sciences and how the energy from the Sun shapes the weather on the Earth, from weather prediction to hurricanes forecast, to El Niño to La Niña. Generally offered: Fall (online), Spring (in class). Differential Tuition: \$150.

GEO 3004. Rocks, Fossils, and Global Tectonics. (2-4) 4 Credit Hours.

Prerequisites: GEO 1103 and GEO 1111. An investigation of the major rock forming minerals, petrogenesis of the major rock types, and their plate tectonic context. Study of major trends in fauna and flora through time and their application to interpreting plate tectonics, paleoenvironments, and paleoclimate. Credit may not be applied to a B.S. or B.A. major in Geology. Differential Tuition: \$200.

GEO 3013. Fundamentals of Plate Tectonics. (3-0) 3 Credit Hours.

Prerequisites: GEO 1103, GEO 1111, GEO 2003, GEO 2011, and MAT 1093. This course introduces the student to the mechanics of lithospheric plate motion and the physical phenomena driving the motion. The relationships between plate tectonics, mantle convection, and geomagnetism are explored, as well as common structures associated with plate boundaries. Mathematical models are introduced and used to describe plate motion on a sphere. Historical development of plate tectonic theory is also covered. Generally offered spring. Differential Tuition: \$150.

GEO 3043. Petrology. (3-0) 3 Credit Hours.

Prerequisites: GEO 2003, GEO 2011, MAT 1214, and completion of or concurrent enrollment in GEO 3051. Description, classification, occurrence, and origin of igneous and metamorphic rocks. Field trips may be required. Generally offered: Spring. Differential Tuition: \$150.

GEO 3051. Petrology Laboratory. (1-4) 1 Credit Hour.

Prerequisites: GEO 2003, GEO 2011, and completion of or concurrent enrollment in GEO 3043. Laboratory study of igneous and metamorphic rocks in hand specimen and thin section. Field trips may be required. (Formerly GEO 3052. Credit cannot be earned for both GEO 3051 and GEO 3052.) Generally offered: Spring. Differential Tuition: \$50.

GEO 3063. Paleontology. (3-0) 3 Credit Hours.

Prerequisites: GEO 1103, GEO 1111, GEO 1123, GEO 1131, or consent of instructor, and concurrent enrollment in GEO 3071. Study of fossil animals and plants. Emphasis on invertebrate animals. Systematics, biostratigraphy, paleoecology, and evolution of fossil organisms. Field trips may be required. Generally offered: Fall. Differential Tuition: \$150.

GEO 3071. Paleontology Laboratory. (1-3) 1 Credit Hour.

Prerequisites: GEO 1103, GEO 1111, GEO 1123, GEO 1131, and concurrent enrollment in GEO 3063. Study of fossil specimens, collections, and preparation techniques. Field trips may be required. Generally offered: Fall. Differential Tuition: \$50. Course Fee: IUE1 \$15.

GEO 3103. Structural Geology. (3-0) 3 Credit Hours.

Prerequisites: GEO 3043, GEO 3051, GEO 3113, and completion of or concurrent enrollment in GEO 3111. Description and origin of geologic structures at the microscopic, hand specimen and mountain scales with emphasis on the response of Earth materials to stress and the role of rheology. Relationships between structure and tectonics will be explored. Field trips may be required. Generally offered: Spring. Differential Tuition: \$150.

GEO 3111. Structural Geology Laboratory. (1-3) 1 Credit Hour.

Prerequisite: Completion of or concurrent enrollment in GEO 3103. Laboratory study of structural features and concepts using maps, cross-sections, photographs, and descriptive geometric and stereographic methods. Field trips may be required. Generally offered: Spring. Differential Tuition: \$50.

GEO 3113. Geologic Field Investigations. (1-4) 3 Credit Hours.

Prerequisites: GEO 2003 and GEO 2011. Introduction to techniques for studying geologic features and processes in the field, including rock identification, construction of geological maps, orientation analysis, and report writing. Some half-day and Saturday field trips may be required. (Formerly GEO 3112. Credit cannot be earned for both GEO 3112 and GEO 3113.) Generally offered: Fall, Spring. Differential Tuition: \$150.

GEO 3123. Sedimentation and Stratigraphy. (3-0) 3 Credit Hours.

Prerequisites: GEO 2003, GEO 2011, GEO 3063, GEO 3071, and completion of or concurrent enrollment in GEO 3131. Processes of erosion, transportation, and deposition that form bodies of sedimentary rock. Depositional systems and modeling are a significant area of study. Stratigraphic principles and temporal and spatial facies relationships at various scales. Field trips may be required. (Formerly titled "Sedimentary Geology.") Generally offered: Spring. Differential Tuition: \$150.

GEO 3131. Sedimentation and Stratigraphy Laboratory. (1-3) 1 Credit Hour.

Prerequisites: GEO 2003, GEO 2011, GEO 3063, GEO 3071, and completion of or concurrent enrollment in GEO 3123. Laboratory studies of sedimentary processes and their products. Hand specimens, thin sections, sedimentary structures, and interpretation of depositional environments. Stratigraphic case studies, including surface, subsurface, and sequence stratigraphic analysis. Field trips may be required. (Formerly titled "Sedimentary Geology Laboratory.") Generally offered: Spring. Differential Tuition: \$50. Course Fee: IUE1 \$15.

GEO 3163. Oceanography. (3-0) 3 Credit Hours.

General oceanography, with emphasis on marine geology and especially the continental margins. An optional field trip may be offered. (Credit cannot be earned for both GEO 3163 and ES 3133.) Generally offered: Fall (in class), Spring (online). Differential Tuition: \$150. Course Fee: DL01 \$75.

GEO 3173. Polar Regions and Climate Change. (3-0) 3 Credit Hours.

This course covers properties, areal distribution, seasonal change and climatic change of the major constituents of the Polar Regions: the large ice sheets of Greenland and Antarctica; seasonal snow cover in the high and mid latitudes; sea ice covers in the Arctic, Southern Ocean and other seas; mountain glaciers from the tropics to the polar regions; and permafrost in the high latitude land areas of the Northern Hemisphere. How to examine these constituents will be presented with illustrative examples of monitoring of climate-induced changes in the Polar Regions using remote sensing and field investigations of processes and properties. Applications discussed will include: snow and ice covers as agents of geological change; snow and ice impacts as water resources in Asia and western North America, and global environmental impact through for example, effects on the earth's radiation budget, and contributions to sea level change. Human impacts covered will include effects of ice covers of rivers and sea ice such as on petroleum extraction, transportation and navigation, frost and freezing damage to crops, and hazards of blizzards and avalanches. Differential Tuition: \$150.

GEO 3343. Introduction to Geospatial Technologies. (3-0) 3 Credit Hours.

This course introduces several aspects of geospatial technologies, not only what they are but how they are used in hands-on applications, all based on free internet resources not commercial software packages. This course provides a solid foundation on which further knowledge in more specialized classes, such as Geographic Information Systems, Global Positioning Systems, and Remote Sensing, can be built on. Differential Tuition: \$150.

GEO 3374. Geochemistry. (2-4) 4 Credit Hours.

Prerequisites: GEO 1103, GEO 1111, CHE 1103, CHE 1121, and MAT 1093. A survey of geochemical processes and the distribution of elements in the earth. Application of geochemical methods and data to the solution of geologic problems. Includes geochemical laboratory experiments and use of analytical equipment. Incorporates use of standard computer software for analysis of geochemical data and graphing of results. Generally offered: Fall. Differential Tuition: \$200. Course Fee: IUE1 \$15.

GEO 3383. General Geophysics. (3-0) 3 Credit Hours.

Prerequisites: Completion of or concurrent enrollment in MAT 1224 and PHY 1963. This course examines the interrelated geology and physics of the Earth's interior as deduced from earthquake seismology, gravity and magnetic fields, and the application of geophysical methods to the exploration of near-surface cultural and natural resources. Topics in archeological, environmental, and engineering geophysics will be explored through the methods of refraction seismology, electrical resistivity, electromagnetic induction, microgravity, and ground penetrating radar. Field trips may be required. Generally offered: Fall. Differential Tuition: \$150.

GEO 3393. Introduction to Isotope Geochemistry. (3-0) 3 Credit Hours.

Prerequisites: GEO 1103, GEO 1111, CHE 1103, CHE 1121, and MAT 1214. The course includes a review of theories of nuclear structure, stability of nucleus, nucleosynthesis and origin of elements, and introduces both radiogenic and stable isotope geochemistry. Topics include radioactive decay schemes for tritium-helium, U-Pb, Rb-Sr, Sm-Nd, K-Ar, and U-Th-Pb-He systems; isotopic fractionations of stable isotopes of C, H, O, N, and S; and application of radiogenic and stable isotopes to petrology, evolution of the crust and mantle, geochronology, geothermometry, archaeology, ecology, hydrology, and paleoclimatic interpretation. Generally offered: Fall. Differential Tuition: \$150.

GEO 4001. Experiential Learning Experience. (0-0) 1 Credit Hour.

Prerequisites: Completion of GEO 3001 with at least a B grade on +/- scale and a major grade point average of 2.67 or better. The opportunity to apply geological principles and skills during a semester-long internship in an organization that utilizes geoscience to accomplish its mission. The grade report for this course is either "CR" (satisfactory participation in the internship) or "NC" (unsatisfactory participation in the internship). Differential Tuition: \$50.

GEO 4002. Experiential Learning Experience. (0-0) 2 Credit Hours.

Prerequisites: Completion of GEO 3001 with at least a B grade on +/- scale and a major grade point average of 2.67 or better. The opportunity to apply geological principles and skills during a semester-long internship in an organization that utilizes geoscience to accomplish its mission. The grade report for this course is either "CR" (satisfactory participation in the internship) or "NC" (unsatisfactory participation in the internship). Differential Tuition: \$100.

GEO 4003. Experiential Learning Experience. (0-0) 3 Credit Hours.

Prerequisites: Completion of GEO 3001 with at least a B grade on +/- scale and a major grade point average of 2.67 or better. The opportunity to apply geological principles and skills during a semester-long internship in an organization that utilizes geoscience to accomplish its mission. The grade report for this course is either "CR" (satisfactory participation in the internship) or "NC" (unsatisfactory participation in the internship). Differential Tuition: \$150.

GEO 4013. Volcanology. (3-0) 3 Credit Hours.

Prerequisite: GEO 3043 or consent of instructor. A survey of volcanoes and volcanic processes, including historically important volcanic eruptions and the prediction and mitigation of volcanic hazards. Field trips may be required. Generally offered: Fall. Differential Tuition: \$150.

GEO 4023. Engineering Geology. (3-0) 3 Credit Hours.

Prerequisites: PHY 1963 (engineering majors only) or PHY 1603 or PHY 1943, and MAT 1214; or consent of instructor. Geologic factors in construction. Geotechnical properties of minerals, rocks, and soils. Case studies. May not be applied to a major in geology. Generally offered: Fall, Spring, Summer. Differential Tuition: \$150.

GEO 4033. Profession of Geology. (3-0) 3 Credit Hours.

Prerequisites: GEO 2113, GEO 3123, GEO 3131, GEO 3113. This course is designed to provide the basic knowledge required by the ASBOG National Geologist Examination (Fundamentals) for licensure as a Professional Geologist, and introduces the geoscience student to the fundamentals of professional practice that impact, health, safety, and well-being of the public. The emphasis will be on principles and practices of geoscience that affect the economy, feasibility and design of engineering works, sitting criteria, site selection and investigation, human-land interactions, site assessment, liability, responsibility, professional report writing, and licensure. Differential Tuition: \$150.

GEO 4053. Climate Change: Past, Present, Future. (3-0) 3 Credit Hours.

Prerequisite: GEO 3003. Investigation of the climate system and its evolution during the Earth's history, to build a comprehensive and greater understanding of issues linked to climate change, its impact on ecosystems vulnerabilities and human needs in natural resources. Generally offered: Fall (online) and Spring (in class). Differential Tuition: \$150.

GEO 4063. Advanced Environmental Geology. (3-0) 3 Credit Hours.

Prerequisites: GEO 1103 and GEO 1111. An analysis of human interaction with geologic systems; the risks and effects of natural geologic hazards such as volcanic eruptions, earthquakes, and floods. Topics will include the effects of human activity on natural systems such as groundwater quality and recharge, river systems, coastal hazards, energy resources, and climate change. The meaning of "sustainability" as a long-term concept and tools to assess and work with Earth systems to avoid endangering human life and property are also topics that are applied and addressed. GEO 4063 is a writing intensive course and project management skills are utilized in working on geologic investigations and solutions for resource management and in analyzing and mitigating natural hazard events. Differential Tuition: \$150.

GEO 4073. Web GIS. (2-2) 3 Credit Hours.

Prerequisites: ES 2113 or GEO 2113 or GEO 3343, or consent of instructor. This course will focus upon developing GIS applications to be served out via the Internet or a Local Area Network (LAN). Additional topics include the use of Web authoring software. The course presents and introductory level skill set for the creation and publishing of web mapping applications using the ESRI ArcGIS Online resources and available tools. The technical focus of the course includes computer lab tutorials and case studies. Differential Tuition: \$150.

GEO 4083. Computer Application for Geoscience. (2-2) 3 Credit Hours.

In this course, Geosciences students will be introduced to means to input their valuable field and lab measurements into computer systems for further processing and analysis. Students will learn the principles and fundamentals of computer programming from the Project Management point of view. By visualizing and implementing the Program Development Cycle and introducing a few programming environments (Visual Basic for Applications, Python, UNIX shell programming) students will learn how to define a problem, devise a computational solution and implement it. Differential Tuition: \$150.

GEO 4093. Principles of Remote Sensing. (2-2) 3 Credit Hours.

Prerequisites: MAT 1214 or higher and PHY 1943. This course will provide a thorough introduction to remote sensing theory, technology, and application. The emphasis in this course is on understanding the underlying principles of acquiring, interpreting, and applying data from imaging systems covering the electromagnetic spectrum from the ultraviolet through the microwave. Generally offered: Fall. Differential Tuition: \$150.

GEO 4103. Programming and Statistics for GIS. (2-2) 3 Credit Hours.

Prerequisites: ES 2113 or GEO 2113 or GEO 3343, or consent of instructor. This course provides students with the basics of Python programming language and how GIS uses it as a scripting language to perform sophisticated statistical, map, and analysis calculations. They will be able to understand the desired outcomes of a project and organize tasks and processes to achieve said goal. Students will learn and master powerful Python tools that automate procedures, and carry out integration with data from many applications. As a result, they will have the ability to transform or create robust GIS datasets, and provide with in depth analysis leading to solid decision making. Differential Tuition: \$150.

GEO 4113. Geomorphology. (3-0) 3 Credit Hours.

Prerequisites: GEO 1103 or GES 2613, or consent of instructor, and junior or senior standing, and concurrent enrollment in GEO 4121. Examination of landforms on the Earth's surface and landscape-forming processes. Field trips may be required. Differential Tuition: \$150.

GEO 4121. Geomorphology Laboratory. (1-3) 1 Credit Hour.

Prerequisites: GEO 1103 or GES 2613, or consent of instructor, and junior or senior standing, and concurrent enrollment in GEO 4113. Interpretation of landforms and their formative processes from maps, aerial photographs, and calculations. Field trips may be required. Differential Tuition: \$50. Course Fee: IUE1 \$15.

GEO 4133. River Science. (3-0) 3 Credit Hours.

Prerequisites: GEO 1103 or GES 2613, or consent of instructor, and junior or senior standing. An in-depth examination of river sediment transport principles. Topics include water and sediment supply, sediment dynamics, river morphology, and channel instability. Field trips may be required. Differential Tuition: \$150.

GEO 4203. Aqueous Geochemistry. (3-0) 3 Credit Hours.

Prerequisites: GEO 3374, or consent of instructor. This course will facilitate to understand in detail the fundamental (primarily thermodynamic) controls on the composition of natural waters and the response of natural waters to variations in various physico-chemical parameters. Characterization of dissolved organic matter in natural waters will be introduced. This course will explore applications to environmental problems like contaminants migration in waters (ground waters, surface waters), weathering, etc., learn to solve numerical problems related to the behavior of chemical components in natural waters, and gain familiarity with simple analytical techniques for the characterization of natural waters. Differential Tuition: \$150.

GEO 4204. Chemical Hydrology. (3-2) 4 Credit Hours.

Prerequisites: GEO 3374 or GEO 4623, or consent of instructor. Discussion of the basic chemical principles of the water cycle, as well as environmentally relevant applications based on case studies. Detailed Groundwater Hydrogeochemistry, Surface Water Hydrogeochemistry, Surface water and Groundwater Interaction - Geochemical Principles governing, Quantitative and Modeling analysis and geologic effects on quality and flow of groundwater. Coverage of contemporary global issues related to water resources, including pollution control, environmental rehabilitation, sustainable development, and global warming exploration of anthropogenic. Topics include land-atmosphere interactions, movement of water and water rock interaction, contaminant transport in groundwater systems. ASBOG Test Syllabus and web-based teaching are followed. Differential Tuition: \$200.

GEO 4503. Hydrogeophysics. (3-0) 3 Credit Hours.

Prerequisites: MAT 1214 or higher and PHY 1963. Completion of or concurrent enrollment in GEO 4511. The presence of water and other fluids in subsurface formations, from the macro aquifer level to the micro pore level, are ultimately detected and observed through the application of geophysical principles and survey methods. This course will explore the fundamental science of hydrological geophysics, through the examination of the fundamental petrophysics and the various geophysical surface and borehole methods, such as seismic refraction, electrical resistivity and induced polarization, electromagnetic induction, microgravimetry, and geo-radar as applied to hydrogeologic investigations. Differential Tuition: \$150.

GEO 4511. Hydrogeophysics Laboratory. (1-3) 1 Credit Hour.

Prerequisite: Completion of or concurrent enrollment in GEO 4503. Laboratory and field-based course exploring geophysical survey systems, survey planning, data collection and analysis. Differential Tuition: \$50.

GEO 4623. Groundwater Hydrogeology. (3-0) 3 Credit Hours.

Prerequisites: GEO 1103, GEO 1111, PHY 1943, and MAT 1214. Hydrologic cycle and the occurrence and movement of groundwater. Recharge and discharge of aquifers; water quality; exploration and development of ground-water supplies. Field trips may be required. Generally offered: Spring. Differential Tuition: \$150.

GEO 4813. Planetary Geology. (3-0) 3 Credit Hours.

Prerequisites: PHY 1963, or consent of instructor. This course is designed for students in the Sciences or Engineering and no prior Geological knowledge is assumed, although Earth will be our point of reference. Survey of the interior and surface geology of solid bodies in our Solar System and beyond (planets, moons, asteroids, comets, Kuiper Belt Objects and exoplanets). Topics will include bulk composition and differentiation of planetary interiors, surface processes such as (cryo-) volcanism and meteorite impacts, erosion and sedimentation by fluids and wind, and heat transfer styles. There will be an emphasis on how we know things and what we don't know, quantifying uncertainties in measurements and models, and the nature of planetary scientific enquiry. Differential Tuition: \$150.

GEO 4911. Independent Study. (0-0) 1 Credit Hour.

Prerequisites: Permission in writing (form available) of the instructor, the student's advisor, the Department Chair, and the Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree in geology. Differential Tuition: \$50.

GEO 4912. Independent Study. (0-0) 2 Credit Hours.

Prerequisites: Permission in writing (form available) of the instructor, the student's advisor, the Department Chair, and the Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree in geology. Differential Tuition: \$100.

GEO 4913. Independent Study. (0-0) 3 Credit Hours.

Prerequisites: Permission in writing (form available) of the instructor, the student's advisor, the Department Chair, and the Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree in geology. Differential Tuition: \$150.

GEO 4933. Field Geology Part I. (1-6) 3 Credit Hours.

Prerequisites: GEO 3103, GEO 3111, GEO 3123, and GEO 3131 or consent of instructor. Part I: Field mapping and measurements. Field trips are required. Differential Tuition: \$150.

GEO 4943. Field Geology Part II. (1-6) 3 Credit Hours.

Prerequisite: GEO 4933 or consent of instructor. Part II: Field mapping and measurements. Field trips are required. Differential Tuition: \$150.

GEO 4951. Special Studies in Geology. (1-0) 1 Credit Hour.

Prerequisite: Consent of instructor. An organized course offering the opportunity for specialized study not normally or not often available as part of the regular course offerings. Special Studies may be repeated for credit when the topics vary, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. Course Fees: LRS1 \$5; STSI \$5.

GEO 4953. Special Studies in Geology. (3-0) 3 Credit Hours.

Prerequisite: Consent of instructor. An organized course offering the opportunity for specialized study not normally or not often available as part of the regular course offerings. Special Studies may be repeated for credit when the topics vary, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. Generally offered: Fall. Differential Tuition: \$150.

GEO 4961. Special Studies in Geology Laboratory. (1-3) 1 Credit Hour.

Prerequisite: Consent of instructor. An organized laboratory course offering the opportunity for specialized study not normally or not often available as part of the regular course offerings. Special Studies may be repeated for credit when the topics vary, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. Differential Tuition: \$50.

GEO 4993. Honors Research. (0-0) 3 Credit Hours.

Prerequisites: Enrollment limited to candidates for College Honors during their last two semesters; approval by the College Honors Committee. Supervised research and preparation of an honors thesis. May be repeated only once with approval. Differential Tuition: \$150.

German (GER)

German (GER) Courses

GER 1014. Elementary German I. (3-2) 4 Credit Hours. (TCCN = GERM 1411)

Fundamentals of German offering the opportunity to develop listening, reading, speaking, and writing skills. Introduction to German culture. May be applied toward the Core Curriculum requirement in Language, Philosophy and Culture. Generally offered: Fall. Course Fees: LRC1 \$16; LRLF \$10; MM01 \$7; STLF \$24.

GER 1024. Elementary German II. (3-2) 4 Credit Hours. (TCCN = GERM 1412)

Prerequisite: GER 1014, the equivalent, an appropriate placement test score, or consent of instructor. Fundamentals of German offering the opportunity to further develop abilities in listening, reading, speaking, and writing skills. Further exposure to German culture. Generally offered: Spring. Course Fees: LRLF \$10; MM01 \$7; STLF \$24.

GER 2013. Intermediate German I. (3-1) 3 Credit Hours. (TCCN = GERM 2311)

Prerequisite: GER 1024, the equivalent, an appropriate placement test score, or consent of instructor. Continued opportunity to develop listening, reading, speaking, and writing skills. Continued exposure to German culture. Generally offered: Fall. Course Fees: LRLF \$10; MM01 \$7; STLF \$18.

GER 2023. Intermediate German II. (3-1) 3 Credit Hours. (TCCN = GERM 2312)

Prerequisite: GER 2013, the equivalent, an appropriate placement test score, or consent of instructor. Continued opportunity to develop listening, reading, speaking, and writing skills. Continued exposure to German culture. Generally offered: Spring. Course Fees: LRLF \$10; MM01 \$7; STLF \$18.

GER 2333. German Literature in English Translation. (3-0) 3 Credit Hours.

Major works of German literature across time, genres, and movements. May be applied toward the Core Curriculum requirement in Language, Philosophy and Culture. (Formerly GER 3333. Credit cannot be earned for both GER 2333 and GER 3333.) Course Fees: LRC1 \$12; LRLF \$10; MM01 \$7; STLF \$18.

GER 3023. Advanced Language Skills. (3-0) 3 Credit Hours.

Prerequisite: GER 2023 or consent of instructor. Development of oral and written language skills using contemporary readings, media, and oral discourse. Emphasis on increasing fluency through vocabulary expansion activities and selective grammar review. May be repeated for credit when topics vary. Course Fees: LRLF \$10; MM01 \$7; STLF \$18.

GER 3413. Survey of German Literature and Culture. (3-0) 3 Credit Hours.

Prerequisite: GER 2023 or consent of instructor. Selected works from the medieval period to the 21st century are studied as examples of central movements in German culture and literary history. The course presents the shape of German civilization, emphasizing the major periods, styles, movements, and generations. May be repeated for credit when topics vary. Course Fee: DL01 \$75; LRLF \$10; MM01 \$7; STLF \$18.

GER 4003. Topics in German Literature. (3-0) 3 Credit Hours.

Prerequisite: GER 2023 or consent of instructor. Focus on a specific area of German literature, from the medieval period through the 21st century. Selected texts are studied as examples of representative movements, genres, or authors in German literary history. May be repeated for credit when topics vary. Course Fees: LRLF \$10; MM01 \$7; STLF \$18.

GER 4213. Topics in German Culture and Linguistics. (3-0) 3 Credit Hours.

Prerequisite: GER 2023 or consent of instructor. Focuses on selected topics of cultural history, such as Vienna 1890–1914, Expressionism, contemporary cultural/political developments, or on a linguistic topic. May be repeated for credit when topics vary. Generally offered: Spring. Course Fees: DL01 \$75; LRLF \$10; MM01 \$7; STLF \$18.

GER 4913. Independent Study. (0-0) 3 Credit Hours.

Prerequisites: Permission in writing (form available) of the instructor, the student's advisor, the Department Chair, and the Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Course Fee: LRLF \$10; MM01 \$7; STLF \$18.

GER 4933. Internship in German. (0-0) 3 Credit Hours.

Prerequisite: Permission of Department Chair. Supervised experience in a setting that provides the opportunity to integrate theory and practice in language usage. May be repeated once for credit. Course Fees: LRLF \$10; MM01 \$7; STLF \$18.

GER 4953. Special Studies in German. (3-0) 3 Credit Hours.

Prerequisite: Consent of instructor. An organized course offering the opportunity for specialized study not normally or not often available as part of the regular course offerings. Special Studies may be repeated for credit when the topics vary, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. Course Fees: LRLF \$10; MM01 \$7; STLF \$18.

GER 4993. Honors Research. (0-0) 3 Credit Hours.

Prerequisite: Consent of the undergraduate advisor. Supervised research and preparation of an honors thesis. May be repeated once for credit, with approval. Course Fees: LRLF \$10; MM01 \$7; STLF \$18.

Global Affairs (GLA)

Global Affairs (GLA) Courses

GLA 1013. U.S. in the Global Arena. (3-0) 3 Credit Hours.

This course assists students in understanding the context in which the United States interacts with the rest of the world and the mutual effects of that relationship. It traces the history and evolution of the United States' involvement in global affairs and why and how what happens in the world matters for the U.S. and vice-versa. Issues may include security, globalization, peace and conflict, low politics, human rights, health issues, the environment, terrorism, food, technology, international diplomacy, and other intermestic issues. May be applied toward the Core Curriculum requirement in Language, Philosophy and Culture. Generally offered: Fall, Spring. Course Fees: DL01 \$75; LRC1 \$12; LRLF \$10; STLF \$18.

GLA 2103. Introduction to Intelligence Studies. (3-0) 3 Credit Hours.

Prerequisite: GLA 1013 or POL 1013. This course examines the historical developments of intelligence as a component of defense and security policy, mainly in the post-World War II era. It considers the evolution of U.S. and selected other intelligence functions as parts of their respective security systems, and the basic principles associated with intelligence in various forms of regime governance ranging from democratic to authoritarian. Examines legal foundations of the American intelligence functions, including accountability and control measures. Provides an overview of policy making processes incorporating the role of intelligence in national security decisions mainly in democratic societies. Outlines the operational aspects of intelligence. Course Fees: LRLF \$10; STLF \$18.

GLA 2203. Introduction to Security Studies: Theory and Policy. (3-0) 3 Credit Hours.

Prerequisite: GLA 1013 or POL 1013. This course introduces undergraduates to the principal theories used in security studies and to major security issues faced by the United States in the post-Cold War world. The course is divided into two parts: First, theories of international politics, grand strategy, deterrence, and coercion, to provide students with an analytical framework for understanding major security issues today and in the future. The second addresses prominent security studies policy issues, such as Russia, NATO, and contemporary European security, the rise of China, cyber warfare, nuclear proliferation and its consequences, roles and missions of the U.S. military, and terrorism. This course may not be repeated for credit. Course Fees: LRLF \$10; STLF \$18.

GLA 2603. Introduction to Global Politics. (3-0) 3 Credit Hours.

Prerequisite: GLA 1013 or POL 1013. This course provides an overview of the intellectual development of the field of international relations and world affairs in the context of globalization. The course examines interactions among the actors of global politics - states, non-state actors, and institutions - in an interconnected world. It introduces students to basic theoretical frameworks and concepts including but not limited to discussions of levels of analysis, order, governance, and international organization. Specific topics may include conflict and security, war and peace, transnational terrorism, humanitarian intervention and peacekeeping operations, international human rights, globalization, climate change, international aid and trade, international finance, and democracy promotion. (Same as POL 2603. Credit cannot be earned for both GLA 2603 and POL 2603.) Course Fees: DL01 \$75; LRLF \$10; STLF \$18.

GLA 2633. Comparative Politics. (3-0) 3 Credit Hours.

Prerequisite: GLA 1013 or POL 1013. A comparative examination of the diverse forms, goals, styles, and practices of government in democratic and authoritarian states. Several major polities will be studied in detail. Topics may include political development and modernization, dependency and development, conflict, civil wars, coups and terrorism. (Same as POL 2633. Credit cannot be earned for both GLA 2633 and POL 2633.) Course Fees: LRLF \$10; STLF \$18.

GLA 3003. International Law. (3-0) 3 Credit Hours.

Prerequisite: GLA 1013 or POL 1013. This course evaluates the ways that international law affects world politics. Emphasis is on the foundations and substantive rules of international law and national politics. Topics may include the laws of war, war crimes, terrorism, human rights, economic exchange and natural resources. Course Fee: LRLF \$10; STLF \$18.

GLA 3033. Global Governance. (3-0) 3 Credit Hours.

Prerequisite: GLA 1013 or POL 1013. International law, organizations, regimes, hierarchies, and norms such as sovereignty govern the international system. These factors help create a world order that limits armed conflict, regulates the world economy, advances environmental protection, and sets human rights standards among a broad range of actors including nation states, civil society, the private sector and many more. This course explains theories of global governance and compares these perspectives to the analysis of political scientists on the past record and likely future of world order. (Formerly International Governance.) (Same as POL 3033. Credit cannot be earned for both GLA 3033 and POL 3033.) Course Fees: LRLF \$10; STLF \$18.

GLA 3043. International Human Rights. (3-0) 3 Credit Hours.

Prerequisite: GLA 1013 or POL 1013. This course explores the philosophical and political meaning of fundamental human rights; cases of human rights violations (such as genocide in the Holocaust, Rwanda, Kosovo, and Cambodia; the death penalty; female genital mutilation; violations of workers' rights; and torture); and the role that states, international organizations and individuals can play in ending human rights abuses. Course readings may include contemporary theories of human rights and case studies on the enforcement of rights around the world. (Same as POL 3043. Credit cannot be earned for both GLA 3043 and POL 3043.) Course Fees: LRLF \$10; STLF \$18.

GLA 3103. Research Methods in Global Affairs. (3-0) 3 Credit Hours.

Prerequisite: GLA 1013 or POL 1013. This course introduces students to a range of methodological approaches relevant to studies of global problems and international relations. Students will study relevant background debates in the philosophy of the social sciences, consider examples of contemporary research designs associated with global problems and international relations, and learn how to craft research questions that address real world challenges. Course may include a range of methodological approaches including quantitative methods (e.g., measures of central tendency and dispersion, regression, and problems of description and inference, etc.), qualitative methods (e.g., comparative case studies, content analysis, and discourse analysis, etc.). Course Fees: LRLF \$10; STLF \$18.

GLA 3213. Theories of International Relations. (3-0) 3 Credit Hours.

Prerequisite: GLA 1013 or POL 1013. This course provides an overview of theoretical debates and conceptual frameworks for the study of international relations. It examines a range of theoretical models important to explaining how the world works including but not limited to, classical and structural realism, liberalism, global society/complex interdependence/liberal institutionalism, Marxism/dependency, constructivism, and critical theories including feminism and post-modernism. The course also may introduce frameworks for the study of foreign policy decision making such as bureaucratic and organizational politics, and small group politics. Course Fees: LRLF \$10; STLF \$18.

GLA 3233. Theories of International Justice. (3-0) 3 Credit Hours.

Prerequisite: GLA 1013 or POL 1013. This course explores the nature of justice in a globalized political world. It raises questions such as whether a single standard of justice (e.g., human rights) can legitimately be applied to all cultures across the world, and examines the nature of our obligations to individuals in other countries given the economic and political interdependency of all peoples. Some attention may also be given to particular topics such as immigration policy and the use of foreign military intervention for humanitarian purposes. Course Fees: LRLF \$10; STLF \$18.

GLA 3383. East European Politics. (3-0) 3 Credit Hours.

Prerequisite: GLA 1013 or POL 1013. This course provides an overview of politics in Eastern Europe broadly understood as the region of East Central and Southeastern Europe, and the post-Soviet space. It traces the evolution of nation building since the interwar period and the system of communist rule, with a focus on key dimensions of the post-communist transformation of the region. Thematic coverage may include constitutions, political culture, party politics, and Euro-Atlantic integration. (Same as POL 3383. Credit cannot be earned for both GLA 3383 and POL 3383.) Course Fees: LRLF \$10; STLF \$18.

GLA 3393. Latin American Politics. (3-0) 3 Credit Hours.

Prerequisite: GLA 1013 or POL 1013. An examination of political institutions and their relationship to social and economic change in Latin America. Profiles of major Latin American countries, such as Mexico, Brazil, Argentina, Peru, and Cuba. (Same as POL 3393. Credit cannot be earned for both GLA 3393 and POL 3393.) Course Fees: LRLF \$10; STLF \$18.

GLA 3403. European Governments. (3-0) 3 Credit Hours.

Prerequisite: GLA 1013 or POL 1013. The interplay of politics with the changing social and economic environment in the advanced industrial societies of Western Europe. Elites, participation, governmental structures, party systems, interest groups, and public policy will be examined in several selected polities and the European Union. (Same as POL 3403. Credit cannot be earned for both GLA 3403 and POL 3403.) Course Fees: LRLF \$10; STLF \$18.

GLA 3423. Geopolitics of Russia and Eurasia. (3-0) 3 Credit Hours.

Multidisciplinary introduction and regional study of the Russian Federation and the Eurasian realm, including the Caucasus, Central Asian nations, Afghanistan, and Mongolia. Both the geography and the politics of this area will be analyzed. Historical and contemporary geopolitical topics include nation-building, regional civilizations, revolution, terrorism, the 19th-century "Great Game," the rise of the USSR, and the current transition of the Russian Federation to an uncertain future. (Same as GES 3423 and POL 3423. Credit cannot be earned for more than one of the following: GLA 3423, GES 3423, GRG 3423, or POL 3423.) Course Fees: LRLF \$10; STLF \$18.

GLA 3433. Governments and Politics of Southeast Asia. (3-0) 3 Credit Hours.

Prerequisite: GLA 1013 or POL 1013. A comparative examination of the political systems of selected Southeast Asian countries and their efforts to deal with political, economic, and social change. Countries studied may include Indonesia, Malaysia, the Philippines, Singapore, Thailand, and Vietnam. (Same as POL 3433. Credit cannot be earned for both GLA 3433 and POL 3433.) Course Fees: LRLF \$10; STLF \$18.

GLA 3443. Governments and Politics of East Asia. (3-0) 3 Credit Hours.

Prerequisite: GLA 1013 or POL 1013. A comparative examination of the political systems of selected East Asian countries and their efforts to deal with problems of political, economic, and social change. Countries studied may include the People's Republic of China, the Republic of China, and South Korea. (Same as POL 3443. Credit cannot be earned for both GLA 3443 and POL 3443.) Course Fees: LRLF \$10; STLF \$18.

GLA 3453. Politics of Mexico. (3-0) 3 Credit Hours.

Prerequisite: GLA 1013 or POL 1013. Background to the contemporary political system of Mexico, including independence, foreign intervention, the Diaz regime, and the 1910–1917 revolution. Other topics may include the constitution, the structure of government, political parties, the presidency, economic development and policy, contemporary leadership, and elites. (Same as POL 3453. Credit cannot be earned for both GLA 3453 and POL 3453.) Course Fees: LRLF \$10; STLF \$18.

GLA 3463. Politics of the Developing World. (3-0) 3 Credit Hours.

Prerequisite: GLA 1013 or POL 1013. The class introduces the political and economic systems of various developing nations and relates them to those of developed nations. It provides students with the opportunity for inquiry into the political and economic problems of these countries, such as development, instability, and political change. (Formerly Politics of the Third World.) (Same as POL 3463. Credit cannot be earned for both GLA 3463 and POL 3463.) Course Fees: LRLF \$10; STLF \$18.

GLA 3473. Latin America in the World. (3-0) 3 Credit Hours.

Prerequisite: POL 1013 or consent of instructor. Advanced survey of major theories and problems in Latin American political and economic development. Theories of dependency, corporatism, bureaucratic authoritarianism, and transitions of democracy. Selected problems such as political stability, land reform, economic integration, multinational corporations, inflation, foreign debt, revolution and reform, and the military in politics. (Same as POL 3473. Credit cannot be earned for both GLA 3473 and POL 3473.) Course Fees: LRLF \$10; STLF \$18.

GLA 3483. International Political Economy. (3-0) 3 Credit Hours.

Prerequisite: GLA 1013 or POL 1013. This course is an introduction to the theories, institutions and policies that govern international economic relations. Students will study the development of the international economic system as well as controversies over money, trade, and governance. Further topics may include globalization, development, regional and global institutions and multinational enterprises. (Same as POL 3483. Credit cannot be earned for both GLA 3483 and POL 3483.) Course Fees: LRLF \$10; STLF \$18.

GLA 3493. Politics of the Middle East. (3-0) 3 Credit Hours.

Prerequisite: GLA 1013 or POL 1013. An examination of the past, present, and future of Middle East politics, with an emphasis on culture, politics, religion, and conflicts in the area; the international relations of Middle Eastern countries as well as superpowers' involvement. (Same as POL 3493. Credit cannot be earned for both GLA 3493 and POL 3493.) Course Fees: LRLF \$10; STLF \$18.

GLA 3503. American Foreign Policy since World War II. (3-0) 3 Credit Hours.

Prerequisite: GLA 1013 or POL 1013. The class offers students to study theories and the history of US foreign policy. This may include an examination of major public institutions involved in foreign policy making as well as private interests influencing American foreign policy. Further topics may include public opinion and foreign involvement, specific policies toward international organizations and major world regions, as well as issue areas such as security, global economy, human rights and developments and the global environment. (Same as POL 3503. Credit cannot be earned for both GLA 3503 and POL 3503.) Course Fees: LRLF \$10; STLF \$18.

GLA 3513. International Organizations in World Politics. (3-0) 3 Credit Hours.

Prerequisite: GLA 1013 or POL 1013. The class provides students with the opportunity to study the role of international organizations in world politics. Special attention is given to the practice and theory of intergovernmental organizations in areas such as security, global economy, development and human rights and the global environment. Theories may include traditional IR and organizational theories. Organizations examined may include the United Nations system, regional organizations, development banks, security alliance systems, and common markets. (Same as POL 3513. Credit cannot be earned for both GLA 3513 and POL 3513.) Course Fees: LRLF \$10; STLF \$18.

GLA 3523. Force in International Politics. (3-0) 3 Credit Hours.

Prerequisite: POL 1013. This course engages with experiences of violence in IR. It provides an examination of modern research into the use of coercion in international relations with a focus on economic sanctions, war, and terrorism. Special emphasis will be placed on the causes, trends, and consequences of interstate wars. Topics may include armed conflict, trauma and suffering, laws of war, representation of war in media, peace movements, and the technologies of peace making. (Same as POL 3523. Credit cannot be earned for both POL 3523 and GLA 3523.) Course Fees: LRLF \$10; STLF \$18.

GLA 3533. The United Nations. (3-0) 3 Credit Hours.

Prerequisite: GLA 1013 or POL 1013. The course introduces students to the organization's history, structure, operations, and role in the international system. It examines the historical context of the UN's founding and its functions, processes of institutional reform and change, as well as the successes and failures of the organization, in order to understand the UN's role in contemporary world politics. Topics may include the integration of new issues beyond its traditional focus on peace and security, as well as of new actors, such as nongovernmental organizations and multinational enterprises. Course Fees: LRLF \$10; STLF \$18.

GLA 3543. Diplomacy. (3-0) 3 Credit Hours.

Prerequisite: GLA 1013 or POL 1013. The course explores the impact of modern diplomacy on global affairs through the conduct of foreign policy and external representation. It highlights the historical and theoretical settings of international negotiations, treaties, alliances, agreements, and the practical ways in which foreign policy is implemented. Topics may include classical diplomacy, international business diplomacy, public diplomacy, multilateral diplomacy, and case studies that examine the complexity and build skills for dealing with global issues. Course Fees: LRLF \$10; STLF \$18.

GLA 3563. Current Issues in World Politics. (3-0) 3 Credit Hours.

Prerequisite: GLA 1013 or POL 1013. An examination of the issues that divide the people of the world. The structure of contemporary world problems will be studied and possible strategies for the reduction of international conflict will be assessed. Topics may include nuclear proliferation, world hunger, revolution and intervention, transnational enterprises, competing ideologies of international relations, and global ecology. (Same as POL 3563. Credit cannot be earned for both GLA 3563 and POL 3563.) Course Fees: LRLF \$10; STLF \$18.

GLA 3593. Topics in Latin American Security. (3-0) 3 Credit Hours.

Prerequisite: POL 1013 or GLA 1013. This seminar examines key questions for regional security in Latin America. Although drawing on scholarly and historical materials, this course focuses essentially on contemporary regional security and includes general topics, such as regional security, peace and war in Latin America, civil-military relations, drug trafficking, and public security. The cases are selected in part to provide geographical balance and contemporary relevance, but also to demonstrate the contrasts between traditional and emerging security questions in the region. (Same as POL 3593. Credit cannot be earned for both GLA 3593 and POL 3593.) Course Fees: LRLF \$10; STLF \$18.

GLA 3613. Nationalism and Identity Politics in a Globalizing World. (3-0) 3 Credit Hours.

Prerequisite: GLA 1013 or POL 1013. The course traces the evolution of national politics in the context of globalization. It explores the concepts of culture, identity, nation, nationalism, citizenship, and cosmopolitanism in motion as a relationship between state and society, majorities and minorities, migrants and citizens, and localism and globalism. The course spans case studies and thematic analyses in a global perspective. Topics may include politics in divided societies, states and regions, ethnic conflict, secession, nationalism and war, radical-right populism, post-nationalism, diaspora, and multiculturalism, among others. Course Fees: LRLF \$10; STLF \$18.

GLA 3633. Political Economy. (3-0) 3 Credit Hours.

Prerequisite: GLA 1013 or POL 1013. The political, legal, and ethical context of modern commercial society is explored through the evolution of conceptions of the economy, the individual, and the state. Topics may include the institutional foundations of market societies, ethical and legal impact of business practices, comparisons of national economic policies, the interaction of modern government and economic activity, and the impact of markets on concepts of public and private life. (Same as POL 3633. Credit cannot be earned for both GLA 3633 and POL 3633.) Course Fees: LRLF \$10; STLF \$18.

GLA 3733. National Security Law. (3-0) 3 Credit Hours.

Prerequisites: POL 1013 and one of the following: PAL 3013, POL 3323, POL 3333, or consent of instructor. This course surveys the American national security law regime. It examines the Constitutional basis for national security measures, the roles played by the different branches of the government, and the unique powers of the President in this field. Topics include electronic surveillance; covert action; apprehension, detention, and interrogation of suspects; the USA Patriot Act; the effect of international law; the management of the national security apparatus both domestically and abroad; and the applicability of doctrines such as the State Secrets Privilege. Course Fees: LRLF \$10; STLF \$18.

GLA 3763. Globalization. (3-0) 3 Credit Hours.

Prerequisite: GLA 1013 or POL 1013. This course examines normative and empirical issues in globalization, such as the role of states and non-state actors, the emergence of global civil society, patterns of international development, the influence of international integration on security, health, violence, and the role of institutions for global politics. Further topics may include theories and debates on the scale and impact of globalization, backlash and resistance, as well as future trajectories. (Formerly INS 3763. Same as POL 3763. Credit cannot be earned for more than one of the following: GLA 3763, INS 3763, or POL 3763.) Course Fees: LRLF \$10; STLF \$18.

GLA 3783. Democracy and World Politics. (3-0) 3 Credit Hours.

Prerequisite: GLA 1013 or POL 1013. This course examines theories of democratic transition and focuses on the problematics of democratic change throughout the world. Case studies may include political change after the end of the Cold War in the former Communist states, democratic transitions in Latin America, patterns of change in sub-Saharan Africa, the Middle East, and south Asia. (Same as POL 3783. Credit cannot be earned for both GLA 3783 and POL 3783.) (Formerly titled "Comparative Democratization.") Course Fees: LRLF \$10; STLF \$18.

GLA 4123. Advanced Techniques in Global Affairs. (3-0) 3 Credit Hours.

Prerequisite: GLA 1013 or POL 1013. Examines various techniques for collecting, analyzing, and communicating information by government and private sector organizations engaged in global analysis. Stresses methodologies for analyzing informational inputs, including strengths and weaknesses of various analytical applications. Studies analytic cultures and pathologies associated with information collection and interpretation, legal and political oversight, accommodation of dissenting views in interpretation and policy debate, and economic, political, and cultural implications of analytical findings. Compares and contrasts analytical methods employed by public and private organizations. May be taught from different perspectives depending upon faculty expertise and interests. (Same as POL 4023. Credit cannot be earned for both GLA 4123 and POL 4023.) Generally offered: Fall. Course Fees: LRLF \$10; STLF \$18.

GLA 4133. Conflict, Law, and Security in Global Affairs. (3-0) 3 Credit Hours.

Prerequisite: GLA 1013 or POL 1013. This course offers students an opportunity to closely examine the causes, dynamics, and dilemmas associated with conflict on the modern global stage. Issues under discussion may include intra- and interstate conflicts; nationalism and conflict; economic, social, and political costs and implications of conflict; national and international approaches to conflict resolution, reconstruction, and development; human rights principles and questions of international law and justice; debates about humanitarian interventions; population displacements; the range of security concerns and responses by government actors and institutions; and the viability of nation states in protecting individuals, groups, and institutions of governance. Course Fees: LRLF \$10; STLF \$18.

GLA 4213. The Intelligence Community in World Affairs. (3-0) 3 Credit Hours.

Prerequisite: POL 1013. Advanced study of key historical developments of U.S. and other intelligence functions in national and international security. Examines a broad range of issues and case studies such as collection and analytical methods, measures of success and failure of intelligence operations, agency organizational problems, accuracy and accountability, counterintelligence and covert operations, threats to homeland security, constitutional and legislative roles, liaison relationships, and challenges in executive-legislative interactions in the policy making process. (Same as POL 4213. Credit cannot be earned for both GLA 4213 and POL 4213. Formerly GLA 4013 and POL 4013.) Generally offered: Spring. Course Fees: LRLF \$10; STLF \$18.

GLA 4243. Terrorism and Counter-Terrorism. (3-0) 3 Credit Hours.

Prerequisite: GLA 1013 or POL 1013. This course examines the issues of contemporary terrorism and counter-terrorism. It provides an overview of domestic and international terrorism as well as an analysis of some of the underlying ideological and non-ideological factors promoting this form of violence. The course also evaluates State responses to acts of terrorist violence and explores the various strategies developed to preempt and prevent them. Course Fees: LRLF \$10; STLF \$18.

GLA 4434. Cyber Warfare and International Politics. (3-2) 4 Credit Hours.

Prerequisite: POL 1013. This course addresses emerging international relations, policy, doctrine, strategy, and operational issues associated with Computer Network Attack (CNA), Computer Network Defense (CND), and Computer Network Exploitation (CNE)—collectively referred to as cyber warfare. It provides students with a comprehensive perspective and enhances their knowledge of cyber warfare conducted by both state and non-state actors, as well as deterrence of cyber-attacks. Course Fees: LRLF \$10; STLF \$24.

GLA 4853. Study Abroad: Global Affairs. (3-0) 3 Credit Hours.

Prerequisite: Permission of instructor. A lecture course associated with a study abroad program. Involves international travel and field trips. May be repeated for credit when the destination country varies. Course Fees: LRLF \$10; STLF \$18.

GLA 4856. Study Abroad: Global Affairs. (6-0) 6 Credit Hours.

Prerequisite: Permission of instructor. A seminar course associated with a study abroad program exploring global perspectives on politics, geography, and governance. Involves international travel and field trips. May be repeated for credit depending on host country/destination. Course Fees: LRLF \$10; STLF \$36.

GLA 4911. Independent Study. (0-0) 1 Credit Hour.

Prerequisites: GLA 1013 and Independent Study Course Form signed by the instructor, the student's advisor, the Department Chair, and the Dean of the College of Liberal and Fine Arts. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Course Fees: LRLF \$10; STLF \$6.

GLA 4912. Independent Study. (0-0) 2 Credit Hours.

Prerequisites: GLA 1013 and Independent Study Course Form signed by the instructor, the student's advisor, the Department Chair, and the Dean of the College of Liberal and Fine Arts. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Course Fees: LRLF \$10; STLF \$12.

GLA 4913. Independent Study. (0-0) 3 Credit Hours.

Prerequisites: GLA 1013 and Independent Study Course Form signed by the instructor, the student's advisor, the Department Chair, and the Dean of the College of Liberal and Fine Arts. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Course Fees: LRLF \$10; STLF \$18.

GLA 4933. Internship in Global Affairs. (0-0) 3 Credit Hours.

Prerequisites: GLA 1013 and consent of the internship coordinator and Department Chair. Supervised experience relevant to global affairs within selected community and national organizations. A maximum of 6 semester credit hours may be earned through the internship. Course Fees: LRLF \$10; STLF \$18.

GLA 4936. Internship in Global Affairs. (0-0) 6 Credit Hours.

Prerequisites: GLA 1013 and consent of the internship coordinator and Department Chair. Supervised experience relevant to global affairs within selected community and national organizations. A maximum of 6 semester credit hours may be earned through the internship. Course Fees: LRLF \$10; STLF \$36.

GLA 4953. Special Studies in Global Affairs. (3-0) 3 Credit Hours.

Prerequisite: GLA 1013. An organized course offering the opportunity for specialized study not normally or not often available as part of the regular course offerings. Special Studies may be repeated for credit when topics vary, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. Course Fees: LRLF \$10; STLF \$18.

GLA 4973. Senior Seminar. (3-0) 3 Credit Hours.

Prerequisites: GLA 1013 and POL 2693. The opportunity for an intensive study of a selected topic. Primary emphasis on supervised research on various aspects of the topic. May be repeated for credit when topics vary, up to an additional 3 credits. Enrollment limited to juniors and seniors majoring in Global Affairs. Course Fees: LRLF \$10; STLF \$18.

GLA 4983. Research Practicum. (0-0) 3 Credit Hours.

Prerequisites: GLA 1013 and permission in writing (form available) of the instructor, the student's advisor, and the Department Chair. The practicum provides students with the opportunity to focus on a specific research issue having practical applications in global affairs. Students participate in hands-on research experience on the issue in a collective research environment. Potential research may be related to the Social Research Lab or Study Abroad programs. Course Fees: LRLF \$10; STLF \$18.

GLA 4993. Honors Thesis. (0-0) 3 Credit Hours.

A minimum grade point average of 3.0 at UTSA, a 3.5 grade point average in the major, and recommendation by a member of the Political Science and Geography faculty. Supervised research and preparation of an honors thesis. May be repeated once with advisor's approval. Students who are approved will enroll in the appropriate honors thesis courses during their final two semesters at UTSA. To earn honors, the thesis must be passed by an Honors Committee that will be formed with the recommending faculty and another faculty member. Students interested in enrolling should contact the Department Undergraduate Advisor of Record for additional information. Course Fees: LRLF \$10; STLF \$18.

Greek (GRK)

Greek (GRK) Courses

GRK 1114. Introductory Classical Greek I. (3-2) 4 Credit Hours.

Fundamentals of Greek grammar and readings in Greek. May be applied toward the Core Curriculum requirement in Language, Philosophy and Culture. Generally offered: Fall. Course Fees: LRC1 \$16; LRLF \$10; STLF \$24.

GRK 1124. Introductory Classical Greek II. (3-2) 4 Credit Hours.

Fundamentals of Greek grammar and readings in Greek. Generally offered: Spring. Course Fees: LRLF \$10; STLF \$24.

GRK 2113. Intermediate Classical Greek I. (3-0) 3 Credit Hours.

Prerequisite: GRK 1124 or the equivalent. Continued practice in reading Greek prose and poetry. Selections from Plato and Homer. Review of Greek grammar and syntax. Course Fee: LRLF \$10; STLF \$18.

GRK 3123. Advanced Greek. (3-0) 3 Credit Hours.

Prerequisite: GRK 2113 or the equivalent. Concentrated readings and interpretation of a selected Greek author, genre, or series of texts. May be repeated for credit when topics vary. Course Fee: LRLF \$10; STLF \$18.

Health (HTH)

NOTE: All prerequisites for Health (HTH) courses must be completed with a grade of "C-" or better.

Health (HTH) Courses

HTH 2413. Introduction to Community and Public Health. (3-0) 3 Credit Hours.

This course is a survey of the profession of public health and the competencies required of health educators, including examination of philosophies, ethics and current trends. This course serves as a foundation for other courses in the health degree. May be applied toward the Core Curriculum requirement in Social and Behavioral Sciences. Generally offered: Fall, Spring. Course Fees: LRC1 \$12; LRHC \$10; STHC \$18.

HTH 2513. Personal Health. (3-0) 3 Credit Hours. (TCCN = PHED 1304)

Emphasizes the concept of mind, body, and spirit as necessary components of total well-being; principles of preventive health; and self-responsibility for personal health behaviors. May be applied toward the Core Curriculum requirement in Social and Behavioral Sciences. Generally offered: Fall, Spring. Course Fees: LRC1 \$12; LRHC \$10; STHC \$18.

HTH 2601. Field-Based Skills in Community Health and Preventive Services. (1-0) 1 Credit Hour.

Prerequisite: HTH 2413. This course introduces students to practices and skills that are commonly used in community health and preventive health services. These include health screening skills and skills for communicating and interpreting screening results. The course offers hands-on practice of these skills. Course Fees: KSM1 \$10; LRHC \$10; STHC \$6.

HTH 2623. Database Management in Community and Public Health. (3-0) 3 Credit Hours.

This course will focus on practical issues in database management. Students will learn how to perform basic query and reporting operations, migrate data between various file formats, share data using cloud data management systems such as Dropbox, prepare data for statistical analysis, conduct statistical analyses common in community and public health, perform data quality control and assurance procedures and develop formal documents for reporting outcomes. Database management and statistical software such as SPSS, Microsoft Access and SQL will be used. (Formerly titled "Applied Technology for Research and Health Education.") Course Fees: LRHC \$10; STHC \$18.

HTH 3003. Survey of Drugs and Health. (3-0) 3 Credit Hours.

Study of the use and abuse of drugs and other substances. Examines addiction, dependence, tolerance, motivation for use, and effects of substance abuse on health and society. Generally offered: Fall, Spring. Course Fees: DL01 \$75; LRHC \$10; STHC \$18.

HTH 3013. Survey of Human Nutrition. (3-0) 3 Credit Hours.

An overview approach to understanding the principles of nutrition and their effect on health and fitness. Emphasis on major nutritional issues throughout the human life cycle; self-evaluation of diet and fitness habits. Generally offered: Fall, Spring. Course Fees: DL01 \$75; LRHC \$10; STHC \$18.

HTH 3023. Survey of Human Sexuality. (3-0) 3 Credit Hours.

A study examining the breadth of human sexuality, including psychosocial, cultural and physical aspects, and its impact on our lives. Course Fees: DL01 \$75; LRHC \$10; STHC \$18.

HTH 3031. Peer Education in Health. (2-2) 1 Credit Hour.

Prerequisite: Consent of instructor. Course offers the opportunity for students to participate in the Student Health Services Peer Educator Program. Students will have the opportunity to learn about health topics relevant to the college student population and implement outreach activities to educate and encourage the adoption of healthy behaviors among the UTSA student community. May be repeated for credit for a maximum of 6 semester credit hours. Generally offered: Fall, Spring, or Summer. Course Fees: LRHC \$10; STHC \$6.

HTH 3043. Principles of Weight Management. (3-1) 3 Credit Hours.

An in-depth study of the field of prevention and management of obesity. This course provides practical application of nutritional, psychological, and physical activity principles that help individuals manage their own weight and is suitable for students in health, kinesiology, psychology, biology, counseling, or others. A noncompetitive, monitored activity component is required. Generally offered: Spring. Course Fees: LRHC \$10; STHC \$18.

HTH 3303. Physical Activity and Health. (3-0) 3 Credit Hours.

Prerequisites: HTH 3503 and HTH 3663. The course provides a survey of the health-related effects and social-cultural and behavioral determinants of physical activity and exercise. Biological/physiological mechanisms for adaptations to physical activity are also addressed. Generally offered: Fall. Course Fees: DL01 \$75; LRHC \$10; STHC \$18.

HTH 3503. Theories of Health Behavior. (3-0) 3 Credit Hours.

Designed to provide an overview of health behavior theories, program planning models and multi-level interventions typically used in public health. Each level of the socio-ecological model will be discussed including individual, interpersonal, organization, community and policy. Directed field experience is required. (Formerly titled "Foundations of Health Theory.") Generally offered: Fall, Spring, Summer. Course Fees: LRHC \$10; STHC \$18.

HTH 3513. Community Health. (3-0) 3 Credit Hours.

Prerequisites: HTH 2413 and HTH 3503. Study of community health problems and the function and organization of public, private, and voluntary health agencies, application of health theories and models and program planning methods. Directed field experience is required. Offered Fall Semester only. Course Fees: DL01 \$75; LRHC \$10; STHC \$18.

HTH 3523. Worksite Health Promotion. (3-0) 3 Credit Hours.

Prerequisites: HTH 2413 and HTH 3503. Organization, administration, and supervision of health programs in the community, school, business, or industry setting. Application of health theories, models and program planning methods is required. Directed field experience is required. Offered Spring Semester only. Course Fees: LRHC \$10; STHC \$18.

HTH 3533. Drugs and Health. (3-0) 3 Credit Hours.

Prerequisites: Completion of Core science requirements, anatomy and physiology, HTH 2413, HTH 3503, and HTH 3663. Study of the use and abuse of drugs and other substances. Examines addiction, dependence, tolerance, motivation for use, and effects of substance abuse on health and society. Application of theories and models for program development, implementation and evaluation. Health majors and minors only. Offered Spring Semester only. Course Fees: LRHC \$10; STHC \$18.

HTH 3543. Growth and Development. (3-0) 3 Credit Hours.

Physical, social, and psychological development throughout the lifespan. Implications for health professionals at all stages of development (prenatal to death) are addressed. Offered Spring Semester only. Course Fees: DL01 \$75; LRHC \$10; STHC \$18.

HTH 3553. Emotional Wellness. (3-0) 3 Credit Hours.

Practical application of techniques for shaping healthier emotional behavior; emphasis on personality, stress management, and fulfilling relationships. Generally offered: Fall, Spring. Course Fees: LRHC \$10; STHC \$18.

HTH 3563. Child and Adolescent Health Promotion. (3-0) 3 Credit Hours.

Designed for students who are interested in promoting the health of youth, as well as those students pursuing academic training in education and community health. The primary goal of this course is to improve the health literacy of teachers and health promotion specialists through understanding and application of evidence-based child and adolescent health promotion concepts. Offered Fall Semester only. Course Fees: DL01 \$75; LRHC \$10; STHC \$18.

HTH 3663. Program Planning and Evaluation. (3-0) 3 Credit Hours.

Prerequisites: HTH 2413 and HTH 3503. This course provides students with a basic understanding of planning, implementing, and evaluating health promotion programs in a variety of settings, including worksite, healthcare, and community and at a various levels (individual, organization, community, policy.) Course Fees: DL01 \$75; LRHC \$10; STHC \$18.

HTH 4503. Human Disease and Epidemiology. (3-0) 3 Credit Hours.

An in-depth look at the etiology, prevention, and treatment of chronic and contagious diseases afflicting humans and epidemiological methods. Generally offered: Fall, Spring. Course Fees: DL01 \$75; LRHC \$10; STHC \$18.

HTH 4513. Consumer Health. (3-0) 3 Credit Hours.

Study of the consumer's selection of health products and services; health frauds, scams and quackery; and the acquisition of basic knowledge for making responsible decisions when selecting professional, complementary, or alternative health care services and products. Offered Fall Semester only. Course Fees: LRHC \$10; STHC \$18.

HTH 4523. Understanding Human Sexuality. (3-0) 3 Credit Hours.

Prerequisites: HTH 2413, HTH 3503, and HTH 3663. An in-depth study of human sexuality, including psychosocial, cultural and physical aspects. Application of theories and models for program development, implementation and evaluation. Health majors and minors only. Directed field experience is required. Offered Spring Semester only. Course Fees: LRHC \$10; STHC \$18.

HTH 4533. Nutrition and Health. (3-0) 3 Credit Hours.

Prerequisites: Completion of Core science and mathematics requirements, BIO 2053, BIO 2063, HTH 2413, HTH 3013, HTH 3503, and HTH 3663. An in-depth examination of the principles of nutrition and their effects on health and fitness. Emphasis on critical thinking and translation of nutritional knowledge to real-world settings. Includes self-evaluation of diet and fitness habits. Application of health theories and models for program development, implementation, and evaluation in nutritional context. Health majors and minors only. Generally offered: Fall. Course Fees: LRHC \$10; STHC \$18.

HTH 4543. Environmental Health and Safety. (3-0) 3 Credit Hours.

Intensive coverage of the aspects of a human being's health and safety in a changing environment. Considers applicable factors of ecology, including problems related to water, waste, pesticides, foods, radiation, population, and other aspects of the total ecosystem, as well as personal and occupational safety within these parameters. Generally offered: Fall, Spring. Course Fees: DL01 \$75; LRHC \$10; STHC \$18.

HTH 4911. Independent Study. (0-0) 1 Credit Hour.

Prerequisites: Permission in writing (form available) from the instructor, the student's advisor, the Department Chair, and Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Course Fee: STHC \$6.

HTH 4913. Independent Study. (0-0) 3 Credit Hours.

Prerequisites: Permission in writing (form available) from the instructor, the student's advisor, the Department Chair, and Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Generally offered: Spring. Course Fee: STHC \$18.

HTH 4921. Capstone for Community Health and Preventive Services. (1-0) 1 Credit Hour.

Corequisite: Must be completed the same semester as internship (HTH 4936). This course aids students in synthesizing their classroom and internship experiences to reinforce critical skills and key responsibilities for Health Educators. This course will provide students with an overview of resources, skills, and recommendations regarding their professional development. Students are required to take this course concurrent with HTH 4936. Course Fees: DL01 \$25; LRHC \$10; STHC \$6.

HTH 4936. Internship in Health. (0-0) 6 Credit Hours.

Prerequisites: Student is required to have a cumulative grade point average of 2.5 or greater, must be within 13 semester credit hours of graduation (including the 6 hours of internship), and attend the mandatory new candidate meeting the semester prior to completing the internship to register for this course. The opportunity for work experience in a private or public health-related agency. Opportunities are developed in consultation with the faculty advisor and on-site coordinator. Student must complete this course during the last semester before graduation. No more than 6 semester credit hours of internship will apply to a bachelor's degree. (Credit cannot be earned for both HTH 4936 and KIN 4936.) Generally offered: Fall, Spring, Summer. Course Fees: STFK \$57; STHC \$36.

HTH 4951. Special Studies in Health. (1-0) 1 Credit Hour.

Prerequisite: Consent of instructor. Organized course offering the opportunity for specialized study in an area of health not available as part of the regular course offerings. Special Studies may be repeated for credit when topics vary, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. Course Fees: LRHC \$10; STHC \$6.

HTH 4952. Special Studies in Health. (2-0) 2 Credit Hours.

Prerequisite: Consent of instructor. Organized course offering the opportunity for specialized study in an area of health not available as part of the regular course offerings. Special Studies may be repeated for credit when topics vary, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. Course Fees: LRHC \$10; STHC \$12.

HTH 4953. Special Studies in Health. (3-0) 3 Credit Hours.

Prerequisite: Consent of instructor. Organized course offering the opportunity for specialized study in an area of health not available as part of the regular course offerings. Special Studies may be repeated for credit when topics vary, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. Course Fees: LRHC \$10; STHC \$18.

HTH 4993. Honors Thesis. (0-0) 3 Credit Hours.

Prerequisites: Enrollment limited to candidates for honors in the Department of Health and Kinesiology during the last two semesters; consent of the Honors College. Supervised research and preparation of an honors thesis. May be repeated once for credit with advisor's approval. Course Fee: STHC \$18.

History (HIS)

History (HIS) Courses

HIS 1043. United States History: Pre-Columbus to Civil War Era. (3-0) 3 Credit Hours. (TCCN = HIST 1301)

From a variety of perspectives, this course will analyze topics covering the geography of North America; pre-Columbian societies; European colonial societies and their transition into the national period; the development of modern economic structures and political traditions; westward expansion; class, race, ethnicity, and gender; cultural diversity and national unity; the relations of the United States to other nations and cultures; and the impact of these trends and issues on the development of the nation. May be applied toward the Core Curriculum requirement in American History. Generally offered: Fall, Spring, Summer. Course Fees: DL01 \$75; LRC1 \$12; LRLF \$10; STLF \$18.

HIS 1053. United States History: Civil War Era to Present. (3-0) 3 Credit Hours. (TCCN = HIST 1302)

From a variety of perspectives, this course will analyze topics covering the development of the United States as an urban industrial nation; the rising importance of the business cycle, corporations, and immigration; political traditions; class, race, ethnicity, and gender; cultural diversity and national unity; the relationship between the United States and other nations and cultures; and the impact of these trends on the development of the nation. May be applied toward the Core Curriculum requirement in American History. Generally offered: Fall, Spring, Summer. Course Fees: DL01 \$75; LRC1 \$12; LRLF \$10; STLF \$18.

HIS 2053. Texas History. (3-0) 3 Credit Hours. (TCCN = HIST 2301)

An overview of the development of Texas from the era of Spanish exploration and colonization to the modern period, with emphasis on major events in the 19th and 20th centuries. Topics may vary, but generally will include cultural geography, contributions of ethnic minorities and women, the Republic of Texas, statehood, secession, Reconstruction, conservatism, reform, oil exploration, urbanization, and political, economic, and social change in the post-World War II era. May be applied toward the Core Curriculum requirement in American History. Generally offered: Fall, Spring. Course Fees: DL01 \$75; LRC1 \$12; LRLF \$10; STLF \$18.

HIS 2123. Introduction to World Civilization to the Fifteenth Century. (3-0) 3 Credit Hours. (TCCN = HIST 2321)

A general introduction to World History from the Late Neolithic to the Columbian Encounter in the late 15th century CE. Broad overview of the pattern of development of major civilizations and their interactions with closer attention given to those events, institutions, beliefs, and practices that involved and affected large numbers of people and had lasting significance for later generations. This course is always offered as a Q-course. May be applied toward the Core Curriculum requirement in Language, Philosophy and Culture. (Credit cannot be earned for both HIS 2123 and IDS 2203.) Generally offered: Fall, Spring, Summer. Course Fees: LRC1 \$12; LRLF \$10; STLF \$18.

HIS 2133. Introduction to World Civilization since the Fifteenth Century. (3-0) 3 Credit Hours. (TCCN = HIST 2322)

A general introduction to World History since the late 15th century CE. Broad overview of the pattern of development of major civilizations and their interactions with closer attention to those events, institutions, beliefs, and practices that involved and affected large numbers of people and laid foundations of the modern world. May be applied toward the Core Curriculum requirement in Language, Philosophy and Culture. (Credit cannot be earned for both HIS 2133 and IDS 2213.) Generally offered: Fall, Spring, Summer. Course Fees: LRC1 \$12; LRLF \$10; STLF \$18.

HIS 2533. Introduction to Latin American Civilization. (3-0) 3 Credit Hours.

An introduction to Latin America examining the broader topics that shaped its history. These topics may include Native American societies; the encounter between Native Americans, Europeans, and Africans; the post-Independence era; the different paths toward nation-building; the nature of authoritarian regimes; the impact of revolutions; and the cultural development of Latin America and its historiography. May be applied toward the Core Curriculum requirement in Language, Philosophy and Culture. Generally offered: Fall, Spring. Course Fees: LRC1 \$12; LRLF \$10; STLF \$18.

HIS 2543. Introduction to Islamic Civilization. (3-0) 3 Credit Hours.

An introduction to the role of Islam in world history from the Prophet and the founding of the Umayyad Caliphate to the breakup of the Ottoman Empire. Primary focus will be on the Ottoman Empire, its institutions and culture, and its interaction with Western civilization. May be applied toward the Core Curriculum requirement in Language, Philosophy and Culture. Generally offered: Fall. Course Fees: LRC1 \$12; LRLF \$10; STLF \$18.

HIS 2553. Introduction to East Asian Civilization. (3-0) 3 Credit Hours.

An introduction to East Asian history and culture from antiquity to the beginning of the modern period during the 17th and 18th centuries. The course will cover China, Japan, Korea, and Vietnam, with particular attention to the development of culture, society, and the state in the traditional era prior to the arrival of the West in East Asia. May be applied toward the Core Curriculum requirement in Language, Philosophy and Culture. Course Fees: LRC1 \$12; LRLF \$10; STLF \$18.

HIS 2563. Introduction to European Civilization. (3-0) 3 Credit Hours.

An introduction to the major historical and historiographical problems in the experience of Europe from the earliest times to the present. The course will expose students to a variety of intellectual approaches and to the diversity of European history. Course Fees: LRLF \$10; STLF \$18.

HIS 2573. Introduction to African Civilization. (3-0) 3 Credit Hours.

An introduction to the major historical and historiographical problems in the experience of Africa from the earliest times to the present. The course will expose students to a variety of intellectual approaches and to the diversity of African history. May be applied toward the Core Curriculum requirement in Language, Philosophy and Culture. Course Fees: LRC1 \$12; LRLF \$10; STLF \$18.

HIS 2583. Introduction to South Asian Civilization. (3-0) 3 Credit Hours.

This course explores the history, cultures, religions, and civilization of the Indian subcontinent from earliest times to the present. It begins with prehistory and the Indus civilization, the migration and settlement of the Aryans, the ancient empires of the Maurya and Gupta, and the Islamic conquest. The rise and fall of various Muslim kingdoms of the Mughal Empire, British colonial rule, the nationalist movements and independence of India, Pakistan, and Bangladesh are also discussed. May be applied toward the Core Curriculum requirement in Language, Philosophy and Culture. Course Fees: LRC1 \$12; LRLF \$10; STLF \$18.

HIS 3003. Colonial America and the Formation of American Society. (3-0) 3 Credit Hours.

An examination of the development and transformation of colonial societies in the 17th and 18th centuries, with special emphasis on family and community studies as measures of social change. Generally offered: Fall. Course Fees: LRLF \$10; STLF \$18.

HIS 3013. Historical Methods. (3-0) 3 Credit Hours.

An introduction to the study of history in which students will consider examples and approaches to the problems of research and writing in the field. This course is designed for students completing requirements for a major or minor in history. A minimum grade of "C-" is needed in HIS 3013 to enroll in HIS 4973. (Formerly HIS 2003. Credit cannot be earned for both HIS 2003 and HIS 3013.) Generally offered: Fall, Spring. Course Fees: DL01 \$75; LRLF \$10; STLF \$18.

HIS 3023. American Independence and National Unity, 1760–1820. (3-0) 3 Credit Hours.

Topics may include origins of the American Revolution, the Revolutionary War, the struggle for unity, and the early years of nationhood. Course Fees: LRLF \$10; STLF \$18.

HIS 3033. The Spanish and Mexican Borderlands. (3-0) 3 Credit Hours.

This course will provide students an opportunity to study Spanish exploration, the colonization of New Spain's northern frontier, and the shift from Spanish to Mexican sovereignty. Topics that may be discussed include Hispanic institutions; customs and traditions; the development of a frontier society; inter-cultural exchanges, conflicts, and negotiations between native societies, Spanish-Mexican settlers, and non-Hispanic European Americans and immigrants; Mexico's struggle for independence; social, cultural, economic, and political trends within the Mexican republic; the westward migration of people from the United States into Mexico's northern frontier; the Texas revolt, and the U.S.-Mexico War. Course Fees: LRLF \$10; STLF \$18.

HIS 3043. History of Women in the United States: Pre-Columbus to 1890. (3-0) 3 Credit Hours.

An examination of how women have been affected by economic, social, cultural, and political structures, with emphasis on the role of class, race, ethnicity, region, and age. Topics may include Native American societies, colonial life, the impact of the American Revolution, the early national period, slavery, the Civil War, westward expansion, and the "cult of domesticity." (Formerly HIS 3473. Credit cannot be earned for both HIS 3043 and HIS 3473.) Course Fees: LRLF \$10; STLF \$18.

HIS 3053. History of Women in the United States: Since 1890. (3-0) 3 Credit Hours.

This course will offer an analysis of women's lives in U.S. history since 1890 and may examine women's role in the Progressive Era, World Wars, the Civil Rights Movement, and the Feminist Movement. It will consider the effects of economic, social, cultural, and political structures on women since 1890, with particular attention to the role of class, race, ethnicity, region, and age. (Formerly HIS 3473. Credit cannot be earned for both HIS 3053 and HIS 3473.) Generally offered: Spring. Course Fees: DL01 \$75; LRLF \$10; STLF \$18.

HIS 3083. History of the American West. (3-0) 3 Credit Hours.

An examination of the American westward movement in the 19th and 20th centuries. Topics may include the conquest and settlement of the territory, the relationship of the new territory to the nation, patterns of economic development, community building, population diversity, and the symbolism of the frontier. Course Fees: LRLF \$10; STLF \$18.

HIS 3113. North American Indian Histories. (3-0) 3 Credit Hours.

A history of the American Indian from European contact to the present. Attention is given to the internal cultural, economic, and political developments of the different Indian groups as well as to the European and American developments and policies affecting the Indian. (Formerly titled "The American Indian.") Course Fees: LRLF \$10; STLF \$18.

HIS 3123. Colonial Texas under Spanish and Mexican Rule to 1836. (3-0) 3 Credit Hours.

An overview of Texas history beginning with 16th-century and 17th-century Spanish exploration, with emphasis on 18th-century colonization, and culminating in 19th-century Anglo-American immigration and the sociopolitical changes that resulted in Texas independence. Course Fees: LRLF \$10; STLF \$18.

HIS 3173. Modern America, 1914–1945. (3-0) 3 Credit Hours.

An examination of the many developments which fundamentally transformed American society between 1914 and 1945. The course examines how these developments reverberated throughout society, affecting all aspects of American life from habits of leisure to patterns of race relations, from the role of women to the style of presidential leadership. Course Fees: LRLF \$10; STLF \$18.

HIS 3193. The South in American History. (3-0) 3 Credit Hours.

Topics may include development of southern identity, slavery, Civil War and Reconstruction, Jim Crowism, the black experience, and the civil rights movement, with emphasis on the period since 1815. Course Fees: LRLF \$10; STLF \$18.

HIS 3243. Europe in the Nineteenth Century. (3-0) 3 Credit Hours.

The course offers a survey of European history from the Congress of Vienna until World War I. Topics may include an examination of the changing scope of international relations, industrial growth and acceleration, the conditions among social groups, and various social and political initiatives among European nations. Course Fees: LRLF \$10; STLF \$18.

HIS 3253. The United States since 1945. (3-0) 3 Credit Hours.

An examination of the social, political, economic, and cultural developments which have shaped life in the United States since World War II. Students will explore the causes and consequences of the country's evolution into a pluralistic, suburban, postindustrial superpower during the last half of the 20th century. Course Fees: LRLF \$10; STLF \$18.

HIS 3263. Seventeenth- and Eighteenth-Century Europe. (3-0) 3 Credit Hours.

A survey of European history under the Ancient Regime to 1789. Examination of the development of and the limits to absolutism, the "crisis" of the 17th century and the Baroque, the rise of science, and the culture of the Enlightenment. Course Fees: LRLF \$10; STLF \$18.

HIS 3283. Twentieth-Century Europe. (3-0) 3 Credit Hours.

Economic, social, political, and cultural change in Europe since World War I. Topics may include the formation of new political movements (such as social democracy, communism, fascism) between the wars, World War II and its effects, the postwar transformation of Europe, and the Cold War in Europe. Course Fees: LRLF \$10; STLF \$18.

HIS 3293. Imperial Spain. (3-0) 3 Credit Hours.

The history of Spain and its empire from the fifteenth to the early nineteenth century. Topics may include the union of Castile and Aragon, Hapsburg imperialism, the conquest of the Americas, transatlantic and transpacific exchange, the Bourbon reforms, and the Spanish American wars for independence. Course Fees: LRLF \$10; STLF \$18.

HIS 3303. History of Mexico. (3-0) 3 Credit Hours.

An overview of Mexican history from the pre-Columbian indigenous civilizations to the present. The course will cover the peopling of Mexico, the conquest, the formation of colonial society, independence, the Mexican American War, the liberal reforms, the Porfiriato, and the Mexican Revolution. Generally offered: Spring. Course Fees: LRLF \$10; STLF \$18.

HIS 3313. History of U.S. Relations with Latin America. (3-0) 3 Credit Hours.

A survey of U.S. relations with Latin America from the Monroe Doctrine to the present. General topics may include the Monroe Doctrine, Manifest Destiny, gunboat diplomacy, the Good Neighbor Policy, the Cold War, and the Alliance for Progress. Specific themes include U.S. reactions to revolutions, authoritarian regimes, and reformist governments. Course Fees: LRLF \$10; STLF \$18.

HIS 3323. Mexican American History to 1900. (3-0) 3 Credit Hours.

This course surveys the origins of Mexican Americans in the United States from the point of contact between indigenous people and Spanish colonizers to 1900. Thematic topics may include conquest, Spanish colonization, the development of borderlands cultures, migratory and settlement patterns, gendered borderlands, and labor. While the course will end at a time when the U.S. is emerging as a global industrialized nation, much of it covers a time period prior to the foundation of the U.S. as a nation state, thus demonstrating the deep histories of Mexican Americans tied to this land. Course Fees: LRLF \$10; STLF \$18.

HIS 3333. Mexican American History since 1900. (3-0) 3 Credit Hours.

This course surveys the history of Mexican Americans in the modern United States from 1900 to the present. Covering the period of the greatest migratory flows into the United States from Mexico, this course will address the development of transnational communities and regional identities within the U.S. Emphasis will be placed on such topics as the dialectic between immigration and historically rooted communities, the formation of varied racial and class based identities, civil rights, labor, changing gender roles, and the dynamic geographies of North America. Course Fees: LRLF \$10; STLF \$18.

HIS 3363. History of Cuba. (3-0) 3 Credit Hours.

Survey of Cuban history since the fifteenth century. Particular attention is given to revolutionary movements of the nineteenth and twentieth centuries that have variously sought national independence, slave liberation and Afro-Cuban rights, political and economic sovereignty, a just government, and socioeconomic equity. Course Fees: LRLF \$10; STLF \$18.

HIS 3373. Revolution in Latin America. (3-0) 3 Credit Hours.

An analysis of the role colonial legacies played in 19th- and 20th-century social and political violence. Case studies may include Mexico, Bolivia, Cuba, Chile, and Nicaragua. Course Fees: LRLF \$10; STLF \$18.

HIS 3393. Women in Mexican History. (3-0) 3 Credit Hours.

Study of selected issues in the history of women in Mexico, with focus on both texts and contexts. Texts may include writings and artistic works by Mexican American as well as Mexican women. Contexts may include the eve of the Spanish invasion and the conquest era, native and colonial societies in the colonial era, independence and the upheavals of the nineteenth century, the Mexican Revolution, the sweeping social and economic changes of the twentieth century, migration to the United States, globalization, and the drug war of recent years. Course Fees: LRLF \$10; STLF \$18.

HIS 3403. Pre-Hispanic and Colonial Latin America. (3-0) 3 Credit Hours.

An analysis of the pre-Columbian Indian civilizations, the Spanish conquest, and the Spanish and Portuguese colonial societies of the New World. Course Fees: LRLF \$10; STLF \$18.

HIS 3423. United States-Mexico Border. (3-0) 3 Credit Hours.

This course will examine social, economic, and political conditions shaping the character of the United States-Mexico borderlands. Using a transnational approach, students will have an opportunity to explore the history of the border as a multi-cultural region, and to examine issues relevant to the development of the border area. Topics of interest may include urbanization; industrialization; constructions of race, ethnicity, class, gender, and nationality; trade; migration; security; and ecological problems. Course Fees: LRLF \$10; STLF \$18.

HIS 3433. The Emergence of Modern America, 1877–1914. (3-0) 3 Credit Hours.

An examination of social and political responses to the industrial revolution in the United States. Course Fees: LRLF \$10; STLF \$18.

HIS 3453. History of Medicine in America. (3-0) 3 Credit Hours.

The course examines the social and cultural history of health and healing in the United States. By contextualizing the history of health, healthcare, patient stories, disease, and professional development, it provides analytical skills necessary to better evaluate the place of medicine in modern American culture. The particular focus of the course may vary by semester to more closely examine such historical topics as: women and health; rise of the medical profession; technology and medicine; popular culture and health history; and medicine and film. Course Fees: LRLF \$10; STLF \$18.

HIS 3493. History of San Antonio. (3-0) 3 Credit Hours.

Topics may include the cultural origins of colonial San Antonio; political, economic, and social development; and the effects of urbanization on local ethnic communities. Course Fees: LRLF \$10; STLF \$18.

HIS 3523. European Cultural History. (3-0) 3 Credit Hours.

Introduction to various aspects of the European cultural heritage focusing on the interaction between society and culture. Topics may include popular culture, the arts, philosophy, science, social theory, ideology, and mass media. Course content may include discussions of sexuality and graphic visual materials suitable for an adult audience. Course Fees: LRLF \$10; STLF \$18.

HIS 3543. History of Modern Warfare. (3-0) 3 Credit Hours.

Survey of the major developments in the history of war since the Napoleonic era. Analyses of the social, economic, and political context in which wars have occurred. Topics may include emergence of new forms of weaponry, strategy, logistics, and tactics. Course Fees: LRLF \$10; STLF \$18.

HIS 3553. Civil War America. (3-0) 3 Credit Hours.

This course explores the Civil War era in American history, beginning by tracing the causes of the Civil War, including the role that the economics of slavery played in the conflict. It studies the war itself, examining the social, cultural, and military aspects of the war. The course concludes with an examination of the attempts to reconstruct the Union in the years after the Confederate surrender. Generally offered: Spring. Course Fees: LRLF \$10; STLF \$18.

HIS 3563. African American History to the Civil War. (3-0) 3 Credit Hours.

A survey of the social, economic, political, and cultural history of African Americans from the time of contact with European slave traders until the Civil War. The course will examine the process by which millions of Africans were taken from their homelands, enslaved, and transported to America, where they were gradually, and often violently, transformed into Americans. While the course will focus on the United States, it will also consider how the experiences of Blacks in America relate to the history of the peoples of the African diaspora. Course Fees: DL01 \$75; LRLF \$10; STLF \$18.

HIS 3573. African American History since the Civil War. (3-0) 3 Credit Hours.

This course surveys the African American experience from emancipation to the present, focusing on political, economic, cultural, and social developments. The course will utilize both traditional historical methodology, with its emphasis on chronology and the examination of documents and alternative interdisciplinary methodologies, which analyze nontraditional sources such as film, music, and oral interviews. Course Fees: LRLF \$10; STLF \$18.

HIS 3623. History of the Civil Rights Movement. (3-0) 3 Credit Hours.

An examination of the struggle for civil rights in the United States from the conclusion of the Civil War to the present. While particular attention will be paid to the movement by Black southerners for equal rights, the course will also consider the struggle for civil rights conducted by other racial minorities in the United States. Course Fees: LRLF \$10; STLF \$18.

HIS 3673. Introduction to Latina/o History. (3-0) 3 Credit Hours.

This course will compare the immigration experiences of people arriving in the United States from different parts of Latin America and the Caribbean. The focus will be on immigrants from other regions of the Americas (e.g., Mexico, Central America, Puerto Rico, Cuba, and the Dominican Republic). Students will have the opportunity to explore the factors that fueled immigration by examining social, political, and economic developments in the sending nations and in the United States. Topics may include territorial conquest, colonialism, real and imagined borders, chain migration, formation of immigrant communities, acculturation, circular migration, gender relations, and social networks. Course Fees: LRLF \$10; STLF \$18.

HIS 3683. History of Food and Foodways. (3-0) 3 Credit Hours.

All historical eras and world areas are marked by the need for food, the production of food, and the culture of food. This course offers a detailed investigation of food and drink in history, with particular attention on how food choices and ideologies express social distinctions, collective values, and aspirations. The impact of food on social and political systems, cultural interactions, economic empires, human migrations, and warfare may be explored. Course Fees: LRLF \$10; STLF \$18.

HIS 3733. Europe in the High Renaissance and Reformation. (3-0) 3 Credit Hours.

This course will study the cultural, social, and political developments of Italy and Northern Europe in the time of the High Renaissance and the Reformation (ca. 1450–1550). Course Fees: LRLF \$10; STLF \$18.

HIS 3743. Imperial Russia. (3-0) 3 Credit Hours.

The development of Russia from the accession of Peter the Great to the outbreak of the Russian Revolution. Course Fees: LRLF \$10; STLF \$18.

HIS 3753. The Soviet Union and After. (3-0) 3 Credit Hours.

The evolution of Russia from the revolution of 1917 to the present. A critical analysis of the construction and decline of a socialist society in the Soviet Union and the relationship of 20th-century Russia to the outside world. Course Fees: LRLF \$10; STLF \$18.

HIS 3763. Russia before Peter the Great. (3-0) 3 Credit Hours.

An examination of the Russian state-building process in the period from the Mongol Yoke to the formation of the Russian Empire, focusing on the development of autocracy, serfdom, and the state service system and examining Russia's relations with Europe and Asia. Course Fees: LRLF \$10; STLF \$18.

HIS 3803. World History in the Cinema. (3-0) 3 Credit Hours.

An analysis of several classic films to introduce for closer critical study important events and issues in world history which have intrigued film makers and their audiences as well as historians. Exploration of the similarities and differences between artistic and historical imagination. (Formerly HIS 2073. Credit cannot be earned for both HIS 3803 and HIS 2073.) May be repeated for credit when topics vary. Course Fees: LRLF \$10; STLF \$18.

HIS 3813. American Political History. (3-0) 3 Credit Hours.

A study of American political history from the 18th century to the present. Deals with presidents and major national developments and may consider such topics as federalism, state politics, voting behavior, party systems, and political realignment. Course Fees: LRLF \$10; STLF \$18.

HIS 3823. History of American Foreign Relations. (3-0) 3 Credit Hours.

This course examines the emergence of the United States as a world power and its subsequent activities in world affairs. The course places particular emphasis on the domestic roots of U.S. activity, the factors shaping perceptions of international affairs, and the causes and consequences of international conflicts involving the United States.

HIS 3833. American Icons. (3-0) 3 Credit Hours.

Examines major events within the past one hundred years that have shaped the "the American Century." Students will have the opportunity to explore the way in which images, institutions, symbols, and persons have become icons, representing American values and ideas, at home and abroad. Course Fees: LRLF \$10; STLF \$18.

HIS 3843. Migration and History. (3-0) 3 Credit Hours.

What has caused people to migrate as individuals and as groups? To what extent has geographical mobility been a function of economic mobilization, political transformation, social upheaval, and/or technological revolution? How has the migratory process, in turn, affected the migrants themselves, both in their place of origin, and in the host society? Specific theme, regional focus, and time period may vary according to the instructor's choice of examples drawn from a variety of historical situations. Course Fees: LRLF \$10; STLF \$18.

HIS 3853. Refugees and Exiles: A History. (3-0) 3 Credit Hours.

Prerequisite: HIS 3013. An examination of the global history of refugees and deported peoples from the Middle Ages to the present day, offering practice in comparative social/political history and the acquisition of career skills. This course will be conducted entirely online. Course Fees: LRLF \$10; STLF \$18.

HIS 3873. History of World War II in Europe. (3-0) 3 Credit Hours.

This course examines the origins and impact of World War II in Europe. While multiple theatres of war are considered, this is not a military history course. Instead, the focus is primarily on the war's impact on civilian populations and the manner in which the conflict transformed the economic, social, and political realities of domestic life for the major combatants. Course Fees: LRLF \$10; STLF \$18.

HIS 3903. Modern Japan. (3-0) 3 Credit Hours.

An overview of Japanese history since the end of the 16th century. Topics may include the Tokugawa period of early modern history, the Meiji transformation of state and society, the rise of Japanese militarism leading up to the Pacific War, the American occupation, and the subsequent rebirth of Japan into a global economic giant. Course Fees: LRLF \$10; STLF \$18.

HIS 3913. Late Imperial China. (3-0) 3 Credit Hours.

Chinese history from the late Ming (ca. 1550) to the end of the Qing dynasty in the 1911 Revolution. The course will address the nature of imperial institutions, state-society interaction, economic developments, social and cultural changes, and China's relationship with the outside world. Course Fees: LRLF \$10; STLF \$18.

HIS 3923. China in Revolution. (3-0) 3 Credit Hours.

A study of 20th-century China. The course will analyze and characterize the different phases of revolutionary changes in China and examine the sources of its revolutionary impulse. Generally offered: Spring. Course Fees: LRLF \$10; STLF \$18.

HIS 3943. History of India. (3-0) 3 Credit Hours.

This course questions the extent to which South Asia is an outcome of its traditional structure (religion, caste hierarchy, joint families, village communities), and how much it is a product of global historical forces including colonialism, capitalism, feminism, and globalization. It examines politics and cultures of South Asia, with emphasis on the freedom struggle, the rise of the Congress and the Muslim League, the two-nation theory, partition and independence, the untouchables, and other contemporary issues including globalization and diaspora. (Formerly titled "Modern India, Pakistan, and Bangladesh.") Course Fees: LRLF \$10; STLF \$18.

HIS 3953. Cultures and Empires of the Silk Road, 700 BCE – 1480 CE. (3-0) 3 Credit Hours.

An examination of the political, military, economic, and cultural interaction of nomadic and sedentary peoples along the northern Silk Road running from Western China through Central Asia to the Black Sea Steppe. Topics may range from the formation of the first powerful nomadic tribal confederations (Scythians, Sarmatians, Huns) in the Iron Age and culminating with the rise of the great Gunpowder Empires of the Ottomans, Timurids, and Moscow tsars in the 14th and 15th centuries. Course Fees: LRLF \$10; STLF \$18.

HIS 3963. Women and Gender in India. (3-0) 3 Credit Hours.

This course examines the history of women in the Indian subcontinent from colonial times under British rule to modern independent India. Topics to be discussed and studied include the dowry system, colonial reform movements, education for women, special challenges for Muslim, Christian, and low-caste women, and the nationalist struggle for independence. Course Fees: LRLF \$10; STLF \$18.

HIS 3973. Muslim South Asia: India, Pakistan, Bangladesh. (3-0) 3 Credit Hours.

This course addresses the development and rise of Muslim nationalism in the Indian subcontinent. Under British colonial rule, Muslims in South Asia began to emerge as a political community, ultimately demanding self-rule under the sovereignty of Pakistan. After a chaotic Partition with India in 1947, Pakistan struggled to achieve cohesion across lines of region, language, and ethnicity. A civil war in 1971 led to the formation of the independent nation of Bangladesh. The class may consider topics of history, culture, gender, class, religion, and economic development for Muslims in South Asia, along with issues of contemporary interest in the region. Course Fees: LRLF \$10; STLF \$18.

HIS 3983. Women and Gender in Latin America. (3-0) 3 Credit Hours.

This course examines the role of gender in Latin American history, particularly with respect to the lives of ordinary women. Topics that may be discussed include exploring the changing roles of women over time to see how colonialism and imperialism, the rise of capitalism, and the existence of race/ethnicity and class hierarchies impacted women's social, economic and political roles. Regional and topical themes may vary. Throughout the course, we will be sensitive to how gender norms informed the ways women and men exercised power as well as the forces that constrained them from using power. Course Fees: LRLF \$10; STLF \$18.

HIS 4133. History and the Public. (3-0) 3 Credit Hours.

Investigation of the status, uses, and value of history in schools and universities, and in other spheres of life. Special interests include public and private roles of scholars and intellectuals, forms of public history, literary and cinematic uses of history, public policy applications, history as social and cultural criticism, and alternative conceptions of history and historians' work. Course Fees: LRLF \$10; STLF \$18.

HIS 4143. History Standards and Their Public Reception. (3-0) 3 Credit Hours.

This course, intended especially for majors pursuing certification to teach History in the public schools, examines the continuing debate about the articulation of standards for United States and World History instruction in primary and secondary schools. It offers students the opportunity to review the range of specific skills and understandings professional historians have tried to represent in History education. It further identifies the external expectations and pressures upon History instruction in the current day as well as the past. Generally offered: Fall. Course Fees: LRLF \$10; STLF \$18.

HIS 4223. Environmental History of the United States. (3-0) 3 Credit Hours.

An introductory survey of the interaction of human beings and the environment in the United States from early Indian occupancy to the present. Topics may include problems of ecological change, climate, energy, population, conservation, and human ideas and uses of nature. Course Fees: LRLF \$10; STLF \$18.

HIS 4233. American Society in the 1960s. (3-0) 3 Credit Hours.

This course examines the political, cultural, and social developments that shaped American society in the 1960s. Topics will include the emergence of movements for social change, the expansion of the welfare state, the growth of the counterculture, and the Americanization of the war in Vietnam. The course will invite students to move beyond the stereotypes of the 1960s and to explore how different people responded to, participated in, and experienced the changes that occurred in American society during this turbulent decade. Course Fees: LRLF \$10; STLF \$18.

HIS 4603. Issues in History. (3-0) 3 Credit Hours.

Coverage of topics of current interest in the field of history. May be repeated for credit when topics vary, but not more than 6 semester credit hours will apply to a bachelor's degree. (Formerly HIS 4923.) Course Fees: LRLF \$10; STLF \$18.

HIS 4911. Independent Study. (0-0) 1 Credit Hour.

Prerequisites: Permission in writing (form available) from the instructor, the student's advisor, the Department Chair, and Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Course Fees: LRLF \$10; STLF \$6.

HIS 4913. Independent Study. (0-0) 3 Credit Hours.

Prerequisites: Permission in writing (form available) from the instructor, the student's advisor, the Department Chair, and Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Course Fees: LRLF \$10; STLF \$18.

HIS 4933. Internship in History. (0-0) 3 Credit Hours.

Prerequisites: HIS 3013 and consent of Department Chair. Supervised experience relevant to history within selected community organizations. A maximum of 6 semester credit hours may be earned through Internship in History. Must be taken on a credit/no-credit basis. Course Fees: LRLF \$10; STLF \$18.

HIS 4953. Special Studies in History. (3-0) 3 Credit Hours.

An organized course offering the opportunity for specialized study not normally or not often available as part of the regular course offerings. Special Studies may be repeated for credit when topics vary, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. Generally offered: Fall, Spring. Course Fees: LRLF \$10; STLF \$18.

HIS 4973. Seminar in History. (3-0) 3 Credit Hours.

Prerequisite: HIS 3013 with a minimum grade of "C-". The opportunity for an intensive study of a selected topic. Primary emphasis on supervised research on various aspects of the topic. Enrollment limited to juniors and seniors majoring in history. Generally offered: Fall, Spring. Course Fees: DL01 \$75; LRLF \$10; STLF \$18.

HIS 4993. Honors Thesis. (0-0) 3 Credit Hours.

Prerequisites: Enrollment limited to candidates for Honors in History during their last two semesters; and/or completion of honors examination and consent of the Honors College. Supervised research and preparation of an honors thesis. May be repeated once with advisor's approval. Generally offered: Fall, Spring. Course Fees: LRLF \$10; STLF \$18.

Honors (HON)

Honors (HON) Courses

HON 1000. Honors 101. (1-0) 0 Credit Hours.

Prerequisite: Membership in the Honors College. A series of weekly, one-hour classes and peer coach meetings on how to excel in the Honors College. Weekly class topics are arranged around how to achieve excellence in required non-curricular and curricular areas. Students must complete Honors 101 within their first year in the Honors College in order to stay benefits eligible. Generally offered: Fall, Spring.

HON 1100. Top Scholar. (1-0) 0 Credit Hours.

Prerequisite: Membership in the Top Scholar program. During this course, designed exclusively for UTSA Top Scholars, students will explore topics related to Knowledge, Leadership, and Service through a series of speakers as well as group and individual signature experiences. Students will create a personal professional portfolio, which they will build upon each semester as they progress through their undergraduate experience as a UTSA Top Scholar. Honors College Learning Outcomes most directly relevant to this course include: Adaptability & Resilience, Project Management, Communicating Effectively, Intellectual Dexterity, Ethical Reasoning, and Self-Reflection and Awareness. This course is repeated each semester that the student is a member of the Top Scholar program.

HON 2223. Special Topics in Social and Behavioral Sciences. (3-0) 3 Credit Hours.

Prerequisite: Membership in the Honors College or consent of instructor. Interdisciplinary lower division seminar that explores broad topics and themes in the social and behavioral sciences. May be repeated for credit when topics vary. Generally offered: Fall, Spring.

HON 2233. Special Topics in Arts and Humanities. (3-0) 3 Credit Hours.

Prerequisite: Membership in the Honors College or consent of instructor. Interdisciplinary lower division seminar that explores broad topics and themes in arts and humanities. May be repeated for credit when topics vary. Generally offered: Fall, Spring.

HON 2243. Special Topics in Business and the Professions. (3-0) 3 Credit Hours.

Prerequisite: Membership in the Honors College or consent of instructor. Interdisciplinary lower division seminar that explores broad topics and themes in business and the professions. May be repeated for credit when topics vary. Generally offered: Fall, Spring.

HON 2253. Special Topics in the Sciences. (3-0) 3 Credit Hours.

Prerequisite: Membership in the Honors College or consent of instructor. Interdisciplinary lower division seminar that explores broad topics and themes in the sciences. May be repeated for credit when topics vary. Generally offered: Fall, Spring.

HON 2301. Honors: The Civic Ethos. (1-0) 1 Credit Hour.

Prerequisite: Membership in the Honors College or consent of instructor. An introduction to the theories involved with the value of civic participation, community involvement, public service, and volunteerism. Generally offered: Fall, Spring, Summer. Course Fee: DL01 \$75.

HON 2983. Honors Tutorial I. (3-0) 3 Credit Hours.

Prerequisite: Membership in the Honors College or consent of instructor. An introduction to the Honors College's Tutorial sequence via an introductory in-depth exploration of a global topic using current works by public intellectuals from different disciplines. Focus is upon reading, writing, and speaking skills about a topic from different perspectives. This course requires the student to pass a written and oral examination on the semester's materials. Generally offered: Fall.

HON 3021. Honors Essay Writing. (0-0) 1 Credit Hour.

Prerequisites: WRC 1013 and WRC 1023, membership in the Honors College, and consent of instructor. A special Honors course designed to allow students to receive credit for work on writing essays for competitions. Involves substantial rewriting. May be repeated for credit, but not more than 3 semester credit hours will apply to a bachelor's degree. Generally offered: Fall, Spring.

HON 3100. Honors Service. (0-0) 0 Credit Hours.

Prerequisites: Membership in the Honors College and consent of instructor. An advanced experiential course in service learning and/or community engagement that results in a significant service project. Student projects will be expected to display significant application of skills and effort to make a measurable, critical social impact that extends beyond volunteerism. May be repeated for credit when topics vary. Generally offered: Fall, Spring.

HON 3101. Honors Service. (1-0) 1 Credit Hour.

Prerequisites: Membership in the Honors College and consent of instructor. An advanced experiential course in service learning and/or community engagement that results in a significant service project. Student projects will be expected to display significant application of skills and effort to make a measurable, critical social impact that extends beyond volunteerism. May be repeated for credit when topics vary. Generally offered: Fall, Spring.

HON 3103. Honors Service. (3-0) 3 Credit Hours.

Prerequisite: Membership in the Honors College or consent of instructor. An advanced experiential course in service learning and/or community engagement that results in a significant service project. Student projects will be expected to display significant application of skills and effort to make a measurable, critical social impact that extends beyond volunteerism. May be repeated for credit when topics vary. Generally offered: Fall, Spring.

HON 3223. Honors Seminar in Social & Behavioral Sciences. (3-0) 3 Credit Hours.

Prerequisite: Membership in the Honors College or consent of instructor. Interdisciplinary seminar that explores broad topics and themes in the social and behavioral sciences. May be repeated for credit when topics vary. Generally offered: Fall, Spring.

HON 3233. Honors Seminar in Arts & Humanities. (3-0) 3 Credit Hours.

Prerequisite: Membership in the Honors College or consent of instructor. Interdisciplinary seminar that explores broad topics and themes in arts and humanities. May be repeated for credit when topics vary. Generally offered: Fall, Spring.

HON 3243. Honors Seminar in Business & the Professions. (3-0) 3 Credit Hours.

Prerequisite: Membership in the Honors College or consent of instructor. Interdisciplinary seminar that explores broad topics and themes in business and the professions. May be repeated for credit when topics vary. Generally offered: Fall, Spring.

HON 3253. Honors Seminar in the Sciences. (3-0) 3 Credit Hours.

Prerequisite: Membership in the Honors College or consent of instructor. Interdisciplinary seminar that explores broad topics and themes in the sciences. May be repeated for credit when topics vary. Generally offered: Fall, Spring.

HON 3260. Honors Professional Development. (0-0) 0 Credit Hours.

Prerequisites: Membership in the Honors College and consent of instructor. An advanced experiential course focusing upon skill development and knowledge acquisition that will make students more competitive in the workforce. Sections may be tailored to certain sections of the workforce, so students should speak with an advisor before registering for the course. May be repeated for credit when topics vary. Generally offered: Fall, Spring.

HON 3261. Honors Professional Development. (1-0) 1 Credit Hour.

Prerequisites: Membership in the Honors College and consent of instructor. An advanced experiential course focusing upon skill development and knowledge acquisition that will make students more competitive in the workforce. Sections may be tailored to certain sections of the workforce, so students should speak with an advisor before registering for the course. May be repeated for credit when topics vary. Generally offered: Fall, Spring.

HON 3263. Honors Professional Development. (3-0) 3 Credit Hours.

Prerequisite: Membership in the Honors College or consent of instructor. An advanced experiential course focusing upon skill development and knowledge acquisition that will make students more competitive in the workforce. Sections may be tailored to certain sections of the workforce, so students should speak with an advisor before registering for the course. May be repeated for credit when topics vary. Generally offered: Fall, Spring.

HON 3301. Graduate School Workshop. (1-0) 1 Credit Hour.

Prerequisite: Membership in the Honors College or consent of instructor. A special workshop designed to prepare undergraduate students for admission to graduate school, with special emphasis on admission to Ph.D. programs. Topics include selecting a graduate program, preparing an application packet, writing the personal statement, and preparing for the Graduate Record Examination.

HON 3310. Honors Intellectual Achievement and Research. (0-0) 0 Credit Hours.

Prerequisites: Membership in the Honors College and consent of instructor. An advanced experiential course designed to help students demonstrate mastery of a set of research skills that lead to peer-reviewed outcomes. May be repeated for credit when topics vary. Generally offered: Fall, Spring.

HON 3311. Honors Intellectual Achievement and Research. (1-0) 1 Credit Hour.

Prerequisites: Membership in the Honors College and consent of instructor. An advanced experiential course designed to help students demonstrate mastery of a set of research skills that lead to peer-reviewed outcomes. May be repeated for credit when topics vary. Generally offered: Fall, Spring.

HON 3313. Honors Intellectual Achievement and Research. (3-0) 3 Credit Hours.

Prerequisite: Membership in the Honors College or consent of instructor. An advanced experiential course designed to help students demonstrate mastery of a set of research skills that lead to peer-reviewed outcomes. May be repeated for credit when topics vary. Generally offered: Fall, Spring.

HON 3400. Honors Cultural Exploration. (0-0) 0 Credit Hours.

Prerequisites: Membership in the Honors College and consent of instructor. An advanced experiential course designed to immerse students in cultural settings or teach socio-cultural skills with which the student is likely unfamiliar. Emphasis will be on broadening the student's cultural capital, enabling them to act more comfortably in a global environment. May be repeated for credit when topics vary. Generally offered: Fall, Spring.

HON 3401. Honors Cultural Exploration. (1-0) 1 Credit Hour.

Prerequisites: Membership in the Honors College and consent of instructor. An advanced experiential course designed to immerse students in cultural settings or teach socio-cultural skills with which the student is likely unfamiliar. Emphasis will be on broadening the student's cultural capital, enabling them to act more comfortably in a global environment. May be repeated for credit when topics vary. Generally offered: Fall, Spring.

HON 3403. Honors Cultural Exploration. (3-0) 3 Credit Hours.

Prerequisite: Membership in the Honors College or consent of instructor. A course designed to immerse students in cultural settings or teach socio-cultural skills with which the student is likely unfamiliar. Emphasis will be on broadening the student's cultural capital, enabling them to act more comfortably in a global environment. May be repeated for credit when topics vary. Generally offered: Fall, Spring.

HON 3500. Honors Engaged Living. (0-0) 0 Credit Hours.

Prerequisites: Membership in the Honors College and consent of instructor. An advanced experiential course wherein students are exposed to knowledge and skills designed to help them become more engaged and intentional decision makers in various areas of their lives. Often, sections focus upon alternative forms of living, mastery of advanced lifestyle tools, or focused skill development in specific way of life. May be repeated for credit when topics vary. Generally offered: Fall, Spring.

HON 3501. Honors Engaged Living. (1-0) 1 Credit Hour.

Prerequisites: Membership in the Honors College and consent of instructor. An advanced experiential course wherein students are exposed to knowledge and skills designed to help them become more engaged and intentional decision makers in various areas of their lives. Often, sections focus upon alternative forms of living, mastery of advanced lifestyle tools, or focused skill development in specific way of life. May be repeated for credit when topics vary. (Formerly titled "Honors Capstone Exploration.") Generally offered: Fall, Spring.

HON 3503. Honors Engaged Living. (3-0) 3 Credit Hours.

Prerequisite: Membership in the Honors College or consent of instructor. An advanced experiential course wherein students are exposed to knowledge and skills designed to help them become more engaged and intentional decision makers in various areas of their lives. Often, sections focus upon alternative forms of living, mastery of advanced lifestyle tools, or focused skill development in specific way of life. May be repeated for credit when topics vary. Generally offered: Fall, Spring.

HON 3513. Archer: Policy-Making Process. (3-0) 3 Credit Hours.

Prerequisite: Enrollment in the UT System Archer Fellows Program. This course will focus on the role of Congress and the President in the policy-making process. The course will use a variety of sources (academic texts, newspaper and journal articles, Web sites, blogs, advocacy papers) to compare textbook and "real world" versions of how policy is made in Washington, D.C. Generally offered: Fall, Spring. Course Fee: DL01 \$75.

HON 3523. Archer: Politics of National Memory. (3-0) 3 Credit Hours.

Prerequisite: Enrollment in the UT System Archer Fellows Program. This course is designed to help students understand power in our nation's capital and, especially, power that lies outside Congress and the White House. Students will study Washington, D.C., by making visits to local sites, as they examine complex issues, such as the use of DDT to combat malaria, the relationship between democracy and war, and the future of the Internet. (Formerly titled "Beyond Congress and the White House.") Generally offered: Fall, Spring.

HON 3533. Archer: Advocacy and Politics. (3-0) 3 Credit Hours.

Prerequisite: Enrollment in the UT System Archer Fellows Program. This course will provide an introduction to the issues individuals face when placed in the role of being advocates for an issue, idea, or even themselves. The goal of the course is for students to learn about advocacy in ways that they can apply to their internship settings. Generally offered: Fall, Spring.

HON 3600. Honors Skill Development. (0-0) 0 Credit Hours.

Prerequisites: Membership in the Honors College and consent of instructor. An advanced experiential course designed to teach students specific skills that are contemporary, relevant to a wide sector of the workforce, and/or helpful for improving one's quality of life. May be repeated for credit when topics vary. Generally offered: Fall, Spring.

HON 3601. Honors Skill Development. (1-0) 1 Credit Hour.

Prerequisites: Membership in the Honors College and consent of instructor. An advanced experiential course designed to teach students specific skills that are contemporary, relevant to a wide sector of the workforce, and/or helpful for improving one's quality of life. May be repeated for credit when topics vary. Generally offered: Fall, Spring.

HON 3603. Honors Skill Development. (3-0) 3 Credit Hours.

Prerequisite: Enrollment in the Honors College or consent of instructor. An advanced experiential course designed to teach students specific skills that are contemporary, relevant to a wide sector of the workforce, and/or helpful for improving one's quality of life. May be repeated for credit when topics vary. Generally offered: Fall, Spring.

HON 3980. Honors Tutorial II (non-credit). (0-0) 0 Credit Hours.

Prerequisites: HON 2983 or Honors College documentation of successful completion of Honors Tutorial II; membership in the Honors College; and consent of instructor. An in-depth exploration into primary texts in different disciplines regarding the Tutorial I theme. Focus is upon reading, writing, and speaking skills about a topic and from different disciplinary perspectives. This is a self-guided course that requires the student to pass a written and oral examination on the semester's materials. Generally offered: Spring.

HON 3984. Honors Tutorial II. (0-0) 4 Credit Hours.

Prerequisite: HON 2983 or Honors College documentation of successful completion of Honors Tutorial II; membership in the Honors College; and consent of instructor. An in-depth exploration into primary texts in different disciplines regarding the Tutorial I theme. Focus is upon reading, writing, and speaking skills about a topic and from different disciplinary perspectives. This is a self-guided course that requires the student to pass a written and oral examination on the semester's materials. Generally offered: Spring.

HON 4403. Citymester: City Sites. (3-0) 3 Credit Hours.

Prerequisite: Membership in the UTSA Honors Citymester Program. An in-depth exploration into various issues and industries, lifestyles and cultures, personalities and institutions that create the City of San Antonio and the surrounding areas. Using San Antonio as text, the students will explore what it is to live and create meaning in and for this urban complex. Generally offered: Spring, Summer.

HON 4911. Honors Independent Study. (0-0) 1 Credit Hour.

Prerequisite: Enrollment in the Honors College or consent of instructor. Independent reading, research, and writing under the direction of a faculty member. Designed as preparation for completion of an Honors Thesis. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Generally offered: Fall, Spring.

HON 4913. Honors Independent Study. (0-0) 3 Credit Hours.

Prerequisite: Membership in the Honors College and consent of instructor. Independent reading, research, and writing under the direction of a faculty member. Designed as preparation for completion of an Honors Thesis. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Generally offered each semester.

HON 4933. Honors Internship. (0-0) 3 Credit Hours.

Prerequisite: Membership in the Honors College or consent of instructor. Supervised experience in a professional setting that provides the opportunity to integrate theory and practice programs relevant to the student's degree program and honors experience. May be repeated for credit in a subsequent semester, but not more than 6 semester credit hours of internship will apply to a bachelor's degree. Generally offered each semester.

HON 4936. Honors Internship. (0-0) 6 Credit Hours.

Prerequisite: Membership in the Honors College or consent of instructor. Supervised experience in a professional setting that provides the opportunity to integrate theory and practice programs relevant to the student's degree program and honors experience. May be repeated for credit in a subsequent semester, but not more than 6 semester credit hours of internship will apply to a bachelor's degree. Generally offered each semester.

HON 4980. Honors Tutorial III (non-credit). (0-0) 0 Credit Hours.

Prerequisites: HON 3984 or Honors College documentation of successful completion of Honors Tutorial II; membership in the Honors College; and consent of instructor. An in-depth exploration of the Tutorial I theme from primary texts in the discipline(s) of the student's major. Focus is upon reading, writing, and speaking skills about a topic from that specific discipline. This is a self-guided course in consultation with a professor in the student's major. It requires the student to pass a written and oral examination on the semester's materials. Generally offered each semester.

HON 4984. Honors Tutorial III. (0-0) 4 Credit Hours.

Prerequisites: HON 3984 or Honors College documentation of successful completion of Honors Tutorial II; membership in the Honors College; and consent of instructor. An in-depth exploration of the Tutorial I theme from primary texts in the discipline(s) of the student's major. Focus is upon reading, writing, and speaking skills about a topic from that specific discipline. This is a self-guided course in consultation with a professor in the student's major. It requires the student to pass a written and oral examination on the semester's materials. Generally offered each semester.

HON 4993. Honors Thesis. (0-0) 3 Credit Hours.

Prerequisites: Membership in the Honors College and consent of instructor. Supervised research and preparation of an Honors Thesis project. May be repeated once for credit. Generally offered each semester.

Humanities (HUM)

Humanities (HUM) Courses

HUM 2023. Introduction to the Humanities I. (3-0) 3 Credit Hours. (TCCN = HUMA 1301)

An introductory survey of the important aesthetic works, ideas, social structures, and other cultural productions of Western Civilization from the Paleolithic through the Medieval eras. This course will employ an interdisciplinary approach designed to acquaint students with major cultural modes in Western Civilization with a particular focus on aesthetic works and the dominant critical approaches used to address them. May be applied toward the Core Curriculum requirement in Creative Arts. Generally offered: Spring. Course Fees: DL01 \$75; LRC1 \$12; LRLF \$10; STLF \$18.

HUM 2033. Introduction to the Humanities II. (3-0) 3 Credit Hours. (TCCN = HUMA 1302)

An introductory survey of the important aesthetic works, ideas, social structures, and other cultural productions of Western Civilization from the Renaissance through the Present. This course will employ an interdisciplinary approach designed to acquaint students with major cultural modes in Western Civilization with a particular focus on aesthetic works and the dominant critical approaches used to address them. May be applied toward the Core Curriculum requirement in Creative Arts. Course Fees: DL01 \$75; LRC1 \$12; LRLF \$10; STLF \$18.

HUM 2053. History of Film. (3-0) 3 Credit Hours. (TCCN = HUMA 1315)

An introductory survey of the history, criticism, and cultural importance of film in Western Culture. This course will focus on the development of film as a medium for cultural production including a comparative analysis between film and other cultural media such as literature, drama, and the visual arts. May be applied toward the Core Curriculum requirement in Creative Arts. Generally offered: Spring. Course Fees: LRC1 \$12; LRLF \$10; STLF \$18.

HUM 2093. World Religions. (3-0) 3 Credit Hours. (TCCN = PHIL 1304)

Examination of the origins, teachings, development, and philosophical foundations of the world's chief religious movements, such as Hinduism, Buddhism, Shintoism, Confucianism, Taoism, Sikhism, Jainism, Islam, Zoroastrianism, Judaism, and Christianity. May be applied toward the Core Curriculum requirement in Language, Philosophy and Culture. (Formerly HUM 3093. Credit cannot be earned for both HUM 2093 and HUM 3093.) Generally offered: Fall, Spring, Summer. Course Fees: LRC1 \$12; LRLF \$10; STLF \$18.

HUM 3013. History of Ideas. (3-0) 3 Credit Hours.

Prerequisite: Completion of Core Curriculum requirement in Communication. Survey of the development and influence of major philosophical, scientific, and aesthetic conceptions from ancient times to the present. Generally offered: Fall. Course Fees: LRLF \$10; STLF \$18.

HUM 3023. History of Cultures. (3-0) 3 Credit Hours.

Interdisciplinary investigation of the development of ideas in literature, philosophy, art, politics, and society. May be repeated for credit when topic varies. Course Fees: LRLF \$10; STLF \$18.

HUM 3103. American Film. (3-0) 3 Credit Hours.

Prerequisite: Completion of Core Curriculum requirement in Communication. Survey of the art, history, development, and major critical approaches to American film with attention to such topics as classic and revisionist film styles, cinematic apparatus, the history and development of film genres, and film as a part of American culture. Course Fees: LRLF \$10; STLF \$18.

HUM 3123. Religion and Culture. (3-0) 3 Credit Hours.

This course examines religion in contemporary culture, focusing on a theme or context. Examples include: religion and science, religion in film, religion and food, religion and punishment. Course Fees: LRLF \$10; STLF \$18.

HUM 3133. Theory and Method in the Study of Religion. (3-0) 3 Credit Hours.

A survey of interdisciplinary approaches to the study of religion, including psychological, sociological, and anthropological theories of religion, along with recent challenges to such theories from feminist, post-modern and post-colonial perspectives. Course Fees: LRLF \$10; STLF \$18.

HUM 3143. Topics in Religious Studies. (3-0) 3 Credit Hours.

An in-depth exploration of a religious tradition, concept, practice, or theme. Examples include: indigenous religious practices; atheism; Islam; afterlife; prophets. Course Fees: LRLF \$10; STLF \$18.

HUM 3153. Humanistic Approaches to STEM. (3-0) 3 Credit Hours.

Interdisciplinary examination of science, medicine, and technology through the lens of theories and concepts developed within the humanities. May be repeated for credit when topics vary. Course Fees: LRLF \$10; STLF \$18.

HUM 3163. Global Humanities. (3-0) 3 Credit Hours.

Intensive study of the humanities on a global scale. This course includes a substantive focus on humanities outside of the Western cultural context. May be repeated for credit when topics vary. Course Fees: LRLF \$10; STLF \$18.

HUM 3173. Digital Humanities. (3-0) 3 Credit Hours.

This course studies the interface of humanities and digital technology. It includes hands-on training in digital humanities, including an independent project that connects students to the wider community. Course Fees: LRLF \$10; STLF \$18.

HUM 3203. Film Genres. (3-0) 3 Credit Hours.

Prerequisite: Completion of Core Curriculum requirement in Communication. Intensive study of a particular film genre, such as Western, science fiction, film noir, or documentary. May be repeated for credit when topics vary. Course Fees: LRLF \$10; STLF \$18.

HUM 3213. Classics of Religious Thought. (3-0) 3 Credit Hours.

An intensive examination of selected literary works that are important within different religious traditions. May be taught as a survey or with a focus on particular authors. Course Fees: LRLF \$10; STLF \$18.

HUM 3223. Sacred Texts as Literature. (3-0) 3 Credit Hours.

This course introduces frameworks for reading sacred texts as literary works, drawing on a range of theoretical perspectives, and highlighting major themes, stories, and motifs. Course Fees: LRLF \$10; STLF \$18.

HUM 3303. Major Filmmaker. (3-0) 3 Credit Hours.

Prerequisite: Completion of Core Curriculum requirement in Communication. Intensive study of the work of a particular major filmmaker, such as Alfred Hitchcock, Akira Kurosawa, Orson Welles, Charles Chaplin, or Ingmar Bergman. May be repeated for credit when topics vary. Course Fees: DL01 \$75; LRLF \$10; STLF \$18.

HUM 3403. Literature into Film. (3-0) 3 Credit Hours.

Prerequisite: Completion of Core Curriculum requirement in Communication. Examination of what distinguishes and links the media of cinema and written literature. Case studies in adaptation of novels, short stories, and plays into film. Course Fees: LRLF \$10; STLF \$18.

HUM 3623. Topics in National Cultures and Civilizations. (3-0) 3 Credit Hours.

Prerequisite: Completion of Core Curriculum requirement in Communication. The cultural life of the respective geographic regions and social strata of individual nations, as reflected in and interpreted by their artistic production. Individual topics may focus on a single nation or several nations. May be repeated for credit when topics vary. Generally offered: Fall, Spring. Course Fees: LRLF \$10; STLF \$18.

HUM 3703. Topics in Popular Culture. (3-0) 3 Credit Hours.

Prerequisite: Completion of Core Curriculum requirement in Communication. Intensive study of a particular period (e.g., the '20s, the '60s, the Middle Ages), medium (e.g., television, hip hop, radio), or event (e.g., 9/11, the Alamo, Kennedy assassination) as shaped by and shaper of the popular imagination. May be repeated for credit when topics vary. Generally offered: Spring. Course Fees: DL01 \$75; LRLF \$10; STLF \$18.

HUM 4911. Independent Study. (0-0) 1 Credit Hour.

Prerequisites: Permission in writing (form available) of the instructor, the student's advisor, the Department Chair, and the Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Course Fees: LRLF \$10; STLF \$6.

HUM 4912. Independent Study. (0-0) 2 Credit Hours.

Prerequisites: Permission in writing (form available) of the instructor, the student's advisor, the Department Chair, and the Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Course Fees: LRLF \$10; STLF \$12.

HUM 4913. Independent Study. (0-0) 3 Credit Hours.

Prerequisites: Permission in writing (form available) of the instructor, the student's advisor, the Department Chair, and the Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Course Fees: LRLF \$10; STLF \$18.

HUM 4953. Special Studies in Humanities. (3-0) 3 Credit Hours.

Organized course offering the opportunity for specialized study not normally or not often available as part of the regular course offerings. Special Studies may be repeated for credit when the topics vary, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. Generally offered: Spring. Course Fees: LRLF \$10; STLF \$18.

HUM 4973. Senior Seminar in Humanities. (3-0) 3 Credit Hours.

Prerequisites: 12 upper-division semester credit hours in humanities, classics, or philosophy. Undergraduate seminar limited to students in the humanities emphasis in their senior year. Content varies with each instructor. May be repeated once for credit when topics vary. (Formerly titled "Seminar for Humanities Majors") Course Fees: LRLF \$10; STLF \$18.

HUM 4991. Honors Thesis. (0-0) 1 Credit Hour.

Prerequisites: Consent of instructor and Department Scholarship and Honors Committee; enrollment in or completion of HUM 4973. Supervised research and preparation of an Honors Thesis for the purpose of earning Humanities Honors. May be repeated once with advisor approval. Course Fees: LRLF \$10; STLF \$6.

HUM 4992. Honors Thesis. (0-0) 2 Credit Hours.

Prerequisites: Consent of instructor and Department Scholarship and Honors Committee; enrollment in or completion of HUM 4973. Supervised research and preparation of an Honors Thesis for the purpose of earning Humanities Honors. May be repeated once with advisor approval. Course Fees: LRLF \$10; STLF \$12.

HUM 4993. Honors Thesis. (0-0) 3 Credit Hours.

Prerequisites: Consent of instructor and Department Scholarship and Honors Committee; enrollment in or completion of HUM 4973. Supervised research and preparation of an Honors Thesis for the purpose of earning Humanities Honors. May be repeated once with advisor approval. Course Fees: LRLF \$10; STLF \$18.

Information Systems (IS)

Note: New ISCS Course Resource Fee of \$25 per semester credit hour. Beginning Fall 2021, this fee is assessed on all undergraduate and graduate students enrolled in certain Information Systems courses in the College of Business that have specialized hardware and/or software infrastructure requirements.

Information Systems (IS) Courses

IS 1003. Unlocking Cyber. (3-0) 3 Credit Hours.

Cybersecurity is a relevant topic for everyone today, personally and professionally. This three-hour course covers core security terminology and concepts and discusses current challenges and threats faced by individuals, organizations, and nations through current topics, case studies, and hands-on labs, and career profiles. We introduce a few tools of the trade to familiarize students with the problem-solving techniques and analytical skills needed for cybersecurity and related degree programs, and with the aim of increasing awareness of the field and its critical importance to our world. Course Fees: BISP \$10; BTSI \$15; LRB1 \$15.

IS 1403. Business Information Systems Fluency. (3-0) 3 Credit Hours. (TCCN = BCIS 1305)

This course concentrates on a set of core computing skills that are essential to student success, such as using e-mail, word processing, spreadsheets, basic data management, presentation software and on- and off-campus internet resources. Microsoft Office is required to complete the projects assigned in the course. This is an online course. All coursework (lessons, exams, and projects) is completed online. Course Fees: BISP \$10; BTSI \$15; DL01 \$75; LRB1 \$15.

IS 1413. Excel for Business Information Systems. (3-0) 3 Credit Hours.

This course concentrates on the use of Microsoft Office Excel as a tool for organizing, presenting, and analyzing data. This is an online course. All coursework (lessons, exams, and projects) is completed online. Microsoft Excel is required to complete the projects assigned in the course. Successful completion of this course will help prepare the student for taking the Microsoft Office Specialist (MOS): Microsoft Office Excel Core exam. Students who are MOS certified or have taken an equivalent course that specifically prepares students for the MOS Excel exam can petition for exemption for the course. Students in quantitative majors (such as Accounting, Actuarial Science, Economics, Finance, Management Science, and Statistics and Data Science) are strongly encouraged to take this course in lieu of IS 1403. Course Fees: BISP \$10; BTSI \$15; DL01 \$75; LRB1 \$15.

IS 2053. Programming Languages I with Scripting. (3-0) 3 Credit Hours.

Prerequisites: IS 1003 with a grade of "C-" or better. This course introduces programming logic and constructs in Python and basic command line scripting in Linux and Windows environments. Control structures, arithmetic and logical operators, functions, arrays, regular expressions, classes/objects, and exception handling are covered in Python. Students will also write Bash and PowerShell scripts to execute basic processes and tasks. The emphasis will be on building problem solving and coding skills that apply to any language. Course Fees: BISP \$10; BTSI \$15; LRB1 \$15.

IS 2063. Programming Languages II with Java. (3-0) 3 Credit Hours.

Prerequisites: IS 2053 with a grade of "C-" or better. The course focuses on high-level programming constructs through the Java programming language. Students will apply an object-oriented framework to business and security problems using data structures, built-in libraries, file processing, and exception handling, and become familiar with concepts such as inheritance, polymorphism, and generics. Course Fees: BISP \$10; BTSI \$15; LRB1 \$15.

IS 3003. Principles of Information Systems for Management. (3-0) 3 Credit Hours.

An overview of fundamental MIS concepts within a framework for describing and analyzing managerial/organizational information needs. Includes coverage of hardware and software tools, information structures, various types of information systems, and formal problem-solving techniques. Issues related to organizational controls, security, and globalization, collaboration, and ethics as a result of changing technologies are discussed. A variety of assessment methods will be assigned to illustrate the use of specific tools and techniques for problem solving. Differential Tuition: \$126. Course Fee: DL01 \$75.

IS 3033. Operating Systems Security. (3-0) 3 Credit Hours.

Prerequisites: IS 2053 (IS 2031 and IS 2033 in previous catalogs). IS 3033 is a hands-on course with an emphasis on studying real-world cyber security challenges of Operating System (OS). Throughout the course, students will be introduced to the fundamental knowledge of OS such as process scheduling, memory management, I/O device and file systems etc. as well as hands-on approaches to securing and hardening the essential components of a specified OS (Unix-like or Windows). The lab exercises of this course provide students with comprehensive practices on secure operation and maintenance, secure server configuration, system-level firewalls, kernel security module, logging, and anti-malware measures, etc. Differential Tuition: \$126. Course Fee: DL01 \$75.

IS 3043. Secure Mobile App Development. (3-0) 3 Credit Hours.

Prerequisites: IS 2063 (IS 2041 and IS 2043 in previous catalogs), or the instructor's consent. As mobile devices such as smartphones and tablets become ubiquitous, the demand for mobile apps and developers who specialize in mobile technology also surges. This course teaches students how to develop a mobile app in an advanced development environment (e.g., Android Studio) and principles of secure software engineering. The course will cover requirements analysis, interface design, functionality development, testing vulnerabilities, data security and other secure software design strategies with a focus on the usability of mobile apps in the real world. This course can be an elective for the information systems major and cyber security major and minor. Differential Tuition: \$126.

IS 3063. Database Management for Information Systems. (3-0) 3 Credit Hours.

Prerequisites: IS 2053 (IS 2031 and IS 2033 in previous catalogs). A study of database management systems (DBMS) features, functions, and architecture, including logical design, data models, normalization, object-oriented data, and database administration. A DBMS product will be used to illustrate principles. Differential Tuition: \$126.

IS 3073. Application Development. (3-0) 3 Credit Hours.

Prerequisites: IS 2053 (IS 2031 and IS 2033 in previous catalogs). This course examines the use of developing applications and similar information systems techniques to solve managerial problems. Includes cases where students are asked to design and implement applications that address various classes of analytic problems. Differential Tuition: \$126.

IS 3313. Introduction to Pathogenic Outbreak Investigations. (3-0) 3 Credit Hours.

This is a cross-disciplinary introduction to genetic and digital pathogens, their characteristics and methods for rapid analysis, geared toward predicting behavior during real-time outbreak investigations. The course examines both similarities and differences between biological and digital pathogens and presents core concepts from each domain to build a cohesive base for future multi-disciplinary research. Differential Tuition: \$126.

IS 3413. Introduction to Telecommunications for Business. (3-0) 3 Credit Hours.

Includes an in-depth look at basic telecommunications terminology and concepts. Introduction to voice and data networks, signaling and multiplexing. Network topologies and protocol fundamentals and architectures are presented and compared. Ethernet, IEEE 802.11x, TCP/IP, dedicated circuit, and VPN technologies are introduced. Network security fundamentals are explored. Differential Tuition: \$126. Course Fee: DL01 \$75.

IS 3423. Network Security. (3-0) 3 Credit Hours.

Prerequisite: IS 3413 with a grade of "C-" or better or consent of instructor and Department Chair. The course provides a foundation in networking technologies that are core to creating secure networks. Topics included in this course are basic cryptography, secure networking protocols, logical and physical security management and security devices. Relation between these technologies and operational and implementation issues for these technologies will also be discussed. (Formerly titled "Secure Network Design.") Differential Tuition: \$126. Course Fee: DL01 \$75.

IS 3433. Introduction to Digital Forensics. (3-0) 3 Credit Hours.

The digital forensic investigation process involves organizational preparation, incident response, data collection, data analysis, and communication of findings. This course will teach students how to prepare for incidents, how to respond to incidents, and how to reliably collect digital data. Students will be introduced to various types of storage media and sources of volatile data. Students will also be introduced to forensic accounting principles and practices as well as fundamental legal issues related to digital forensics. Differential Tuition: \$126.

IS 3453. Networking Fundamentals. (3-0) 3 Credit Hours.

Prerequisite: IS 3413 with a grade of "C-" or better or consent of instructor. This course will focus on the principles of telecommunication with particular emphasis on networking. Networking and transmission protocols will be emphasized. Both IPv4 and IPv6 will be included. This class will also include the hardware side of the network. The role of servers, switches, and routers will be included. Security will be introduced. Differential Tuition: \$126.

IS 3513. Information Assurance and Security. (3-0) 3 Credit Hours.

Prerequisite: IS 3413 with a grade of "C-" or better or consent of instructor. This course will provide the student the opportunity to learn about the basic elements that comprise Information Assurance Security. An in-depth presentation of information assurance topics such as fraud, eavesdropping, traffic analysis, intrusion detection and prevention, hacking, viruses, cryptography, risk management, and secure architectures will be discussed. (Formerly IS 4453. Credit cannot be earned for both IS 3513 and IS 4453.) Differential Tuition: \$126. Course Fee: DL01 \$75.

IS 3523. Intrusion Detection and Incident Response. (3-0) 3 Credit Hours.

Prerequisite: IS 3513 with a grade of "C-" or better. This course will provide the student with the opportunity to learn about the elements that comprise intrusion detection and incident response. It provides an in-depth look at intrusion detection methodologies, tools, and approaches to handling intrusions when they occur. It examines the laws that address cyber crime and intellectual property issues, and includes a study of proper computer and network forensics procedures to aid in the identification and tracking of intruders and in the potential prosecution of criminal activity. Differential Tuition: \$126. Course Fee: DL01 \$75.

IS 3533. Cyber Law and Legal System. (3-0) 3 Credit Hours.

An introductory course in laws and legal issues that affect law enforcement, businesses, and investigators related to the preservation, collection, and analysis of digital data. Students will examine computer crime laws, civil and criminal laws that often involve electronic evidence, search and seizure of electronic evidence, judicial issues involving the admissibility of electronic evidence and related testimony, and legal issues involved with electronic surveillance. Differential Tuition: \$126.

IS 3833. Cyber Operations. (3-0) 3 Credit Hours.

Prerequisites: IS 3523 with a grade of "C-" or better. This course includes discussions concerning both the defensive and offensive cyber security operations. Protecting the network and the critical infrastructure will be one of the primary emphases of the course. Offensive capabilities will also be discussed. Current events, reverse malware engineering, new technologies, policies and legal subjects will also be part of this course. Differential Tuition: \$126.

IS 4023. Applied Big Data with Machine Learning. (3-0) 3 Credit Hours.

Prerequisite: IS 3073. This course provides an overview of machine learning techniques to explore, analyze, and leverage data. Students will be introduced to tools and algorithms they can use to create machine learning models that learn from data, and to scale those models up to big data problems. This course will help prepare students for more advanced courses in cyber analysis and data-driven decision making. Differential Tuition: \$126.

IS 4033. Network Operations. (3-0) 3 Credit Hours.

Prerequisite: IS 3453 with a grade of "C-" or better or consent of instructor. The course will explore the fundamentals of operating a network. Issues to be included are physical security, electrical and air conditioning issues, data storage and retention, and backup and redundancy of data. Other topics include floor loading, patch management, converting user requirements to system requirements and disaster recovery. Differential Tuition: \$126.

IS 4053. Systems Analysis and Design. (3-0) 3 Credit Hours.

Prerequisite: IS 3063 with a grade of "C-" or better. An introduction to systems theory and development techniques. Topics include problem definition, system development life cycle, feasibility analyses, project management, system models and CASE tools. Differential Tuition: \$126.

IS 4063. Advanced Topics in Information Systems. (3-0) 3 Credit Hours.

Prerequisite: 15 semester credit hours of information systems courses (excluding IS 1403 and IS 3003). Survey of recent developments in information technology. Analysis will focus on applications in the business community and theoretical developments that relate to those applications. Ordinarily taken during semester of graduation. Differential Tuition: \$126.

IS 4083. Agile Project Management. (3-0) 3 Credit Hours.

This introductory course presents concepts and techniques for leading agile teams in many types of projects including software development, engineering, construction, product development, as well as science and technology focused efforts. The course will give students the opportunity to develop an agile mindset and a range of adaptive skills including agile methods, practices and values that are associated with achieving higher levels of performance and customer satisfaction. The course will also prepare the student to sit for the Project Management Institute's PMI-ACP certification exam. Differential Tuition: \$126.

IS 4143. Wide Area Networks. (3-0) 3 Credit Hours.

Prerequisite: IS 3413 with a grade of "C-" or better or consent of instructor. This course explores telecommunication technologies associated with wide area networks. Technologies such as frame relay, MPLS, SD-WAN and VPN tunneling will be studied. The role of common carriers, leased lines and associated security and quality of service issues will also be discussed. Differential Tuition: \$126.

IS 4183. Advanced Database Concepts and Applications. (3-0) 3 Credit Hours.

Prerequisite: IS 3063 with a grade of "C-" or better. Databases play a critical role in the business operations of most organizations. This course provides an in-depth coverage on concepts governing the design and management of database systems. Topics include data modeling, database design, administration, optimization and performance evaluation, SQL language, procedures, functions and triggers. Students will have the opportunity to learn how to design and build modern database systems through a set of hands-on exercises and projects using MS SQL Server, Oracle and other contemporary database software. The course also covers some advanced topics such as database security, database connectivity and Web applications. Differential Tuition: \$126.

IS 4213. Data Center Infrastructure Planning. (3-0) 3 Credit Hours.

Prerequisite: IS 4033 with a grade of "C-" or better or consent of instructor. The purpose of this class will be to explore the electrical power, air conditioning, and fire suppressant requirements of a data center. Electrical grids, standby generators, and uninterruptible power supplies will be discussed. The course explores the various aspects of power quality, interruption of service, voltage flicker and control, voltage swells and sags and power surges. Air conditioning requirements and methods will also be included. Fire suppressant techniques will also be part of the class. A comprehensive project involving the design of the data center to include these three major issues will be part of the class. Differential Tuition: \$126.

IS 4223. Emerging Network Technologies. (3-0) 3 Credit Hours.

Cloud computing has become popular in industry. This class will look at what it is and how it works. Security issues will be an important part of the course. Other topics include virtual machines, storage area networks, software defined networks, and remote systems management. New hardware will also be included. Differential Tuition: \$126.

IS 4233. Introduction to Cloud Computing. (3-0) 3 Credit Hours.

Prerequisite: IS 2053 with a grade of "C-" or better or consent of instructor. Cloud computing has gone from a leading trend in IT to a widely adopted mainstream computing platform. This course introduces cloud computing concepts where students explore the basics of cloud services ecosystem and deployment models. Students will become acquainted with commonly used industry terms, typical business scenarios and applications for the cloud, security models, and benefits and limitations inherent in the new paradigm of computing. This course will help prepare students for more advanced courses in big data technology and cyber analysis. (Formerly titled Cloud Technologies for Business.) Differential Tuition: \$126.

IS 4463. Web Application Security. (3-0) 3 Credit Hours.

Prerequisite: IS 3513 with a grade of "C-" or better or consent of instructor. The security issues related to web applications will be discussed in this course. Topics include web application authentication, authorization, as well as browser and web database security principles. Various web application security attack types such as code injection, cross-site scripting, and cross-site request forgery will be studied. The course will also include discussions about business aspects that contribute to a secure web-based transaction environment. (Formerly titled Secure Electronic Commerce.) Differential Tuition: \$126. Course Fee: DL01 \$75.

IS 4473. Information Assurance Policy. (3-0) 3 Credit Hours.

Prerequisites: IS 3413 with a grade of "C-" or better and one 3-semester-credit-hour security course or consent of instructor. There are many policy issues, within the firm and at various levels of government, that affect information assurance. This course will examine how these policies affect electronic security. Subjects will include privacy of information, intellectual property protection, globalization of information systems, and other policy matters. The protection and control of secured information will also be discussed. Differential Tuition: \$126. Course Fee: DL01 \$75.

IS 4483. Digital Forensic Analysis I. (3-0) 3 Credit Hours.

An introductory course in collecting, examining, and preserving evidence of crimes involving digital devices. This course examines the issues, tools, and control techniques needed to successfully investigate illegal activities facilitated through the use of information technology. The tools of collecting, examining, and evaluating data in an effort to establish intent, culpability, motive, means, methods, and loss resulting from such crimes will be examined. Differential Tuition: \$126. Course Fee: DL01 \$75.

IS 4513. Industrial Control Systems. (3-0) 3 Credit Hours.

Prerequisite: IS 3513 with a grade of "C-" or better, or consent of instructor and Department Chair. Many of the critical infrastructure systems contain a system control and data acquisition (SCADA) component. Frequently, the control systems are remotely accessed and therefore become the focal point for attack. This course examines the control system components from the standpoint of vulnerability and protection. (Formerly titled Cyber and Physical Systems.) Differential Tuition: \$126.

IS 4523. Digital Forensic Analysis II. (3-0) 3 Credit Hours.

Prerequisite: IS 4483. This course examines advanced digital forensic analysis topics, tools, techniques, and control mechanisms. Advanced topics include operating system artifacts, non-standard file systems, mobile devices, malware, and volatile memory. Students will gain experience with state-of-the-art forensics tools and techniques needed to successfully investigate illegal activities perpetuated through the use of information technology. Differential Tuition: \$126. Course Fee: DL01 \$75.

IS 4533. Malware Analysis. (3-0) 3 Credit Hours.

Prerequisites: IS 3033 and IS 3513 with grades of "C-" or better, or instructor's consent. This class is designed to introduce students to concepts, tools and techniques associated with modern malicious code analysis. The course will examine the methods employed by malicious actors to prevent analysis and neutralization of their exploits and discuss ways of leveraging resources and tools to effectively examine malicious code. Safe handling practices for malware analysis such as sandboxing, virtualization, and system isolation will be taught/practiced throughout the course. Differential Tuition: \$126.

IS 4543. Cyber Attack and Defend. (3-0) 3 Credit Hours.

This course will bridge the concepts of implementing a secure network with actual cyber threats. Students will learn the necessary skills to implement key IT system components, create security policies, and understand the background of what hackers do to mandate such security measures. Students will conduct red team assessments against common infrastructure components, and monitor residual effects of attacks. Differential Tuition: \$126.

IS 4911. Independent Study. (0-0) 1 Credit Hour.

Prerequisites: A 3.0 College of Business grade point average, and approval in writing from the instructor, the Department Chair, and the Dean of the College. See academic advisor for the required forms. Independent research in an information systems topic under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Differential Tuition: \$42.

IS 4913. Independent Study. (0-0) 3 Credit Hours.

Prerequisites: A 3.0 College of Business grade point average, and approval in writing from the instructor, the Department Chair, and the Dean of the College. See academic advisor for the required forms. Independent research in an information systems topic under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Differential Tuition: \$126.

IS 4933. Internship in Information Systems. (0-0) 3 Credit Hours.

Prerequisites: 6 semester credit hours of information systems courses (excluding IS 1403 and IS 3003), a 2.5 UTSA grade point average, and approval in writing from the instructor, the Department Chair, and the Associate/Assistant Dean of Undergraduate Studies in the College of Business. Directed internship of at least 200 hours of work under the supervision of a professional providing students with opportunities to apply concepts, principles, and techniques learned in the classroom. Written report required. A proposal form must be completed and approved prior to registration. Internship may not be repeated for credit. Differential Tuition: \$126.

IS 4943. Internship in Cyber Security. (0-0) 3 Credit Hours.

Prerequisites: 6 semester credit hours of information systems courses (excluding IS 1403 and IS 3003), a 2.5 UTSA grade point average, and approval in writing from the instructor, the Department Chair, and the Associate/Assistant Dean of Undergraduate Studies in the College of Business. Directed internship of at least 200 hours of work under the supervision of a professional providing students with opportunities to apply concepts, principles, and techniques learned in the classroom. Written report required. A proposal form must be completed and approved prior to registration. Internship may not be repeated for credit. Differential Tuition: \$126.

IS 4953. Special Studies in Information Systems. (3-0) 3 Credit Hours.

Prerequisite: Consent of instructor. An organized course offering specialized study not normally or not often available as part of the regular course offerings. Special Studies may be repeated for credit when the topics vary, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. Differential Tuition: \$126. Course Fee: DL01 \$75.

Interdisciplinary Studies (IDS)

Interdisciplinary Studies (IDS) Courses

IDS 2013. Introduction to Learning and Teaching in a Culturally Diverse Society. (3-0) 3 Credit Hours.

Introductory course for all prospective teachers. This course is designed to help students understand the complexity of K–12 teaching in our contemporary society. Students will examine the history, policies and practices that have shaped schooling in the United States. Contemporary dilemmas of equity, the achievement gap, and other marginalizing practices will be considered to better understand the culture of schooling and classrooms, and the complex role of the teacher. Emphasis will be on, but not limited to, students as learners, curriculum standards and assessment, effective teaching practices for diverse learners, professionalism, and the sociopolitical challenges confronting today's teachers. Field experience required. Generally offered: Fall, Spring. Course Fees: LRH1 \$20; STF1 \$75; STSH \$30.

IDS 2083. Learning with Technology. (3-1) 3 Credit Hours.

This course investigates theoretical and practical issues surrounding the use of digital technologies in formal and informal contexts of learning. The course offers opportunities for learners to explore current and emergent technologies for learning, and how the use of these technologies can be optimized for diverse learning contexts. (Formerly titled "Technology for Learning and Teaching.") Course Fees: LRH1 \$20; STSH \$30.

IDS 2113. Society and Social Issues. (3-0) 3 Credit Hours.

This course explores contemporary social issues resulting from modern globalization and transnationalism from diverse disciplinary perspectives. Students investigate data and relate scholarship to understand the nature of global changes, as well as their impact on the world's people and global societies. Personal and social responsibility in relation to social issues will be explored through a variety of global, national, regional, and community-based topics. Students will be expected to synthesize disciplinary studies and demonstrate their connections of global issues to local contexts through written, oral, and visual representations. May be applied toward the Core Curriculum requirement in Social and Behavioral Sciences. Generally offered: Fall, Spring, Summer. Course Fees: LRC1 \$12; LRH1 \$20; STSH \$30.

IDS 2403. Physical Science. (3-0) 3 Credit Hours.

Prerequisites: Completion of Mathematics and Science Core Curriculum requirements. Study of fundamental laws that govern the universe, including mechanics, thermodynamics, electromagnetism, and quantum theory, and how these relate to physics and chemistry. Topics will include but not be limited to: basic scientific problem-solving techniques, fundamental forces; energy and how it is conserved and transformed; matter; atomic structure; and chemical interactions. (Credit cannot be earned for both IDS 2403 and IDS 3234.) Generally offered: Fall, Spring, Summer. Course Fees: LRH1 \$20; STSH \$30.

IDS 2413. Earth Systems Science. (3-0) 3 Credit Hours.

Prerequisites: Completion of Mathematics and Science Core Curriculum requirements. This course provides a look at the Earth system as a whole. Emphasis will be on the interrelationships between biological, geological, hydrological, climatological, and human systems on local, continental and global scales. The interactions between the hydrosphere, atmosphere, biosphere, cryosphere, and lithosphere that together make up the Earth system will be studied. This interdisciplinary view of our planet highlights the manner in which all systems of the Earth control or influence each other. (Formerly IDS 3213. Credit cannot be earned for both IDS 2413 and IDS 3213. Credit cannot be earned for both IDS 2413 and IDS 3224.) Generally offered: Fall, Spring, Summer. Course Fees: LRH1 \$20; STSH \$30.

IDS 3003. STEM in Social Contexts. (3-0) 3 Credit Hours.

Prerequisites: IDS 2113, WRC 1013 and WRC 1023. An exploration of inquiry in STEM fields and how it is situated in local and global sociocultural contexts across time. This course uses an interdisciplinary approach to studying the nature of inquiry, knowledge, and theory development, as well as the mutual relationships between STEM fields and social contexts. (Formerly titled "Science and Humanity.") Generally offered: Fall, Spring, Summer. Course Fees: DL01 \$75; LRH1 \$20; STSH \$30.

IDS 3013. Diversity, Equity, and the Social Sciences. (3-0) 3 Credit Hours.

Prerequisite: IDS 2113. This course offers learners opportunities to explore issues of diversity and equity by examining the social construction of race, class, sex, sexuality and other markers that may cause social oppression. Students will be invited to engage in in-depth inquiry about knowledge production and identity construction within the dominant discourse, as well as in critical reflection on social transformation practices in schools and communities. Generally offered: Fall, Spring, Summer. Course Fees: LRH1 \$20; STSH \$30.

IDS 3123. Culture, Literature, and Fine Arts. (3-0) 3 Credit Hours.

Prerequisites: IDS 2113, WRC 1013, and WRC 1023. The goal of this course is to engage students in inquiry on how issues embedded within and across cultures/time periods are reflected, challenged, and reinterpreted, through literature, art, music, film, and other forms of cultural expression. By contrasting and comparing cultural discourses and identities, students will have opportunities to develop respect, empathy, and understanding of diversity and social responsibility from an interdisciplinary perspective. Generally offered: Fall, Spring, Summer. Course Fees: ISCU \$120; LRH1 \$20; STSH \$30.

IDS 3201. Inquiry in Physical Science. (0-3) 1 Credit Hour.

Prerequisites: Completion of Mathematics and Science Core Curriculum requirements. Hands-on experimental inquiry with standard laboratory tools and techniques in the fields of physics and chemistry. Major themes include energy, forces, and atomic and subatomic interactions. (Credit cannot be earned for both IDS 3201 and IDS 3234.) Generally offered: Fall, Spring, Summer. Course Fees: L001 \$35; LRH1 \$20; STSH \$10.

IDS 3211. Inquiry in Earth Systems Science. (0-3) 1 Credit Hour.

Prerequisites: Completion of Mathematics and Science Core Curriculum requirements. Course familiarizes students with laboratory and field tools, techniques, and safety issues and allows them to form a better understanding of major topics in Earth systems science, especially in the areas of hydrology, soils, atmosphere, land cover, and GPS. Students will participate in scientific inquiry investigations of the Earth's systems and components. (Credit cannot be earned for both IDS 3211 and IDS 3224.) (Formerly titled "Advanced Earth Systems Science Laboratory.") Generally offered: Fall, Spring, Summer. Course Fees: L001 \$25; LRH1 \$20; STSH \$10.

IDS 3224. Earth Systems Science Investigations. (2-4) 4 Credit Hours.

Prerequisites: Completion of Mathematics and Science Core Curriculum requirements. Integrated online lecture and laboratory course that provides a look at the Earth system as a whole. Emphasis will be on the interrelationships between biological, geological, hydrological, and human systems on local, continental and global scales. The interactions between the hydrosphere, atmosphere, biosphere, and lithosphere that together make up the Earth system will be studied. This interdisciplinary view of our planet highlights the manner in which all systems of the Earth influence each other. Credit for IDS 3224 is equivalent to credit for both IDS 2413 and IDS 3211. Credit cannot be earned for IDS 2413 (or IDS 3213) and IDS 3211 if this course is taken. Generally offered: Fall, Spring, Summer. Course Fees: DL01 \$100; LRH1 \$20; STSH \$40.

IDS 3234. Investigations in Physical Science. (2-4) 4 Credit Hours.

Prerequisites: Completion of Mathematics and Science Core Curriculum requirements. Integrated online lecture and laboratory course that provides learners with varied opportunities to build an understanding of intricate relationships commonly addressed in the fields of physics and chemistry, and to evaluate these relationships as a holistic system. Explorations of conceptual ideas will include varied methods of engagement, including hands-on and minds-on experimentation. Credit for IDS 3234 is equivalent to credit for both IDS 2403 and IDS 3201. Credit cannot be earned for IDS 2403 (or IDS 3203) and IDS 3201 if this course is taken. Generally offered: Fall, Spring, Summer. Course Fees: DL01 \$100; LRH1 \$20; STSH \$40.

IDS 3713. Interdisciplinary Inquiry. (3-0) 3 Credit Hours.

Prerequisites: IDS 2113, IDS 3003, IDS 3013, IDS 3123, WRC 1013, and WRC 1023. This course fosters opportunities for engaging in the study of thinking in the sciences, social studies, mathematics, language arts, and fine arts through interdisciplinary investigations. Course experiences include development, practice, and analysis of ways of inquiring in several subject areas and seeking their implications for interdisciplinary inquiries toward critical reflection and transformative praxis. Generally offered: Fall, Spring, Summer. Course Fees: DL01 \$75; LRH1 \$20; STSH \$30.

IDS 4913. Independent Study. (0-0) 3 Credit Hours.

Prerequisites: Permission in writing (form available) from the instructor, the student's advisor, the Department Chair, and the Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Course Fee: STSH \$30.

IDS 4993. Honors Thesis. (0-0) 3 Credit Hours.

Prerequisites: Enrollment limited to candidates for honors in the Department of Interdisciplinary Learning and Teaching during the last two semesters; consent of the Honors College. Supervised research and preparation for an honors thesis. May be repeated once with advisor's approval. Course Fees: LRH1 \$20; STSH \$30.

Interior Design (IDE)

Interior Design (IDE) Courses

IDE 2143. Architecture and Interior Assemblies. (3-0) 3 Credit Hours.

Prerequisite: Enrollment as an ARC or IDE major. The study of building materials, assemblies, and construction processes as used in interior environments with an emphasis on system components qualities, characteristics, and standard installation practices. Generally offered: Fall. Course Fees: SAP1 \$25; STSA \$15.

IDE 2153. Interior Materials and Assemblies. (3-0) 3 Credit Hours.

Prerequisite: Enrollment as an ARC or IDE major. Continued study of materials and assemblies as used in interior environments with an emphasis on ceiling, floor, and furniture systems, applied finishes, and specifications. (Formerly IDE 3153. Credit cannot be earned for both IDE 2153 and IDE 3153.) Course Fees: SAP1 \$25; STSA \$15.

IDE 2166. Digital Design Studio. (0-14) 6 Credit Hours.

Prerequisite: Enrollment as an IDE major. Architectural and interior architectural design through the agency of digital design media. Course content includes the development of design skills for the conceptualization and informed design of buildings. Course Fees: SAP1 \$25; STSA \$30.

IDE 2263. Color Theory and Behavior. (3-0) 3 Credit Hours.

Prerequisite: Enrollment as an ARC or IDE major. A study of the physiological, psychological, and emotional effects of color, light, and space on human experience, behavior, and performance within the built environment. Explores fundamental properties of color, color relationships and their effects, as well as the fundamental theories found in environment and behavior interactions. Course Fees: SAP1 \$25; STSA \$15.

IDE 2413. History of Interior Architecture I. (3-0) 3 Credit Hours.

Prerequisites: WRC 1013, WRC 1023 and enrollment as an ARC or IDE major. Introduction to art, architecture, interior design, and decorative arts from antiquity to the Industrial Revolution. Explores the varied ways that design reflects and serves the social, religious, and political life in the Western and non-Western world. Course Fees: SAP1 \$25; STSA \$15.

IDE 2423. History of Interior Architecture II. (3-0) 3 Credit Hours.

Prerequisites: WRC 1013, WRC 1023 and enrollment as an ARC or IDE major. Introduction to art, architecture, interior design, and decorative arts through the post-Industrial Revolution to the modern period. Explores the varied ways that design reflects and serves the social, religious, and political life in the Western and non-Western world. (Formerly titled "History of Design: Renaissance through Nineteenth Century.") Course Fees: SAP1 \$25; STSA \$15.

IDE 3123. Space Planning and Interior Details. (3-0) 3 Credit Hours.

Prerequisite: Enrollment as an ARC or IDE major. Space planning and interior details informed by human factors, concepts and regulations. Course Fees: SAP1 \$25; STSA \$15.

IDE 3133. Interior Design Topics. (3-0) 3 Credit Hours.

Prerequisite: Enrollment as an ARC or IDE major. A study of current trends and issues in interior design. Course Fees: SAP1 \$25; STSA \$15.

IDE 3236. Interior Design Studio I. (0-14) 6 Credit Hours.

Prerequisites: IDE 2143 and IDE 2423. Interior design as the application of building construction systems and materials as key components in the art of shaping interior volumes. Project research and programming methods are applied and furniture selections are explored and integrated within a spatial context. Generally offered: Fall. Course Fees: SAP1 \$25; STSA \$30.

IDE 3246. Interior Design Studio II. (0-14) 6 Credit Hours.

Prerequisites: IDE 2143, IDE 2153, and completion of or concurrent enrollment in ARC 4183. Interior design focused on integrating mechanical, acoustical, and lighting systems through a consideration of the relationship between human activities and various interior environments. Generally offered: Spring. Course Fees: SAP1 \$25; STSA \$30.

IDE 3433. Topics in Design Theory. (3-0) 3 Credit Hours.

Prerequisite: IDE 2423. Introduction to design theories. May be repeated for credit when topics vary. (Formerly IDE 4423.) Course Fees: SAP1 \$25; STSA \$15.

IDE 4213. Furniture Design and Construction. (0-6) 3 Credit Hours.

Prerequisite: IDE 3236. Focuses on the essential qualities of the elements of furniture design and construction, emphasizing human factors and the use of materials and connections. Course Fees: SAP1 \$25; STSA \$15.

IDE 4233. Computer Projects in Design. (2-2) 3 Credit Hours.

Prerequisite: ARC 2513 or consent of instructor. Project-driven lecture/laboratory course exploring advanced issues associated with 3-D modeling, animation, photo-realistic visualization, and computer-aided manufacturing. Considers the role these processes play in architectural and interior design. (Same as ARC 4233. Credit cannot be earned for both IDE 4233 and ARC 4233.) Course Fees: SAP1 \$25; STSA \$15.

IDE 4266. Systems Integration Studio. (0-14) 6 Credit Hours.

Prerequisites: IDE 2143, IDE 2153, IDE 3133, IDE 3246 or IDE 4816, and ARC 4183. Design and documentation of interior environments focusing on system integration and articulation of building assemblies. Includes complex programming, life safety issues, thermal control, lighting, electrical, acoustics, and water and waste management systems. (Formerly titled "Interior Design Systems Studio.") Generally offered: Fall. Course Fees: SAP1 \$25; STSA \$30.

IDE 4333. Practicum/Internship. (0-0) 3 Credit Hours.

Prerequisite: IDE 3236 or consent of instructor. Offers students majoring in Interior Design participation in a variety of design development concerns. Students work under supervision in an approved internship to gain knowledge of their respective professional fields. Course Fees: SAP1 \$25; STSA \$15.

IDE 4513. Practice and Ethics. (3-0) 3 Credit Hours.

Prerequisites: ARC 2156 and ARC 2166. A study of the currently applied ethical, legal, and professional criteria for the practice of interior design. Issues investigated include forms of practice, client relationships, team leadership, office organization, and project management. Course Fees: SAP1 \$25; STSA \$15.

IDE 4816. International Studies Studio. (0-14) 6 Credit Hours.

Prerequisites: ARC 2156 and ARC 2166 or consent of instructor. An interior architecture studio associated with a study abroad program. (Formerly titled "Study Abroad: Studio.") (Same as ARC 4816. Credit cannot be earned for both IDE 4816 and ARC 4816.) Course Fees: SAP1 \$25; STSA \$30.

IDE 4823. International Studies Theory Seminar. (3-0) 3 Credit Hours.

Prerequisites: ARC 2156 and ARC 2166 or consent of instructor. A lecture/seminar course associated with a study abroad program; involves field trips. (Formerly titled "Study Abroad: History/Theory.") (Same as ARC 4823. Credit cannot be earned for both IDE 4823 and ARC 4823.) Course Fees: SAP1 \$25; STSA \$15.

IDE 4833. International Studies Drawing Seminar. (0-8) 3 Credit Hours.

Prerequisites: ARC 2156 and ARC 2166 or consent of instructor. A drawing course associated with a study abroad program; involves field trips. (Formerly titled "Study Abroad: Observational Drawing.") (Same as ARC 4833. Credit cannot be earned for both IDE 4833 and ARC 4833.) Course Fees: SAP1 \$25; STSA \$15.

IDE 4843. International Studies History Seminar. (3-0) 3 Credit Hours.

Prerequisites: ARC 2156 and ARC 2166 or consent of instructor. A lecture/seminar course associated with a study abroad program; involves field trips. (Same as ARC 4843. Credit cannot be earned for both IDE 4843 and ARC 4843.) Course Fees: SAP1 \$25; STSA \$15.

IDE 4911. Independent Study. (0-0) 1 Credit Hour.

Prerequisites: Permission in writing (form available) of the instructor, the student's advisor, the Department Chair, and the Dean of the College in which the course is offered. Scholarly research under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, may apply to a bachelor's degree. Course Fees: SAP1 \$25; STSA \$5.

IDE 4913. Independent Study. (0-0) 3 Credit Hours.

Prerequisites: Permission in writing (form available) of the instructor, the student's advisor, the Department Chair, and the Dean of the College in which the course is offered. Scholarly research under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, may apply to a bachelor's degree. Course Fees: SAP1 \$25; STSA \$15.

IDE 4953. Special Studies in Interior Architecture. (3-0) 3 Credit Hours.

Prerequisite: Consent of instructor. An organized course offering the opportunity for specialized study not normally or not often available as part of the regular course offerings. Special Studies may be repeated for credit when topics vary, but not more than 6 semester credit hours for IDE 4953 or 12 hours for IDE 4956, regardless of discipline, will apply to a bachelor's degree. Course Fees: SAP1 \$25; STSA \$15.

IDE 4956. Special Studies in Interior Architecture. (0-14) 6 Credit Hours.

Prerequisite: Consent of instructor. An organized course offering the opportunity for specialized study not normally or not often available as part of the regular course offerings. Special Studies may be repeated for credit when topics vary, but not more than 6 semester credit hours for IDE 4953 or 12 hours for IDE 4956, regardless of discipline, will apply to a bachelor's degree. Course Fees: SAP1 \$25; STSA \$30.

Italian (ITL)

Italian (ITL) Courses

ITL 1014. Elementary Italian I. (3-2) 4 Credit Hours. (TCCN = ITAL 1411)

Fundamentals of Italian offering the opportunity to develop listening, speaking, reading, and writing skills. Introduction to Italian culture. May be applied toward the Core Curriculum requirement in Language, Philosophy and Culture. Generally offered: Fall. Course Fees: LRC1 \$16; LRLF \$10; MM01 \$7; STLF \$24.

ITL 1024. Elementary Italian II. (3-2) 4 Credit Hours. (TCCN = ITAL 1412)

Prerequisite: ITL 1014, the equivalent, an appropriate placement test score, or consent of instructor. Fundamentals of Italian offering the opportunity to develop listening, speaking, reading, and writing skills. Further study of Italian culture. Generally offered: Spring. Course Fees: LRLF \$10; MM01 \$7; STLF \$24.

ITL 2013. Intermediate Italian I. (3-1) 3 Credit Hours. (TCCN = ITAL 2311)

Prerequisite: ITL 1024, the equivalent, an appropriate placement test score, or consent of instructor. Continued practice in developing listening, speaking, reading, and writing skills. Grammar and further study of Italian culture. Course Fees: LRLF \$10; MM01 \$7; STLF \$18.

ITL 2023. Intermediate Italian II. (3-1) 3 Credit Hours. (TCCN = ITAL 2312)

Prerequisite: ITL 2013, the equivalent, an appropriate placement test score, or consent of instructor. Continued practice in developing listening, speaking, reading, and writing skills. Grammar review and further study of Italian culture. Course Fees: LRLF \$10; MM01 \$7; STLF \$18.

ITL 2333. Italian Literature in English Translation. (3-0) 3 Credit Hours.

Major works of Italian literature across time, genres, and movements. May be applied toward the Core Curriculum requirement in Language, Philosophy and Culture. (Formerly ITL 3333. Credit cannot be earned for both ITL 2333 and ITL 3333.) Course Fees: LRC1 \$12; LRLF \$10; MM01 \$7; STLF \$18.

ITL 3023. Advanced Language Skills. (3-0) 3 Credit Hours.

Prerequisite: ITL 2023, the equivalent, the appropriate placement test score, or consent of instructor. Offers the opportunity to develop advanced-level oral and written communication skills in the Italian language, along with enhanced comprehension skills in listening and reading. May be repeated for credit when topics vary. Course Fee: LRLF \$10; MM01 \$7; STLF \$18.

ITL 4213. Topics in Italian Culture. (3-0) 3 Credit Hours.

Prerequisite: ITL 2023, the equivalent, or consent of instructor. Selected topics in Italian culture, such as such as literature, fine arts, politics (current E.U.-Italian relationships), or cinema. May be repeated for credit when topics vary. Course Fees: LRLF \$10; MM01 \$7; STLF \$18.

Japanese (JPN)

Japanese (JPN) Courses

JPN 1014. Elementary Japanese I. (3-2) 4 Credit Hours. (TCCN = JAPN 1411)

Fundamentals of Japanese offering the opportunity to develop basic speaking, listening, reading, and writing skills. Read and write Hiragana and Katakana. Introduction of Kanji and Japanese culture. May be applied toward the Core Curriculum requirement in Language, Philosophy and Culture. Generally offered: Fall. Course Fees: LRC1 \$16; LRLF \$10; MM01 \$7; STLF \$24.

JPN 1024. Elementary Japanese II. (3-2) 4 Credit Hours. (TCCN = JAPN 1412)

Prerequisite: JPN 1014, the equivalent, the appropriate placement test score, or consent of instructor. Fundamentals of Japanese offering the opportunity to develop basic speaking, listening, reading, and writing skills. Further study of Japanese culture and Kanji. Generally offered: Spring. Course Fees: LRLF \$10; MM01 \$7; STLF \$24.

JPN 2013. Intermediate Japanese I. (3-1) 3 Credit Hours. (TCCN = JAPN 2311)

Prerequisite: JPN 1024, the equivalent, the appropriate placement test score, or consent of instructor. Continued opportunity to develop listening, speaking, reading, and writing skills through structural analysis of the Japanese language. Further study of Japanese culture and Kanji. Generally offered: Fall. Course Fees: LRLF \$10; MM01 \$7; STLF \$18.

JPN 2023. Intermediate Japanese II. (3-1) 3 Credit Hours. (TCCN = JAPN 2312)

Prerequisite: JPN 2013, the equivalent, the appropriate placement test score, or consent of instructor. Continued opportunity to develop listening, speaking, reading, and writing skills through structural analysis of the Japanese language. Further study of Japanese culture and Kanji. Generally offered: Spring. Course Fees: LRLF \$10; MM01 \$7; STLF \$18.

JPN 3023. Advanced Language Skills. (3-0) 3 Credit Hours.

Prerequisite: JPN 2023, the equivalent, the appropriate placement test score, or consent of instructor. Offers the opportunity to develop advanced-level oral and written communication skills in the Japanese language, along with enhanced comprehension skills in listening and reading. May be repeated for credit when topics vary. Generally offered: Fall, Spring. Course Fee: LRLF \$10; MM01 \$7; STLF \$18.

JPN 3053. Business Japanese. (3-0) 3 Credit Hours.

Prerequisite: JPN 2023, the equivalent, the appropriate placement test score, or consent of instructor. Offers the opportunity to develop speaking, reading, and writing skills in business fields. Emphasis on Japanese business manners and business terminology. Course Fees: LRLF \$10; MM01 \$7; STLF \$18.

JPN 4213. Topics in Japanese Culture. (3-0) 3 Credit Hours.

Prerequisite: JPN 2023, the equivalent, the appropriate placement test score, or consent of instructor. Selected topics of Japanese culture, such as Modernization, Westernization, current issues in U.S.-Japan relationships, contemporary cultural developments, or a linguistic topic. May be repeated for credit when topics vary. Course Fees: LRLF \$10; MM01 \$7; STLF \$18.

Kinesiology (KIN)

NOTE: All prerequisites for Kinesiology (KIN) courses must be completed with a grade of "C-" or better.

Kinesiology (KIN) Courses

KIN 1001. Individual Physical Activities. (0-3) 1 Credit Hour.

Practice in the techniques of individual physical activities. Sections focus on particular sports or fitness activities as indicated in the Schedule of Classes. May be repeated for credit, but not more than 6 semester credit hours of KIN 1001 alone or in combination with KIN 1101 will apply to a bachelor's degree. Generally offered: Fall, Spring, Summer. Course Fees: LRHC \$10; PAG1 \$20; STHC \$6.

KIN 1013. Freshman Topics in Kinesiology. (3-0) 3 Credit Hours.

This course is designed to help students acquire the tools and life skills necessary to succeed in college and the future. The curriculum is an overview of topics including: note and test taking, learning styles, concentration skills, stress management, communication, diversity, and how to choose a major and a career. The student will be oriented with the different aspects of Roadrunners for Life, UTSA's version of the NCAA CHAMPS/Life Skills Program. A maximum of 3 semester credit hours of freshman topics courses may apply to a bachelor's degree. Generally offered: Fall, Summer. Course Fees: LRHC \$10; STHC \$18.

KIN 1101. Team Sports. (0-3) 1 Credit Hour.

Practice in the techniques of team sports. Sections focus on particular sports as indicated in the Schedule of Classes. May be repeated for credit, but not more than 6 semester credit hours of KIN 1101 alone or in combination with KIN 1001 will apply to a bachelor's degree. Generally offered Fall, Spring. Course Fees: LRHC \$10; PAG1 \$20; STHC \$6.

KIN 2003. Computer Applications in Kinesiology and Health. (3-0) 3 Credit Hours.

Prerequisite: KIN 2303 or HTH 2413. Application of computer and multimedia technology in Kinesiology and Health disciplines. Generally offered: Fall, Spring, Summer. Course Fees: LRHC \$10; STHC \$18.

KIN 2111. Lifetime Fitness Activity Instruction. (1-2) 1 Credit Hour.

Practice in delivering instructions in lifetime fitness activities for adults. These activities include cycling, hiking, jogging, golf, badminton and tennis. Course Fees: LRH1 \$10; PAG1 \$20; STSH \$5.

KIN 2123. Fitness and Wellness Concepts. (3-0) 3 Credit Hours. (TCCN = KINE 1338)

Prerequisite: KIN 2303 or consent of instructor. This course is designed to provide students with developmentally appropriate knowledge and skills in health and fitness. The course will address health-related issues in personal, interpersonal, and community settings. An individual fitness requirement may be required. Generally offered Fall, Spring. Course Fees: DL01 \$75; LRHC \$10; PAG1 \$20; STHC \$18.

KIN 2141. Medical Terminology. (1-1) 1 Credit Hour.

Prerequisites: KIN 2303 and admission to the Athletic Training concentration or Kinesiology and Health Science concentration. This course examines the word roots, prefixes, suffixes and terms used in medicine and clinical exercise. A major focus will be on the terms used in the major organ systems of the body, diseases, injuries, and medical treatments. Course Fees: DL01 \$75; LRHC \$10; STHC \$6.

KIN 2211. First Aid and CPR. (1-2) 1 Credit Hour.

A study of basic first aid procedures, cardiopulmonary resuscitation (CPR), automated external defibrillation (AED), and blood borne pathogens. Upon successful completion of this course students will be able to sit for national certification in first aid and CPR. (Formerly KIN 3213. Credit cannot be earned for both KIN 2211 and KIN 3213.) Course Fees: KSM1 \$10; LRHC \$10; STHC \$6.

KIN 2303. Foundations of Kinesiology. (3-0) 3 Credit Hours. (TCCN = KINE 1301)

Study of the history and philosophy of physical activity, and an introduction to anatomy, physiology, biomechanics, motor behavior, and psychology of exercise and sport. This course will also introduce careers in kinesiology and the requirements for graduation with a degree in kinesiology. (Formerly titled "Cultural and Scientific Foundations of Kinesiology.") Generally offered: Fall, Spring, Summer. Course Fees: LRHC \$10; STHC \$18.

KIN 2421. Outdoor Activities and Innovative Games. (1-2) 1 Credit Hour.

Prerequisite: KIN 2303. Practice in delivering instructions of selected outdoor activities (hiking, orienteering, biking) and innovative games for all age groups. Weekend class field trips required. Laboratory fee will be assessed. (Formerly titled "Outdoor Activities and Lifetime Sports.") Generally offered: Fall, Spring. Course Fees: LRHC \$10; PARC \$40; STHC \$6.

KIN 2441. Management in Kinesiology. (1-0) 1 Credit Hour.

Prerequisite: KIN 2303. Introduction to concepts and skills that will prepare the student to become an effective leader of physical fitness. (Formerly KIN 2423. Credit cannot be earned for both KIN 2423 and KIN 2441.) Course Fees: DL01 \$25; LRHC \$10; STHC \$6.

KIN 3001. Skill Analysis in Physical Activity: Individual Activities. (1-2) 1 Credit Hour.

Practice in delivering developmentally appropriate physical activity instruction in a variety of selected individual activities such as golf, bowling, archery, and track and field. Generally offered Fall, Spring. Course Fees: LRHC \$10; PAG1 \$20; STHC \$6.

KIN 3011. Skill Analysis in Physical Activity: Team Sports I. (1-2) 1 Credit Hour.

Practice in delivering developmentally appropriate physical activity instruction in a variety of selected team sports, such as basketball, soccer, and baseball/softball. Generally offered: Fall. Course Fees: LRHC \$10; PAG1 \$20; STHC \$6.

KIN 3013. Theory of Coaching. (3-0) 3 Credit Hours.

This course will discuss the principles and philosophies of coaching sports. Domains will remain consistent with that of the National Standards for Sport Coaches and will focus on philosophy and ethics, safety and injury prevention, physical conditioning, growth and development, teaching and communication, sport skills and tactics, organization and administration, and evaluation. Generally offered Fall, Spring. Course Fees: LRHC \$10; STHC \$18.

KIN 3021. Skill Analysis in Physical Activity: Team Sports II. (1-2) 1 Credit Hour.

Practice in delivering developmentally appropriate physical activity instruction in a variety of selected team sports, such as football, volleyball, and team handball. Generally offered: Spring. Course Fees: LRHC \$10; PAG1 \$20; STHC \$6.

KIN 3031. Skill Analysis in Physical Activity: Dual Sports. (1-2) 1 Credit Hour.

Practice in delivering developmentally appropriate physical activity instruction in a variety of selected dual sports, such as badminton, tennis and handball. Generally offered: Fall, Spring. Course Fees: LRHC \$10; PAG1 \$20; STHC \$6.

KIN 3051. Group Fitness Instruction. (1-2) 1 Credit Hour.

Prerequisite: KIN 2303 or consent of instructor. Practice in delivering a variety of appropriate aerobic, musculoskeletal fitness, and wellness activities for children and adults. (Formerly titled "Aerobic Fitness Instruction.") Generally offered: Fall, Spring, Summer. Course Fees: LRHC \$10; PAG1 \$20; STHC \$6.

KIN 3061. Foundational Movement. (1-2) 1 Credit Hour.

Provide instruction in facilitating the foundational movement skills which provide the basis for all movement capacities and their application in specialized activities geared to the early childhood through adolescent stages. (Formerly titled "Rhythmical Activities and Dance.") Generally offered: Fall, Spring. Course Fees: LRHC \$10; PAG1 \$20; STHC \$6.

KIN 3071. Musculoskeletal Fitness Instruction. (1-2) 1 Credit Hour.

Prerequisite: KIN 3313 or BIO 2053. Instructional techniques applied to health related fitness using resistance training, balance, flexibility, and musculoskeletal conditioning activities. Generally offered: Fall, Spring. Course Fees: LRHC \$10; PAG1 \$20; STHC \$6.

KIN 3103. Motor Development. (3-0) 3 Credit Hours.

A study of motor, physical, and neuromuscular development across the human life span. Effects of social, cognitive, growth and maturation, and aging factors on motor development will be addressed. Directed field experience may be required. Generally offered: Fall, Spring. Course Fees: LRHC \$10; STFK \$57; STHC \$18.

KIN 3113. Scientific Principles of Physical Activity. (3-1) 3 Credit Hours.

A study of the physiological and biomechanical principles of physical activity and human movement. Emphasis is placed on acute responses and chronic adaptations of the musculoskeletal and cardiorespiratory systems to physical activity. Generally offered: Fall, Spring. Course Fees: DL01 \$75; KSM1 \$10; LRHC \$10; STHC \$18.

KIN 3303. Care and Prevention of Athletic Injuries. (3-0) 3 Credit Hours.

Prerequisite: KIN 3313 or BIO 2053. Prevention and care of athletic injuries. A study of training and conditioning for the team and individual. Techniques and procedures for emergencies: diagnostic, preventive, and remedial measures. Organization of the training room facility. Directed field experience may be required. (Formerly titled "Athletic Injuries and Training Procedures.") Generally offered: Fall, Spring, Summer. Course Fees: KSM1 \$10; LRHC \$10; STHC \$18.

KIN 3313. Anatomy and Physiology for Kinesiology. (3-1) 3 Credit Hours.

Prerequisite: KIN 2303 or HTH 2413. A detailed study of anatomy and physiology of the human cardiorespiratory, musculoskeletal and nervous systems. Emphasis will be placed on the anatomical factors that cause human movement and application to common exercise-related injuries. Anatomy laboratory hours may be required. Generally offered: Fall, Spring, Summer. Course Fees: KSM1 \$10; LRHC \$10; STHC \$18.

KIN 3321. Biomechanics Laboratory. (1-1) 1 Credit Hour.

Prerequisite: KIN 3313 or BIO 2053 and concurrent enrollment in KIN 3323. Quantitative and qualitative evaluation of human movement through analysis of video and biomechanical data. Application of Biomechanics to sports performance enhancement and injury prevention. This lab will complement the content covered in KIN 3323. Course Fees: KSM1 \$10; LRHC \$10; STHC \$6.

KIN 3323. Biomechanics. (3-0) 3 Credit Hours.

Prerequisite: KIN 3313 or BIO 2053. The study of the human body in sports motion and sport objects in motion. The application of mechanical principles, kinematics, and kinetics. Biomechanics laboratory hours are required. Generally offered: Fall, Spring, Summer. Course Fees: LRHC \$10; STHC \$18.

KIN 3413. Instruction of Sports Activities and Games. (3-0) 3 Credit Hours.

Development, organization, and delivery of appropriate physical activities for children through the adolescent stage. Some fieldwork observation experiences may be required. Generally offered: Fall, Spring. Course Fees: LRHC \$10; PAG1 \$20; STHC \$18.

KIN 3431. Exercise Physiology Laboratory. (1-1) 1 Credit Hour.

Prerequisite: KIN 3313 or equivalent (BIO 2053 and BIO 2063) and concurrent enrollment in KIN 3433. Laboratory exercises demonstrating principles of exercise physiology. Topics include metabolic, cardiorespiratory, and neuromuscular responses to physical activity and exercise. Course Fees: KSM1 \$10; LRHC \$10; STHC \$6.

KIN 3433. Exercise Physiology. (3-0) 3 Credit Hours.

Prerequisite: KIN 3313 or equivalent (BIO 2053 and BIO 2063). A study of the adaptation and effects of the body to physiological stress. Emphasis will be placed on the physiology of training, metabolism and work capacity, and electrocardiography. Generally offered: Fall, Spring, Summer. Course Fees: LRHC \$10; STHC \$18.

KIN 3441. Health Related Fitness Assessment Laboratory. (0-2) 1 Credit Hour.

Prerequisite: KIN 3433 and concurrent enrollment in KIN 3443. This course includes laboratory and clinical measurements of aerobic capacity, balance, body composition, electrocardiography, flexibility, muscular endurance, muscular strength, and pulmonary function. Students are required to demonstrate competence in administering health related physical fitness. (Formerly titled "Graded Exercise Testing and Fitness Assessment Laboratory.") Course Fees: KSM1 \$10; LRHC \$10; STHC \$6.

KIN 3443. Health Related Fitness Assessment. (3-0) 3 Credit Hours.

Prerequisites: KIN 3433 and concurrent enrollment in KIN 3441. A study of the principles and concepts of fitness measurement. Topics include graded exercise testing, electrocardiography, assessment of aerobic capacity, body composition, flexibility, muscular strength, muscular endurance, and pulmonary function. (Formerly titled "Graded Exercise Testing and Fitness Assessment.") Generally offered: Fall, Spring. Course Fees: LRHC \$10; STHC \$18.

KIN 3453. Exercise Prescription. (3-1) 3 Credit Hours.

Prerequisites: KIN 3071 and KIN 3433. A study and application of principles and concepts related to designing exercise programs. The target population includes apparently healthy adults and individuals with special considerations, including cardiovascular disease, pulmonary disease, obesity, diabetes, pregnancy, and children. Generally offered: Fall, Spring. Course Fees: KSM1 \$10; LRHC \$10; STHC \$18.

KIN 3463. Musculoskeletal Anatomy. (3-1) 3 Credit Hours.

Prerequisite: KIN 3313 or BIO 2053. A detailed examination of the nervous, muscular, and skeletal systems. This course focuses on bones, bone markings, articulations, origins, insertions, actions, and innervations of these systems. The etiology and pathophysiology of common sport and exercise related injuries to the musculoskeleton will be introduced. Laboratory examination of the skeletal system may be required. Course Fees: KSM1 \$10; LRHC \$10; STHC \$18.

KIN 4023. Exercise Psychology. (3-0) 3 Credit Hours.

Prerequisite: KIN 2303. An investigation of psychological processes and behaviors related to participation in exercise and physical activities. Psychological effects of exercise, motives for fitness, exercise adherence, and fitness counseling. Generally offered: Fall, Spring, Summer. Course Fees: LRHC \$10; STHC \$18.

KIN 4043. Therapeutic Modalities. (3-0) 3 Credit Hours.

Prerequisites: KIN 3303, KIN 3463, KIN 4143, and admission to the Athletic Training concentration or Kinesiology and Health Science concentration. This course is designed to introduce students to a variety of therapeutic modalities currently used in clinical rehabilitation. Students will learn the theoretical basis and application procedures for a variety of modalities including therapeutic heat and cold, electrotherapy, therapeutic massage, ultrasound, and laser/light therapy. Generally offered: Fall, Spring. Course Fees: KSM1 \$10; LRHC \$10; STHC \$18.

KIN 4113. Evaluation. (3-0) 3 Credit Hours.

Application of test, measurement, and evaluation theory. Emphasis is on proper selection and administration of tests, appropriate evaluation of test results using basic statistical procedures, and assignment of grades. Field experience required. Generally offered: Fall, Spring. Course Fees: DL01 \$75; LRHC \$10; PAG1 \$20; STHC \$18.

KIN 4123. Introduction to Sport Psychology. (3-0) 3 Credit Hours.

Prerequisite: KIN 2303. This course involves an in-depth study of the psychological factors that underlie and support human behavior and performance, particularly as it relates to sports. This course introduces contemporary and practical theories regarding mental processes and applicable uses for this information. (Formerly titled "Psychosocial Aspects of Exercise and Sport.") Generally offered: Fall, Spring. Course Fees: DL01 \$75; LRHC \$10; STHC \$18.

KIN 4143. Evaluation of Athletic Injuries. (3-0) 3 Credit Hours.

Prerequisites: KIN 3303 and KIN 3463, and admission to the Athletic Training concentration or Kinesiology and Health Science concentration. This course deals in depth with issues related to athletic training, including assessment of injuries, and proper taping and wrapping techniques. (Formerly titled "Advanced Athletic Training.") Generally offered: Fall, Spring, Summer. Course Fees: KSM1 \$10; LRHC \$10; STHC \$18.

KIN 4203. Teaching Secondary Physical Education. (3-1) 3 Credit Hours.

Prerequisites: KIN 4343, KIN 4423, and admission to the Teacher Certification Program. Examination of current trends, issues, and pedagogical approaches to the teaching and learning of physical education in the secondary school curriculum. Contemporary programming, behavior management strategies, and community outreach activities will be emphasized. Weekly fieldwork in the public schools at the secondary school level is required. Restricted course; advisor code required for registration. Generally offered: Fall, Spring. Course Fees: DL01 \$75; LRHC \$10; STFK \$57; STHC \$18.

KIN 4233. Advanced Exercise Physiology. (3-1) 3 Credit Hours.

Prerequisite: KIN 3433 and a UTSA GPA of 3.0 or higher. In-depth study of exercise physiology, emphasizing application of physiological principles of training for physical fitness and sport performance, graded exercise testing, and professional issues. This course includes introduction to research in exercise physiology. Course Fees: KSM1 \$10; LRHC \$10; STHC \$18.

KIN 4243. Musculoskeletal Rehabilitation. (3-1) 3 Credit Hours.

Prerequisites: KIN 3303, KIN 3463, KIN 4143, and admission to the Athletic Training concentration or Kinesiology and Health Science concentration. This course examines various therapeutic exercises and programs used in the treatment and rehabilitation of exercise-related injuries. Generally offered: Fall, Spring, Summer. Course Fees: KSM1 \$10; LRHC \$10; STHC \$18.

KIN 4253. Exercise Nutrition. (3-0) 3 Credit Hours.

Prerequisite: KIN 3433. This course will address the basic concepts of nutrition from a scientific basis, applying these concepts to understanding of food nutritional labeling, dietary recommendations for health and fitness, as well as exercise or sport performance enhancement. Generally offered: Fall, Spring, Summer. Course Fees: KSM1 \$10; LRHC \$10; STHC \$18.

KIN 4263. Clinical Exercise Physiology. (3-1) 3 Credit Hours.

Prerequisites: KIN 3441, KIN 3443, and KIN 3453. This course will examine the essential knowledge, skills, and abilities necessary for exercise physiology practiced in clinical settings. Topics will include diseases of the cardiovascular, pulmonary, and metabolic systems. Skills in administering graded exercise testing with ECG monitoring, pulmonary function testing, and screening for metabolic disease will be emphasized in laboratory settings. Additionally, exercise prescription and programming will be studied for persons with chronic disease. Course Fees: KSM1 \$10; LRHC \$10; STHC \$18.

KIN 4303. Teaching Elementary Physical Education. (3-1) 3 Credit Hours.

Prerequisites: KIN 4343, KIN 4423, and admission to the Teacher Certification Program. Examination of current trends, issues, and pedagogical approaches to teaching and facilitating learning of physical education in the elementary school curriculum. Contemporary programming, problem solving, and community outreach activities will be emphasized. Weekly fieldwork in the public schools at the elementary school level is required. Restricted course; advisor code required for registration. (Same as CI 4273. Credit cannot be earned for both KIN 4303 and CI 4273.) Generally offered: Fall, Spring. Course Fees: DL01 \$75; LRHC \$10; STFK \$57; STHC \$18.

KIN 4343. Fundamental Motor Skills. (3-0) 3 Credit Hours.

Prerequisite: KIN 3413. Provide instruction in facilitating motor skills, which provide the basis for all movement capacities and their application in specialized activities geared to the early childhood through adolescent stages. Generally offered: Fall, Spring. Course Fees: LRHC \$10; PAG1 \$20; STHC \$18.

KIN 4401. Motor Learning Laboratory. (1-1) 1 Credit Hour.

Prerequisite: KIN 3313 or BIO 2053 and concurrent enrollment in KIN 4403. Laboratory exercises demonstrating the principles of motor learning and motor control. This lab will complement KIN 4403. Course Fees: KSM1 \$10; LRHC \$10; STHC \$6.

KIN 4403. Motor Learning. (3-0) 3 Credit Hours.

Prerequisite: KIN 3313 or BIO 2053. Functional applications of motor control and learning theory in skill instruction and sports performance. Motor learning laboratory hours are required. Generally offered: Fall, Spring, Summer. Course Fees: DL01 \$75; LRHC \$10; STHC \$18.

KIN 4413. Coaching Athletics. (2-2) 3 Credit Hours.

Theory of coaching relevant to athletics. Emphasis on organization and content involved in coaching sports. The sport content may vary in different semesters between baseball, basketball, football, soccer, softball, and volleyball. Course may be repeated for credit. Generally offered: Fall, Spring. Course Fees: LRHC \$10; PAG1 \$20; STHC \$18.

KIN 4423. Developmental/Adapted Physical Activity. (3-1) 3 Credit Hours.

Prerequisites: KIN 3103 or consent of instructor. A developmental and functional approach to the study of disabilities in physical activity. Legislation, pathologies, and adaptation principles. Field experience is required throughout the course. Generally offered: Fall, Spring. Course Fees: DL01 \$75; LRHC \$10; PAG1 \$20; STHC \$18.

KIN 4911. Independent Study. (0-0) 1 Credit Hour.

Prerequisites: Permission in writing (form available) from the instructor, the student's advisor, the Department Chair, and the Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Course Fee: STHC \$6.

KIN 4912. Independent Study. (0-0) 2 Credit Hours.

Prerequisites: Permission in writing (form available) from the instructor, the student's advisor, the Department Chair, and the Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Course Fee: STHC \$12.

KIN 4913. Independent Study. (0-0) 3 Credit Hours.

Prerequisites: Permission in writing (form available) from the instructor, the student's advisor, the Department Chair, and the Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Generally offered: Fall, Spring. Course Fee: STHC \$18.

KIN 4931. Clinical Applications of Athletic Injuries. (1-2) 1 Credit Hour.

Prerequisites: Consent of instructor and admission to the Athletic Training concentration. This course provides practical applications in prevention, diagnosis, treatment, and rehabilitation of athletic injuries, and includes a minimum of 150 hours of supervised field and clinical experiences in athletic training. May be repeated for credit for a maximum of 6 semester credit hours. Course Fees: LRHC \$10; STFK \$57; STHC \$6.

KIN 4933. Practicum in Kinesiology Research. (0-0) 3 Credit Hours.

Prerequisites: Admission to Kinesiology major and consent of Instructor. This course provides supervised research experience in various areas of kinesiology. May be repeated for credit, but not more than 6 semester credit hours will apply to a bachelor's degree. The 6 semester credit hours of this course can be used to substitute for KIN 4936. (Credit cannot be earned for both KIN 4936 and KIN 4933.) Generally offered: Fall, Spring, Summer. Course Fees: LRHC \$10; STHC \$18.

KIN 4936. Internship in Kinesiology. (0-0) 6 Credit Hours.

Prerequisites: Student is required to have a cumulative grade point average of 2.5 or greater and must be within 13 semester credit hours of graduation (including the 6 hours of the internship), and attend the mandatory new candidate meeting the semester prior to completing the internship to register for this course. Supervised internship with appropriate agency in the field of kinesiology. Student must complete this course during the last semester before graduation. No more than 6 semester credit hours of internship will apply to a bachelor's degree. (Credit cannot be earned for both KIN 4936 and HTH 4936.) Generally offered: Fall, Spring, Summer. Course Fees: STFK \$57; STHC \$36.

KIN 4943. Athletic Coaching Practicum. (0-0) 3 Credit Hours.

Prerequisites: First Aid and CPR certification and consent of instructor. Supervised coaching practicum with appropriate agency in the field of kinesiology. May be repeated for credit for a maximum of 6 semester credit hours. (Formerly titled "Practicum in Kinesiology.") Generally offered: Spring. Course Fees: LRHC \$10; STHC \$18.

KIN 4953. Special Studies. (3-0) 3 Credit Hours.

Organized course offering the opportunity for specialized study not normally or not often available as part of the regular course offerings. Special Studies may be repeated for credit when topics vary, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. Course Fees: KSM1 \$10; LRHC \$10; STHC \$18.

KIN 4973. Wellness Counseling. (3-0) 3 Credit Hours.

Prerequisites: KIN 3443 and KIN 4253. Students will learn and apply counseling techniques to promote the adoption of health-promoting lifestyle behaviors in diverse populations. Basic counseling theories will be introduced. Generally offered: Fall, Spring. Course Fees: LRHC \$10; STHC \$18.

KIN 4983. Applied Exercise Science. (3-1) 3 Credit Hours.

Prerequisites: KIN 3323, KIN 3433, KIN 3443, KIN 3453, and KIN 4253. Capstone course and seminar for students pursuing training and certification in exercise science, and preparation for graduate studies. Generally offered: Fall, Spring, Summer. Course Fees: KSM1 \$10; LRHC \$10; STHC \$18.

KIN 4993. Honors Thesis. (0-0) 3 Credit Hours.

Prerequisites: Enrollment limited to candidates for honors in the Department of Health and Kinesiology during the last two semesters; consent of the Honors College. Supervised research and preparation of an honors thesis. May be repeated once for credit with advisor's approval. Course Fee: STHC \$18.

Korean (KOR)

Korean (KOR) Courses

KOR 1014. Elementary Korean I. (3-2) 4 Credit Hours. (TCCN = KORE 1411)

Fundamentals of Korean offering the opportunity to develop basic listening, speaking, reading, and writing skills. Introduction of Korean characters and Korean culture. Course Fees: LRLF \$10; MM01 \$7; STLF \$24.

KOR 1024. Elementary Korean II. (3-2) 4 Credit Hours. (TCCN = KORE 1412)

Prerequisite: KOR 1014, an equivalent, an appropriate placement test score, or consent of instructor. Fundamentals of Korean offering the opportunity to develop basic speaking, listening, reading, and writing skills. Further study of Korean characters and Korean culture. Course Fees: LRLF \$10; MM01 \$7; STLF \$24.

KOR 2013. Intermediate Korean I. (3-1) 3 Credit Hours.

Prerequisite: KOR 1024, the equivalent, the appropriate placement test score, or consent of instructor. Continued opportunity to develop listening, speaking, reading, and writing skills through structural analysis of the Korean language. Further study of Korean culture. Course Fees: LRLF \$10; MM01 \$7; STLF \$18.

KOR 2023. Intermediate Korean II. (3-1) 3 Credit Hours.

Prerequisite: KOR 2013, the equivalent, the appropriate placement test score, or consent of instructor. Continued opportunity to develop listening, speaking, reading, and writing skills through structural analysis of the Korean language. Further study of Korean culture. Course Fees: LRLF \$10; MM01 \$7; STLF \$18.

KOR 3023. Advanced Language Skills. (3-0) 3 Credit Hours.

Prerequisite: KOR 2023, the equivalent, the appropriate placement test score, or consent of instructor. Offers the opportunity to develop advanced-level oral and written communication skills in the Korean language, along with enhanced comprehension skills in listening and reading. May be repeated for credit when topics vary. Course Fees: LRLF \$10; MM01 \$7; STLF \$18.

KOR 4213. Topics in Korean Culture. (3-0) 3 Credit Hours.

Prerequisite: KOR 2023, the equivalent, or consent of instructor. Selected topics in Korean culture, such as history, democracy, current social issues, pop culture, or contemporary cultural developments. May be repeated for credit when topics vary. Course Fees: LRLF \$10; MM01 \$7; STLF \$18.

Latin (LAT)

Latin (LAT) Courses

LAT 1114. Introductory Latin I. (3-2) 4 Credit Hours. (TCCN = LATI 1411)

Fundamentals of Latin grammar and readings in Latin. May be applied toward the Core Curriculum requirement in Language, Philosophy and Culture. Generally offered: Fall. Course Fees: LRC1 \$16; LRLF \$10; STLF \$24.

LAT 1124. Introductory Latin II. (3-2) 4 Credit Hours. (TCCN = LATI 1412)

Prerequisite: LAT 1114. Fundamentals of Latin grammar and readings in Latin. Generally offered: Spring. Course Fees: LRLF \$10; STLF \$24.

LAT 2113. Intermediate Latin I. (3-0) 3 Credit Hours. (TCCN = LATI 2311)

Prerequisite: LAT 1124 or the equivalent. Continued practice in reading Latin. Selections from Cicero, Sallust, Catullus, and/or Virgil. Review of Latin grammar and syntax. Generally offered: Fall. Course Fees: LRLF \$10; STLF \$18.

LAT 2123. Intermediate Latin II. (3-0) 3 Credit Hours. (TCCN = LATI 2312)

Prerequisite: LAT 2113 or the equivalent. Reading and in-depth analysis of a particular Latin author such as Ovid, Virgil, Cicero, Lucretius, Petronius, or Plautus. Course Fees: LRLF \$10; STLF \$18.

LAT 3113. Selected Latin Authors. (3-0) 3 Credit Hours.

Prerequisite: LAT 2123 or the equivalent. Close reading and critical analysis of a Latin text or texts, author, topic, or genre. May be repeated for credit when authors vary. Course Fees: LRLF \$10; STLF \$18.

LAT 3213. Advanced Latin. (3-0) 3 Credit Hours.

Prerequisite: LAT 2113 or the equivalent. Concentrated readings and interpretation of a selected Latin author, genre, or series of texts. May be repeated for credit when topics vary. Course Fees: LRLF \$10; STLF \$18.

LAT 3223. Latin Lyric Poetry. (3-0) 3 Credit Hours.

Prerequisite: Intermediate Latin II or equivalent. Students will read, analyze and discuss the poetry of Catullus and Horace, setting the poems in the context of the historical and social events in Rome that inspired them and exploring the Greek precedents for the genre of lyric poetry. Course Fees: LRLF \$10; STLF \$18.

LAT 3253. Republican Prose. (3-0) 3 Credit Hours.

Prerequisite: Intermediate Latin II or equivalent. An overview of the development of prose in the Republican era, with an emphasis on the works of Cicero and Caesar. Students consider the rhetorical and generic features of their composition and the historical social and political circumstances that produced them. Course Fees: LRLF \$10; STLF \$18.

Latin American Studies (LAS)

Latin American Studies (LAS) Courses

LAS 2013. Latin American Foundations. (3-0) 3 Credit Hours.

This course is designed as an introduction to important debates about Latin American history, politics, society and culture. In this course, we will analyze general and specific questions regarding pre-Hispanic cultures, colonial legacies, cultural heritages, political developments and societal challenges facing the region. The structure of this course is primarily chronological but also thematic and inter-disciplinary, involving anthropological, historical, cultural, and political studies about Latin America. Course Fees: LRLF \$10; STLF \$18.

LAS 4933. Internship in Latin American Studies. (0-0) 3 Credit Hours.

Prerequisite: Consent of internship coordinator and Department Chair. Supervised experience relevant to Latin American studies within selected community organizations. May be repeated for credit. A maximum of 6 semester credit hours may be earned through the internship. Course Fees: LRLF \$10; STLF \$18.

LAS 4953. Topics in Latin American Studies. (3-0) 3 Credit Hours.

An organized course offering the opportunity for specialized study not normally or not often available as part of the regular course offerings. May be repeated for credit when topics vary, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. Course Fees: LRLF \$10; STLF \$18.

Linguistics (LNG)

Linguistics (LNG) Courses

LNG 3813. Introduction to Linguistics. (3-0) 3 Credit Hours.

Basic principles of analysis and description of the structure of language, including sound system, word order, and meaning. Also, overview of selected subfields of linguistics, such as historical linguistics, sociolinguistics, language acquisition, and bilingualism. (Same as ANT 3903 and ENG 3343. Credit cannot be earned for more than one of these courses.) Generally offered: Fall, Spring. Course Fees: LRLF \$10; MM01 \$7; STLF \$18.

LNG 3833. Sociolinguistics. (3-0) 3 Credit Hours.

The examination of the interrelationships among language, culture, and society. Topics may include language use in social context, language variation and change, maintenance and shift, and multilingual societies. Course Fees: LRLF \$10; MM01 \$7; STLF \$18.

LNG 3873. Forensic Linguistics. (3-0) 3 Credit Hours.

This course examines how the analysis and manipulation of language is used to commit, solve, and prevent crimes. Students will explore case studies from law enforcement and counter-terrorism dealing with coerced confessions, the determination of authorship, and the manipulation of suspects under interrogation, among others. Course Fees: LRLF \$10; MM01 \$7; STLF \$18.

LNG 4013. Topics in Linguistics. (3-0) 3 Credit Hours.

Prerequisite: One course in LNG or consent of instructor. An opportunity to explore linguistic topics in depth, including sociolinguistics, psycholinguistics, neurolinguistics, pragmatics, syntax, semantics, phonology, or phonetics. May be repeated for credit when topics vary. (Formerly LNG 3913. Credit cannot be earned for both LNG 4013 and LNG 3913.) Course Fees: LRLF \$10; MM01 \$7; STLF \$18.

Literacy Education (LTED)

Literacy Education (LTED) Courses

LTED 3513. Children's Literature EC-6. (3-0) 3 Credit Hours.

Concurrent enrollment in ECE 3143, ECE 3313, ECE 3603, and ECE 4143 is required for EC-6 Core Subject students. Concurrent enrollment in ECE 3143 is required for EC-6 ESL students. Designed to familiarize students with children's books from diverse cultures that are appropriate for EC-Grade 6. Topics will include: criteria for selecting and evaluating children's literature appropriate for different levels of reading development; crafting of literary texts from diverse genres; reading pedagogies that surround the use of children's literature in the classroom from disciplinary, response, and critical perspectives; and textual features that support the science of teaching reading. (Formerly RDG 3513. Credit cannot be earned for both LTED 3513 and RDG 3513.) Generally offered: Fall, Spring, Summer. Course Fees: LRH1 \$20; STSH \$30.

LTED 3523. Reading for Teachers-Grades 4-8. (3-0) 3 Credit Hours.

An overview of the development of reading across the grades with an emphasis on grades 4 through 8. This course focuses on the reading process, techniques for developing oral and written language facility, word identification and comprehension of readers from various sociocultural backgrounds and with differing abilities, and classroom assessment of reading. This course must be completed with a grade of "B-" or better for it to serve as a prerequisite for CI 4626 Clinical Teaching: Grades 4-8. Field experience required. (Formerly RDG 3523. Credit cannot be earned for both LTED 3523 and RDG 3523.) Generally offered: Fall, Spring. Course Fees: LRH1 \$20; STF1 \$75; STSH \$30.

LTED 3533. Reading and Writing Across the Disciplines-Grades 4-8. (3-0) 3 Credit Hours.

Prerequisite: LTED 3523. Concurrent enrollment in CI 4543, CI 4553, and EDP 4203 in semester prior to clinical teaching for Grades 4-8 LA/RDG/SS certification. Must be admitted to the Teacher Certification Program. Study of the teaching and learning of content area reading in grades 4 through 8 including the textual, contextual, and cultural factors that influence reading. The course considers the range of reading abilities of intermediate and middle grade students, texts used in these grade levels, and strategies for teaching and evaluating vocabulary, comprehension, and thinking skills in the content areas. This course must be completed with a grade of "B-" or better for it to serve as a prerequisite for CI 4626 Clinical Teaching: Grades 4-8. Field experience required. (Formerly RDG 3533. Credit cannot be earned for both LTED 3533 and RDG 3533.) Generally offered: Fall, Spring. Course Fees: LRH1 \$20; STF1 \$75; STSH \$30.

LTED 3633. Literature and Other Texts Across the Content Areas-Grades 4-8. (3-0) 3 Credit Hours.

This course is designed to familiarize students with literature and other texts appropriate for students in grades 4 through 8. These texts include trade books, informational books, electronic texts, and other real-world texts that are appropriate for teaching and learning. Topics will include: examination of critical issues in children's books and young adult literature, evaluation and selection of texts, and literary response. This course must be completed with a grade of "B-" or better for it to serve as a prerequisite for CI 4626 Clinical Teaching: Grades 4-8. (Formerly RDG 3633. Credit cannot be earned for both LTED 3633 and RDG 3633.) Generally offered: Spring. Course Fees: LRH1 \$20; STSH \$30.

LTED 3643. Children's Literature for Young Diverse Learners - Infants and Toddlers. (3-0) 3 Credit Hours.

This course is designed to familiarize students with formats and genres of children's books appropriate for young children from 0 to age 5, with a particular focus on books from diverse cultures. Topics will include: the values of children's books for promoting social, linguistic, emotional, and cognitive development, criteria for selecting books, the evaluation of individual books, and ways of fostering young children's engagement with books. (Formerly RDG 3643. Credit cannot be earned for both LTED 3643 and RDG 3643.) Course Fees: LRH1 \$10; STSH \$30.

LTED 3673. Reading for Secondary Teachers-Grades 7–12. (3-0) 3 Credit Hours.

An overview of the developmental nature of reading across the grades with an emphasis on grades 7 through 12. This course focuses on the reading process, including word identification, fluency, vocabulary, higher-order levels of comprehension, and metacognition. This course considers social and cultural factors that influence the adolescent reading processes, including the role of social interaction in reading, language variations, and background knowledge that are a part of the reading process. Other topics include differences in student ability and motivation as well as new approaches to assessment. This course also explores literacy programs that fit the needs of diverse adolescents, especially programs that address the challenges of struggling secondary readers. This course must be completed with a grade of "B-" or better for it to serve as a prerequisite for CI 4646 Clinical Teaching: Grades 7–12. Field experience required. (Formerly RDG 3673. Credit cannot be earned for both LTED 3673 and RDG 3673.) Generally offered: Fall, Spring. Course Fees: LRH1 \$20; STF1 \$75; STSH \$30.

LTED 3683. Writing Development, Processes, and Instruction-Grades 7–12. (3-0) 3 Credit Hours.

Prerequisite: Admission to the Teacher Certification Program. Examines the nature of written language and facets of the writing process. The course focuses on the developmental nature of writing, stages in the writing process, writing in different genres, writing in the content areas, writing to learn, writing in relation to other communication processes, the evaluation of writing, and the place of technology in writing. For English majors 7-12, this course must be completed with a grade of "B-" or better for it to serve as a prerequisite for CI 4646 Clinical Teaching: Grades 7-12. Generally offered: Fall, Spring. Course Fees: LRH1 \$20; STSH \$30.

LTED 3773. Reading and Writing Across the Disciplines-Grades 7–12. (3-0) 3 Credit Hours.

Prerequisites: Completion of all requirements for admission to the Teacher Certification Program, including but not limited to satisfying the TSI requirement, and completing EDP 3203 and EDU 2103. Study of the reading process and of materials and techniques for supporting reading and writing in the secondary school. Considers the range of reading ability of secondary students, texts used, and strategies for teaching vocabulary, and comprehension in different content areas. Directed field experiences in secondary school classrooms are required. Opportunities for cross-disciplinary applications. Restricted course; advisor code required for registration. This course must be completed with a grade of "B-" or better for it to serve as a prerequisite for CI 4646 Clinical Teaching: Grades 7–12. Field experience required. (Formerly RDG 3773. Credit cannot be earned for both LTED 3773 and RDG 3773.) Generally offered: Fall, Spring, Summer. Course Fees: LRH1 \$20; STF1 \$75; STSH \$30.

LTED 3803. Writing Development, Processes, and Instruction-Grades 4–8. (3-0) 3 Credit Hours.

Examines the nature of written language and facets of the writing process. The course focuses on the developmental nature of writing, stages in the writing process, writing in different genres, writing in the content areas, writing to learn, writing in relation to other communication processes, the evaluation of writing, and the place of technology in writing. For EC–6 generalists, this course must be completed with a grade of "B-" or better for it to serve as a prerequisite for CI 4616 Clinical Teaching: Early Childhood–Grade 6 and CI 4626 Clinical Teaching: Grades 4–8. Restricted course; advisor code required for registration. (Formerly RDG 3803. Credit cannot be earned for both LTED 3803 and RDG 3803.) Generally offered: Fall, Spring, Summer. Course Fees: LRH1 \$20; STSH \$30.

LTED 3813. Writing Development and Instruction-EC–6. (3-0) 3 Credit Hours.

Prerequisites: Admission to the Teacher Certification Program, ECE 3143, ECE 3313, and ECE 3603. Concurrent enrollment with second semester of CI 4613 is required for EC-6 Core Subject students. Concurrent enrollment with CI 4303 is required for EC-6 ESL students. Examines the developmental nature of writing, contextual factors that impact development, and the ways in which writing development parallels reading development. Focuses on theories of writing development, including the nature of written language, the writing process, and writing to learn (within various disciplines) for monolingual children and children who are learning English as an additional language. For EC–6 Core Subjects, this course must be completed with a grade of "B-" or better for it to serve towards the requirements. Restricted course; advisor code required for registration. Course Fees: LRH1 \$20; STSH \$30.

LTED 3823. Reading Comprehension-EC–6. (2-2) 3 Credit Hours.

Prerequisites: Admission to the Teacher Certification Program, ECE 3143, ECE 3313, and ECE 3603. Concurrent enrollment in CI 4353, CI 4403, and ECE 4203 is required. May not be taken concurrently with CI 4303, ECE 4143, and LTED 4833. Study of the reading comprehension process, including how textual, reader, psychological, contextual, and cultural factors affect understanding of text for monolingual children and children who are learning English as a Second Language. Emphasis is placed on cognitive reading strategies for comprehending narrative and expository text. Emphasis is also placed on strategies for teaching and evaluating vocabulary, comprehension, and thinking skill in the content areas. This course must be completed with a grade of "B-" or better for students to enroll in Block C courses. For EC–6 generalists, this course must be completed with a grade of "B-" or better for it to serve as a prerequisite for CI 4616 Clinical Teaching: Early Childhood–Grade 6. Restricted course; advisor code required for registration. Field experience required. (Formerly RDG 3823. Credit cannot be earned for both LTED 3823 and RDG 3823. Credit cannot be earned for both LTED 3823 and BBL 3823.) Generally offered: Fall, Spring. Course Fees: LRH1 \$20; STF1 \$75; STSH \$30.

LTED 4833. Organizing Literacy Programs for Differentiated Instruction-EC–6. (2-2) 3 Credit Hours.

Prerequisites: Admission to the Teacher Certification Program, completion of CI 4353, CI 4403, ECE 4203, and LTED 3823. Concurrent enrollment in CI 4303 is required. May not be taken concurrently with CI 4353, CI 4403, ECE 4203, and LTED 3823. Restricted course; advisor code required for registration. Field experience required. Course is designed to familiarize students with a variety of literacy (reading and writing) programs (and how those programs support the science of teaching reading and writing) and to implement differentiated reading and writing pedagogy to support literacy development in various contexts (individual, small group, and whole-class). Students will learn to administer, interpret, and use assessments to gain a holistic view of students' strengths and areas of need to inform instruction. This course must be completed with a grade of "B-" or better for it to serve as a prerequisite for the second required semester of CI 4613 Clinical Teaching: Early Childhood-Grade 6. Restricted course; advisor code required for registration. Field experience required. Generally offered: Fall, Spring. Course Fees: LRH1 \$20; STF1 \$75; STSH \$30.

LTED 4913. Independent Study. (0-0) 3 Credit Hours.

Prerequisites: Permission in writing (form available) from the instructor, the student's advisor, the Department Chair, and Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. (Formerly RDG 4913.) Course Fee: STSH \$30.

Management (MGT)

Management (MGT) Courses

MGT 3003. Business Communication and Professional Development. (3-0) 3 Credit Hours.

Prerequisites: COM 1043 or COM 1053 or COM 1063 or WRC 1023, and classified as a business studies student or declared major in the College of Business, or approval of Department Chair and Dean of the College. This course examines basic professional and communication skills, with practical applications for the business environment. The course emphasizes two areas: 1) applying analytical thinking and related skills to the formulation of communications in support of business decision processes; and 2) developing professional competencies, with special emphasis on career readiness. Written assignments are required. (Formerly MGT 3043. Credit cannot be earned for both MGT 3003 and MGT 3043.) Generally offered: Fall, Spring, Summer. Differential Tuition: \$126. Course Fee: DL01 \$75.

MGT 3013. Introduction to Organization Theory, Behavior, and Management. (3-0) 3 Credit Hours.

A study of the complex role managers play in creating and maintaining organizations. Organization theory and behavior are explored within the context of changing technological, social, and political/legal environments and the internationalization of the economy. Some introduction to strategic analysis, planning, and decision making. Attention is given to the ethical dimensions of management and social responsibility. Generally offered: Fall, Spring, Summer. Differential Tuition: \$126. Course Fee: DL01 \$75.

MGT 3023. Understanding People and Organizations. (3-0) 3 Credit Hours.

Prerequisite: MGT 3013 with a grade of "C-" or better. A critical examination of behavioral theory as it relates to the management of individuals, dyads, and groups in organizations. Investigation of the organization as an open system of tasks, structures, tools, and people in states of continuous change. Generally offered: Fall, Spring, Summer. Differential Tuition: \$126. Course Fee: DL01 \$75.

MGT 3123. Organizational Communication. (3-0) 3 Credit Hours.

Prerequisites: MGT 3013 with a grade of "C-" or better, and a declared major in the College of Business or approval of Department Chair and Dean of the College. Theory and research in organizational communication. The course will examine the barriers to effective organizational communication; group communication and decision making; and information flows through the formal and informal networks of organizations. The course will also stress the means of evaluating organizational communication effectiveness. (Same as COM 3893. Credit cannot be earned for both MGT 3123 and COM 3893.) Generally offered: Fall, Spring, Summer. Differential Tuition: \$126.

MGT 3253. Interpersonal Communication. (3-0) 3 Credit Hours.

Prerequisites: A declared major in the College of Business or approval of Department Chair and Dean of the College. Theory and research of communication in personal and professional settings. The course stresses the social context of communication and emphasizes skills, knowledge, and motivation of verbal and nonverbal interactions. (Same as COM 3383. Credit cannot be earned for both MGT 3253 and COM 3383.) Generally offered: Fall, Spring, Summer. Differential Tuition: \$126. Course Fee: DL01 \$75.

MGT 3613. Managing Human Resources. (3-0) 3 Credit Hours.

Prerequisites: MGT 3013 with a grade of "C-" or better and a declared major in the College of Business or approval of Department Chair and Dean of the College. Analysis of how organizations attract, motivate, develop, and retain employees, and how they interact with organizations representing employees. Designed to provide students with an opportunity to understand the functional areas of human resource management and the integration of these functions into an effective and efficient human resource management system. Generally offered: Fall, Spring, Summer. Differential Tuition: \$126. Course Fee: DL01 \$75.

MGT 4073. International Management. (3-0) 3 Credit Hours.

Prerequisites: MGT 3013 with a grade of "C-" or better and a declared major in the College of Business or approval of Department Chair and Dean of the College. A study of business and management practices in a global context. Topics include an introduction to international management, the role of the cultural, legal, and political environments in shaping management decision making, current developments in forming global business strategies, organizational designs, cross-cultural staffing, global communications and managerial control methodologies. Emphasis on thinking globally and competitively. Generally offered: Fall, Spring, Summer. Differential Tuition: \$126.

MGT 4083. Comparative International Management Practices. (3-0) 3 Credit Hours.

Prerequisites: MGT 3003 and MGT 3013, with a grade of "C-" or better and a declared major in the College of Business or approval of Department Chair and Dean of the College. The study of management practices of other countries, including their cultural, social, political and legal, and industrial economic perspectives. Emphasis on different international regions at different times and their impact on American and global management practices. Generally offered: Fall, Spring. Differential Tuition: \$126.

MGT 4103. Introduction to Healthcare Management. (3-0) 3 Credit Hours.

Prerequisite: Junior or senior standing, or consent of the instructor. This course will provide students with an understanding of the skills, knowledge and abilities needed to be successful leaders in the dynamic, complex and rewarding field of healthcare management. Topics include the economic, regulatory, political and social framework of the healthcare industry, as well as the roles and expectations of managers in planning, organizing, coordinating and overseeing the delivery of healthcare services. A broad spectrum of healthcare organizations and settings will be included with emphasis on practical relevance and interaction with local healthcare organizations. Differential Tuition: \$126.

MGT 4213. Designing Organizations. (3-0) 3 Credit Hours.

Prerequisites: MGT 3003, MGT 3013, and MGT 3023 with a grade of "C-" or better and a declared major in the College of Business or approval of Department Chair and Dean of the College. Study of the antecedents and consequences of organizational design and structure. Emphasis on the implications for managing behavior in a rapidly changing global environment. Generally offered: Fall, Spring, Summer. Differential Tuition: \$126. Course Fee: DL01 \$75.

MGT 4413. Performance Management. (3-0) 3 Credit Hours.

Prerequisites: MGT 3003 and MGT 3013 or consent of the instructor. This course examines the effective management of people in the contemporary workplace. Types of performance criteria and the development of each will be covered. Diagnosis of the causes of performance and the evaluation of performance will be examined. Providing feedback, dealing with feedback, and approaches to improving performance will be addressed. Contextual factors such as organizational strategy, hiring practices, and the legal framework will also be considered. The course will emphasize both conceptual understanding and application. Differential Tuition: \$126. Course Fee: DL01 \$75.

MGT 4433. Introduction to Business Negotiations. (3-0) 3 Credit Hours.

Prerequisites: MGT 3003 and MGT 3013 or consent of the instructor. This course will provide students with an understanding of the skills, knowledge and abilities needed to be successful negotiators in management and organizations. Topics include dyadic negotiation, multi-party negotiation, dispute resolution, and persuasion and influence. A broad spectrum of organizational and business settings will be used for students to experience and learn theory and practical skills when negotiating. Differential Tuition: \$126.

MGT 4613. Compensating Employees. (3-0) 3 Credit Hours.

Prerequisites: MGT 3003 and MGT 3613 with a grade of "C-" or better and a declared major in the College of Business or approval of Department Chair and Dean of the College. Analyzing, developing, implementing, administering, and performing ongoing evaluation of a total compensation and benefits system for all employee groups consistent with organizational goals. (Formerly MGT 3623. Credit cannot be earned for both MGT 4613 and MGT 3623.) Generally offered: Fall. Differential Tuition: \$126.

MGT 4623. Staffing Organizations. (3-0) 3 Credit Hours.

Prerequisites: MGT 3003 and MGT 3613 with a grade of "C-" or better and a declared major in the College of Business or approval of Department Chair and Dean of the College. Planning, developing, implementing, administering, and performing ongoing evaluation of recruiting, hiring, orientation, and organizational exit to ensure that the workforce will meet the organization's goals and objectives. Generally Offered: Fall. Differential Tuition: \$126. Course Fee: DL01 \$75.

MGT 4643. Human Resources Law. (3-0) 3 Credit Hours.

Prerequisites: BLW 3013 and MGT 3003 with a grade of "C-" or better and a declared major in the College of Business or approval of Department Chair and Dean of the College. An analysis of historical and contemporary laws in the United States that affect the human resource management function. Integration of labor and employment law with the social and economic forces shaping the current labor-management environment. Differential Tuition: \$126.

MGT 4663. Training and Developing Employees. (3-0) 3 Credit Hours.

Prerequisites: MGT 3003 and MGT 3613 with a grade of "C-" or better and a declared major in the College of Business or approval of Department Chair and Dean of the College. The processes of ensuring that the skills, knowledge, abilities, and performance of the workforce meet the current and future organizational and individual needs through developing, implementing, and evaluating activities and programs addressing employee training and development, change and performance management, and the unique needs of particular employee groups. Generally offered: Spring. Differential Tuition: \$126.

MGT 4803. Managing Human Resources for Competitive Advantage. (3-0) 3 Credit Hours.

Prerequisites: A grade of "C-" or better in MGT 3003, MGT 3613, and one of the following: MGT 4613, MGT 4623, or MGT 4663; and a declared major in the College of Business or approval of Department Chair and Dean of the College. Analysis of how human resource management might aid in developing competitive advantage and what might be done to fulfill this potential. Emphasis is on the processes and activities used to formulate HR objectives, practices, and policies to meet the short-range and long-range organizational needs and opportunities, to guide and lead the change process, and to evaluate the contributions of human resources to organizational effectiveness. (Formerly titled "Strategic Human Resources Management.") Generally offered: Spring. Differential Tuition: \$126.

MGT 4893. Management Strategy. (3-0) 3 Credit Hours.

Prerequisites: FIN 3013 and MGT 3003; College of Business declared major in semester of graduation. Students are also required to meet all University regulations related to good academic standing and maintain a minimum grade point average of 2.0 in UTSA College of Business courses. Permission given through the academic advisor before registration. A study of the analytic tools and processes involved in the formulation and implementation of strategic choices in realistic organizational settings. Students are required to integrate their functional knowledge and understanding of the global environment with the concepts and principles of strategic management to determine effective ways to resolve complex problems concerning the relationship between the total organization and its environment. Creative analytical skills and effective communication in light of current management thinking are emphasized. Generally offered: Fall, Spring, Summer. Differential Tuition: \$126. Course Fee: DL01 \$75.

MGT 4913. Independent Study. (0-0) 3 Credit Hours.

Prerequisites: A 3.0 College of Business grade point average, MGT 3003 and permission in writing from the instructor, the Department Chair, and the Dean of the College of Business. See academic advisor for required forms. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Differential Tuition: \$126.

MGT 4923. Leading Organizations and Making Decisions. (3-0) 3 Credit Hours.

Prerequisites: MGT 3003 and MGT 3013 with a grade of "C-" or better and a declared major in the College of Business or department or instructor approval. This is an advanced course focusing on traditional and contemporary perspectives on leadership. Because the leader is seen as a decision maker, individual and organizational issues surrounding effective decision making are also addressed in detail. Generally offered: Fall, Spring, Summer. Differential Tuition: \$126. Course Fee: DL01 \$75.

MGT 4933. Internship in Management. (0-0) 3 Credit Hours.

Prerequisites: MGT 3003, a 2.5 UTSA grade point average, 6 semester credit hours of management courses, and permission in writing from the instructor, the Department Chair, and the Dean of the College of Business. This opportunity for managerial work experience requires a semester-long experience in a private business or with a public agency. A written report is required. Opportunities and output requirements are developed in consultation with a faculty advisor and the Department Chair and require approval of both. Internship may be repeated once (for a total of 6 semester credit hours), provided the internships are with different organizations. Generally offered: Fall, Spring, and Summer. Differential Tuition: \$126.

MGT 4943. Managing Teams and Avoiding Conflict. (3-0) 3 Credit Hours.
Prerequisites: MGT 3003 and MGT 3013 with a grade of "C-" or better and a declared major in the College of Business or approval of Department Chair and Dean of the College. This is an advanced course focused on building the skills necessary to work effectively as part of a team. Conflict resolution techniques and effective negotiation techniques are examined in detail. (Previously titled Managing Effective Teams and Resolving Conflicts.) Generally offered: Fall, Spring, Summer. Differential Tuition: \$126. Course Fee: DL01 \$75.

MGT 4951. Special Studies in Management. (1-0) 1 Credit Hour.
Prerequisites: A declared major in the College of Business or approval of Department Chair and Dean of the College. An organized course offering the opportunity for specialized study not normally or not often available as part of the regular course offerings. Special Studies may be repeated for credit when the topics vary, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. Differential Tuition: \$42.

MGT 4953. Special Studies in Management. (3-0) 3 Credit Hours.
Prerequisites: A declared major in the College of Business or approval of Department Chair and Dean of the College. An organized course offering the opportunity for specialized study not normally or not often available as part of the regular course offerings. Special Studies may be repeated for credit when the topics vary, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. Generally offered: Spring. Differential Tuition: \$126.

Management Science (MS)

Management Science (MS) Courses

MS 1023. Business Statistics with Computer Applications I. (3-0) 3 Credit Hours.

Prerequisites: A grade of "C-" or better in IS 1403 (or IS 1413) and MAT 1053, or equivalents. This is the first course in a sequence of three courses designed to introduce basic statistical and quantitative techniques for business and economics. This course examines analytical skills and statistical concepts important in business-oriented environments. Various statistical techniques will be presented to assist in solving problems encountered by organizations. Topics include, but are not limited to, descriptive statistics, measures of central tendency and dispersion, elementary probability theory, expected value, random variables, discrete and continuous distributions, sampling distributions, point and interval estimation, and hypothesis testing. Electronic spreadsheets will be utilized for analyzing and interpreting data. Generally offered: Fall, Spring, Summer. Course Fees: BISP \$10; BTSI \$15; DL01 \$75; LRB1 \$15.

MS 3003. Visualization in Business Analytics. (3-0) 3 Credit Hours.
This course covers the foundations of data visualization, exploratory data analysis, and data communication via interactive and non-interactive graphical analyses. Students will learn data visualization techniques to effectively uncover data flaws, supplement other statistical analyses, uncover valuable insights from the data, and orally and visually communicate information with data. Differential Tuition: \$126.

MS 3043. Business Statistics with Computer Applications II. (3-0) 3 Credit Hours.
Prerequisites: A grade of "C-" or better in IS 1403 (or IS 1413), MAT 1053, and MS 1023, or equivalents. This course builds on the foundations learned in MS 1023. Statistical concepts include, but are not limited to, hypothesis testing concepts, goodness-of-fit tests, tests of independence, nonparametric tests, decision making under uncertainty, analysis of variance, correlation, linear and multiple regression, and time series. Electronic spreadsheets and statistical software will be utilized in analyzing and interpreting data and for hands-on assessment. Generally offered: Fall, Spring, Summer. Differential Tuition: \$126. Course Fee: DL01 \$75.

MS 3053. Management Science and Operations Technology. (3-0) 3 Credit Hours.
Prerequisites: A grade of "C-" or better in IS 1403 (or IS 1413), MAT 1053, MS 1023, and MS 3043, or equivalents. This is an introductory course in management science that emphasizes model building as a foundation for rational decision making and problem solving across disciplines and functional areas. Topics include, but are not limited to, mathematical programming, network models, project management, multi-criteria decision making, inventory management, service operations and queuing models, Markov analysis, and simulation. Computer software is used to apply these techniques in the analysis of a wide variety of decision problems. Generally offered: Fall, Spring, Summer. Differential Tuition: \$126. Course Fee: DL01 \$75.

MS 3063. Decision Support Systems. (3-0) 3 Credit Hours.
This course focuses on applications of decision-support models and computer software to problems in business, government, and other types of organizations with an emphasis on emerging technologies. It emphasizes fundamentals of decision support systems and hands-on experience using computer-based technologies to support organizational decision making. The primary focus is on four essential areas: decision analysis, simulation, project analysis, and mathematical programming. Excel, Microsoft Project, WINQSB, Expert Choice, and Extend are some of the software packages utilized. Differential Tuition: \$126.

MS 3073. Business Intelligence and Analytics. (3-0) 3 Credit Hours.
This course is designed to provide an introduction to business intelligence and analytics. It describes and interprets the basic concepts of business intelligence and analytics, including descriptive, predictive, and prescriptive analytics. It also describes basic principles of data mining, introduces data warehousing, and evaluates the difficulties presented by large databases. Comparison and contrasts among different business analytics techniques are examined. Overview of business reporting, visualization, and business performance management are included. Generally offered: Fall. Differential Tuition: \$126.

MS 3083. Data Management for Business Analytics. (3-0) 3 Credit Hours.
This course introduces essential programming concepts using R, SQL, and other software packages to efficiently manipulate and clean data for statistical analyses. Topics include reading raw data, restructuring and combining data files, formatting and recoding variables, displaying data using tables, charts, and plots, and creating code books. Differential Tuition: \$126.

MS 3313. Business Applications of Statistics. (3-0) 3 Credit Hours.
Applications of statistics in business problem-solving situations. Statistical models include analysis of variance, OLS regression, logistic regression, discriminant analysis, factor analysis, cluster analysis, multidimensional scaling, and conjoint analysis. Generally offered: Spring. Differential Tuition: \$126.

MS 3403. Logistics Management. (3-0) 3 Credit Hours.

This course focuses on analyzing managerial decisions related to the movement and storage of supplies, work-in-process, and finished goods, examining the trade-offs encountered by managers: costs and service levels, level and modes of transportation used, warehousing and control of inventory levels, demand management and forecasting master production scheduling, just-in-time (JIT), materials requirements planning (MRP), MRP II, DRP, materials handling within warehouses, distribution of finished goods to customers, industrial packaging, and importance of logistics to the overall productivity of a firm are investigated. When available, an integrated software approach such as supply chain management (SCM) and enterprise resource planning (ERP) by SAP, Oracle or I2 will be adopted. Generally offered: Spring. Differential Tuition: \$126.

MS 3413. Purchasing and Inventory Management. (3-0) 3 Credit Hours.

This course explores the industrial purchasing cycle for materials acquisition and management. Determination of requirements, supplier qualifications, appraisals, source selection, buying practices, value analysis, policies, ethics, and international purchasing are included in this course. Inventory control concepts, techniques, and strategies for effective integration with basic finance, marketing, and manufacturing objectives are topics covered in this course. Models for dependent and independent demand inventory systems, material requirements planning systems, distribution requirements, planning techniques, and the classical reorder point inventory model are also included. Differential Tuition: \$126.

MS 4203. Business Analytics Applications. (3-0) 3 Credit Hours.

This course presents an overview of business analytics applications, including its purpose, common benefits and challenges, important analytic processes, and methodologies to perform business analytics in a data driven environment. Students will be introduced to a wide spectrum of relevant business analytics applications encountered in different functional areas. Scope of learning incorporates but not limited to hands-on experience, case-based study, and guest lectures from data analytics experts and managers. Differential Tuition: \$126.

MS 4313. Six Sigma and Lean Operations. (3-0) 3 Credit Hours.

This course focuses on Six Sigma as a quality improvement methodology structured to reduce failure rates to a negligible level and on lean operations methodology structured to reduce waste. Materials include an overview of lean management philosophy and fundamentals of DMAIC problem-solving methodology. Topics include project criteria and prioritization methods, process capability measures, scorecard development, Six Sigma tools, DOE, and sampling and analyzing process data. Generally offered: Fall. Differential Tuition: \$126.

MS 4323. Simulation Applications in Business. (3-0) 3 Credit Hours.

A study of the techniques for modeling and analysis of business processes using computer simulation and animation is the focus of this course. Selected example applications from supply chain management, financial, marketing, and operations functions are included. The computer simulations provide support for the management decision process. Differential Tuition: \$126.

MS 4333. Project Management. (3-0) 3 Credit Hours.

This course provides a practical examination of how projects are managed from start to finish. The emphasis is on planning and control to avoid common pitfalls and manage risk. Planning includes defining objectives, identifying activities, establishing precedence relationships, making time estimates, determining project completion times, and determining resource requirements. CPM/PERT networks are established, and computer software (Microsoft Project, WINQSB, and Excel) is used to monitor and control the project. Generally offered: Spring. Differential Tuition: \$126.

MS 4343. Production/Operations Management. (3-0) 3 Credit Hours.

This course focuses on the production and operations management function in business. It includes a review of the methods required for design, operation, and improvements of the systems that create products or services. Traditional topics in manufacturing and service operations are investigated including an introduction to supply chain management concepts. Generally offered: Fall. Differential Tuition: \$126.

MS 4353. Service Operations Management. (3-0) 3 Credit Hours.

This course is designed to provide an in-depth examination of operations management practices in service-oriented environments. The subjects introduced include topics from operations management, logistics, marketing, economics, and management demonstrated in a broad spectrum of service organizations. The course looks at strategic concepts in modern service management and presents analytical tools for business decision making. Topics include, but are not limited to, service quality, process design, facility location analysis and site selection, waiting line models, inventory management in services, demand forecasting, workforce scheduling, learning curve models, overbooking, service supply chain, and integrated service operations management. (Same as MKT 4353. Credit cannot be earned for both MS 4353 and MKT 4353.) Generally offered: Fall. Differential Tuition: \$126.

MS 4363. Quality Management and Control. (3-0) 3 Credit Hours.

This course investigates the fundamental nature of quality and its implications for business. Topics include statistical methods for quality improvement in manufacturing and service operations. Emphasis is given to both the technical and managerial issues in understanding and implementing quality as a component for success in today's global business environment. (Same as STA 4803. Credit cannot be earned for both MS 4363 and STA 4803.) Differential Tuition: \$126.

MS 4373. Knowledge Discovery for Business Analytics. (3-0) 3 Credit Hours.

Introduction to machine learning algorithms with applications. Topics include supervised and unsupervised learning methods, resampling methods, model selection, generalized additive model, classification and regression tree methods, k-nearest neighbors, bagging and random forest, support vector machines, social network analysis, and text mining. Differential Tuition: \$126.

MS 4383. Predictive Operational Analytics. (3-0) 3 Credit Hours.

This course introduces modern and practical methods for operations planning and decision making. Short-term forecasting of demand, personnel requirements, costs and revenues, raw material needs, and desired inventory levels are some of the topics included. Other topics covered include technological and environmental forecasting, decomposition methods, time series, and monitoring (automatic procedures such as tracking signals). (Formerly titled Applied Forecasting in Operations.) Differential Tuition: \$126.

MS 4543. Supply Chain Management. (3-0) 3 Credit Hours.

Principles, techniques and practices of corporate supply chain management are covered in this course. The focus is on the strategic coordination and information management that integrates supplier selection, purchasing, transportation, inventory and warehousing, channel planning and configuration, production and distribution from procurement of raw material to customer satisfaction. Business decision models and techniques for facility location, production, inventory, transportation and other operational issues are presented. Currently available software will be surveyed and cases of successful implementations will be analyzed. Generally offered: Spring. Differential Tuition: \$126.

MS 4913. Independent Study in Management Science. (0-0) 3 Credit Hours.

Prerequisites for business majors: A 3.0 College of Business grade point average, permission in writing from the instructor, the Department Chair, and the Dean of the College of Business. See academic advisor for required forms and additional requirements. Independent reading, research, discussion, and/or writing under the direction of a faculty member. This course may be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Differential Tuition: \$126.

MS 4933. Internship in Management Science. (0-0) 3 Credit Hours.

Prerequisites: A 2.5 grade UTSA point average and approval in writing from the instructor, the Department Chair, and the Associate/Assistant Dean of Undergraduate Studies in the College of Business. See academic advisor for required forms and additional requirements. Supervised full- or part-time work experience in management science. Offers opportunities for applying management science in private businesses or public agencies. A written report is required. May be repeated for credit, but not more than 6 semester credit hours will apply to a bachelor's degree. Generally offered: Summer. Differential Tuition: \$126.

MS 4953. Special Studies in Management Science. (3-0) 3 Credit Hours.

Prerequisite: Consent of instructor, Department Chair and Dean. An organized course offering the opportunity for specialized study not normally or not often available as part of the regular course offerings. Special studies may be repeated for credit when the topics vary. Differential Tuition: \$126.

Management of Technology (MOT)

Management of Technology (MOT) Courses

MOT 4023. Essentials of Technology Management. (3-0) 3 Credit Hours.

This survey course provides an overview of the issues that impact technology management. All technology management subsystems are included: strategy, technology, resource, organizational, project, and people. The course is designed to help students develop the systems thinking necessary to successfully interact with the burgeoning technological world. The course will also provide the opportunity for students to develop the entrepreneurial skills important in managing the design, development, and commercialization of technological goods and services. (Formerly titled "Management of Technology.") Differential Tuition: \$126.

MOT 4143. Introduction to Project Management. (3-0) 3 Credit Hours.

This introductory course presents concepts and techniques for the management of many types of projects including engineering, construction, product development, as well as science and technology projects. The course is designed to help students develop project planning skills including scope definition, scheduling, cost-estimating and risk assessment. The course will also provide the opportunity for students to develop skills in support of project leadership, team building and communication. Differential Tuition: \$126.

MOT 4153. Project Management Certification. (3-0) 3 Credit Hours.

Prerequisite: Consent of instructor. This course is designed to give students the opportunity to prepare for the Project Management Professional (PMP) and Certified Associate in Project Management (CAPM) certification exams. The course is structured around the Project Management Institute Knowledge Areas including: integration, scope, time, cost, quality, risk, procurement, human resources, communication, and stakeholders. The course focuses on the inputs, tools, techniques and outputs associated with the core project management processes. Students will also complete diagnostics exam instruments and practice exams. Differential Tuition: \$126.

MOT 4203. Strategic Management of Technology and Innovation. (3-0) 3 Credit Hours.

This course examines the issues involved in the strategic management of technology in contemporary business organizations. The course will examine new product development, emerging technologies and product portfolios; and will explore the dynamics of innovation in the firm. Differential Tuition: \$126.

MOT 4313. Disruptive Innovations. (3-0) 3 Credit Hours.

This survey course focuses on technologies that may transform society and improve quality of life: the emphasis is on the nexus among biotechnology, information systems, materials, and renewable energy. The course will help students refine the systems thinking necessary to connect technology with users: it investigates the barriers that entrepreneurs face during commercialization. Cooperative learning is a defining characteristic of the course. Differential Tuition: \$126.

MOT 4911. Independent Study. (0-0) 1 Credit Hour.

Prerequisite: Approval in writing from the instructor, the Department Chair, and the Dean of the College of Business. See academic advisor for the required forms. Independent research in a management of technology topic under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Differential Tuition: \$42.

MOT 4912. Independent Study. (0-0) 2 Credit Hours.

Prerequisite: Approval in writing from the instructor, the Department Chair, and the Dean of the College of Business. See academic advisor for the required forms. Independent research in a management of technology topic under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Differential Tuition: \$84.

MOT 4913. Independent Study. (0-0) 3 Credit Hours.

Prerequisite: Approval in writing from the instructor, the Department Chair, and the Dean of the College of Business. See academic advisor for the required forms. Independent research in a management of technology topic under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Differential Tuition: \$126.

MOT 4951. Special Studies in Management of Technology. (1-0) 1 Credit Hour.

An organized course offering specialized study not normally or not often available as part of the regular course offerings. Special Studies may be repeated for credit when the topics vary, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. Differential Tuition: \$42.

MOT 4952. Special Studies in Management of Technology. (2-0) 2 Credit Hours.

An organized course offering specialized study not normally or not often available as part of the regular course offerings. Special Studies may be repeated for credit when the topics vary, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. Differential Tuition: \$84.

MOT 4953. Special Studies in Management of Technology. (3-0) 3 Credit Hours.

An organized course offering specialized study not normally or not often available as part of the regular course offerings. Special Studies may be repeated for credit when the topics vary, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. Differential Tuition: \$126.

Marketing (MKT)

Marketing (MKT) Courses

MKT 3003. Happiness, Well Being, and Modern Consumerism. (3-0) 3 Credit Hours.

Got Happiness? This course provides an introduction to modern consumerism and how it relates to our happiness, well-being and aspects of human experience. Students will gain an understanding of the complex world of consumerism, how companies offer "happiness", and where marketing practice meets the science of well-being. Differential Tuition: \$126.

MKT 3013. Principles of Marketing. (3-0) 3 Credit Hours.

Introduction to basic principles of marketing. An examination of market analysis methods and their use to develop the organization's product mix and the integration of the communication, distribution, and pricing strategies to achieve goals. Generally offered: Fall, Spring, Summer. Differential Tuition: \$126. Course Fee: DL01 \$75.

MKT 3043. Advertising. (3-0) 3 Credit Hours.

Prerequisite: MKT 3013 with a grade of "C-" or better. The course stresses planning advertising strategy, developing messages, selecting media, and testing effectiveness. Also explores the theory, history, social and economic aspects, and problems of ethics and truth in advertising. Generally offered: Fall, Spring, Summer. Differential Tuition: \$126.

MKT 3063. Personal Selling. (3-0) 3 Credit Hours.

Prerequisite: MKT 3013 with a grade of "C-" or better. Focuses on professional salesmanship. Fundamentals of persuasive interpersonal communication and buyer motivation are stressed as the foundation to effective selling. (Formerly MKT 3163. Credit cannot be earned for both MKT 3063 and MKT 3163.) Generally offered: Fall, Spring, Summer. Differential Tuition: \$126.

MKT 3083. Marketing Research. (3-0) 3 Credit Hours.

Prerequisites: MKT 3013 with a grade of "C-" or better, MS 1023 or the equivalent, and MS 3043 or the equivalent. Explores the techniques of marketing research as the means to discover opportunities for investing the firm's resources in its product offerings, including research design, sampling, data collection and analysis, and presentation of findings for marketing action. Generally offered: Fall, Spring, Summer. Differential Tuition: \$126.

MKT 3113. Retailing. (3-0) 3 Credit Hours.

Prerequisite: MKT 3013 with a grade of "C-" or better. Examination of retailing as a specialized economic and social institution within the distribution process. Emphasis is on strategy and resource management for the retail firm; critical variables, forces, and processes are examined from a managerial perspective. Generally offered: Fall, Spring, Summer. Differential Tuition: \$126.

MKT 4033. Social Media Marketing. (3-0) 3 Credit Hours.

The invention of social media (web 2.0) has radically changed the way we interact with the world. Students will gain knowledge and social media marketing tactical skills through coursework and hands-on practice. Students will also learn proven approaches to understanding your target market, audience engagement, influencer marketing, content curation, strategic planning, campaign execution, paid advertising, data analysis, ROI, and much more. Differential Tuition: \$126. Course Fee: DL01 \$75.

MKT 4053. New Product Development. (3-0) 3 Credit Hours.

Prerequisite: MKT 3013 with a grade of "C-" or better. New products and services are critical to the success and growth of all organizations. This course covers the entire product development process, from identifying customer needs, to generating concepts, to prototyping and design, to product launch. Participants will also learn how to build business cases to gain venture capital and/or angel funding, as well as protect their inventions with patents and trademarks. Students in the New Product Development course will learn best practice examples from the industry using case studies, and will have an opportunity to apply their knowledge in a team project. Differential Tuition: \$126.

MKT 4063. Multicultural Marketing. (3-0) 3 Credit Hours.

Prerequisites: MKT 3013 with a grade of "C-" or better. Highlights marketing opportunities created by consumers whose marketplace choices and behaviors are shaped by their social identities as members of distinctive ethnic, age cohort, sexual orientation, and disability subcultures. Profiles the demographic, geographic, values, lifestyles, media usage, and unique market preferences of each group. Emphasizes best practices in multicultural marketing strategy, and delineates similarities to and differences from international marketing management. Differential Tuition: \$126.

MKT 4073. International Marketing. (3-0) 3 Credit Hours.

Prerequisites: MKT 3013 with a grade of "C-" or better. An overview of concepts, processes, and strategies necessary to offer goods and services successfully in the global marketplace. Focus is on analyzing and assessing political, economic, technological, cultural, and competitive climates in global markets; defining the nature of important needs within the consumer and/or business segments of the country; the selection of countries or regions for market expansion strategies; the selection of target customers; and the design of strategies to facilitate market entry and subsequent expansion. Generally offered: Fall, Spring, Summer. Differential Tuition: \$126.

MKT 4093. Consumer Behavior. (3-0) 3 Credit Hours.

Prerequisites: MKT 3013 with a grade of "C-" or better. Focus on the customer as a primary consideration in strategic marketing decisions. Analysis of personal and environmental variables in the customer's world as the basis for market segmentation and subsequent formulation of the marketing mix. Generally offered: Fall, Spring. Differential Tuition: \$126.

MKT 4143. Sports Marketing. (3-0) 3 Credit Hours.

Prerequisites: MKT 3013 with a grade of "C-" or better. An overview of the marketing concepts, practices, and processes involved in offering and promoting goods and services in the sports industry. Emphasis on developing an understanding of unique aspects of the sports industry and on adapting general marketing principles to the domain of sports marketing. (Formerly MKT 4953 Special Studies in Marketing: Sports Marketing. Credit cannot be earned for both MKT 4143 and MKT 4953 on the same topic.) Generally offered: Spring. Differential Tuition: \$126.

MKT 4153. Ethics in Marketing. (3-0) 3 Credit Hours.

Prerequisites: MKT 3013 with a grade of "C-" or better. Addresses the moral principles behind the operation and regulation of marketing including; advertising, international marketing, internet and social advertising, marketing research, personal selling, pricing and distribution channels, and product management. Differential Tuition: \$126.

MKT 4233. Integrated Marketing Communications. (3-0) 3 Credit Hours.

Prerequisites: MKT 3013 with a grade of "C-" or better. Focuses on managing and integrating communication aspects of marketing, including advertising, sales promotion, personal selling, and public relations. Generally offered: Fall, Spring. Differential Tuition: \$126.

MKT 4253. Digital Marketing. (3-0) 3 Credit Hours.

Digital marketing is one of the most effective ways to build customer confidence and promote your organization's products and services. This course begins with an overview of the digital marketing landscape where students will learn digital marketing foundations and the importance of keywords. Understand the theoretical while learning the proven methodologies and tactical approaches to website structure, organic search, email marketing, and search engine paid advertising campaigns. Differential Tuition: \$126.

MKT 4353. Service Operations Management. (3-0) 3 Credit Hours.

Prerequisites: MKT 3013 with a grade of "C-" or better. In-depth examination of operations management practices in service-oriented environments. Subjects embrace materials from operations management, logistics, marketing, economics, and management in a broad spectrum of service organizations. The course looks at strategic concepts in modern service management and presents analytical tools for business decision making. Topics include, but are not limited to, service quality, process design, facility location analysis and site selection, waiting line models, inventory management in services, demand forecasting, workforce scheduling, learning curve models, overbooking, service supply chain, and integrated service operations management. (Same as MS 4353. Credit cannot be earned for both MKT 4353 and MS 4353. Marketing majors cannot take MS 4353 as an upper-division Marketing elective.) Differential Tuition: \$126.

MKT 4763. Real Estate Marketing. (3-0) 3 Credit Hours.

Prerequisites: MKT 3013 with a grade of "C-" or better. Focuses on the processes involved in professionally marketing and selling real estate. Emphasis is on integrating the four elements of a marketing mix – promotion, place, product, and price – and showing how they are used within the real estate industry to create marketing strategies. (Same as RFD 4763. Credit cannot be earned for both MKT 4763 and RFD 4763. Marketing majors cannot take RFD 4763 as an upper-division Marketing elective.) Differential Tuition: \$126.

MKT 4893. Marketing Capstone. (3-0) 3 Credit Hours.

Prerequisites: MKT 3013 with a grade of "C-" or better, senior standing, and 12 additional semester credit hours in marketing. Students are also required to meet all University regulations related to good academic standing and maintain a minimum grade point average of 2.0 in UTSA College of Business courses. Approval is obtained through the academic advisor. The course focuses on integrating marketing functions, processes, and concepts into coherent and effective marketing decision making. (Formerly titled "Marketing Strategy.") Generally offered: Fall, Spring, Summer. Differential Tuition: \$126.

MKT 4913. Independent Study. (0-0) 3 Credit Hours.

Prerequisites: A 3.0 College of Business grade point average, MGT 3003 and MKT 3013 with a grade of "C-" or better, 9 additional semester credit hours in marketing, senior standing, and permission in writing from the instructor, the Department Chair, and the Dean of the College of Business. See academic advisor for required forms. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Differential Tuition: \$126.

MKT 4933. Internship in Marketing. (0-0) 3 Credit Hours.

Prerequisites: MGT 3003, and permission in writing from the instructor, the Department Chair, and the Dean of the College of Business. This opportunity for marketing work experience requires a semester-long experience in a private business or with a public agency. A written report is required. Opportunities and output requirements are developed in consultation with a faculty advisor and the Department Chair and require approval of both. Internship may be repeated once (for a total of 6 semester credit hours), provided the internships are with different organizations. Only 3 hours will count towards the Marketing degree requirements. Generally offered: Fall, Spring, Summer. Differential Tuition: \$126.

MKT 4953. Special Studies in Marketing. (3-0) 3 Credit Hours.

Prerequisites: MGT 3003 and MKT 3013 with a grade of "C-" or better. An organized course offering the opportunity for specialized study not normally available as part of the regular course offerings. Could include topics such as marketing channels of distribution, sales management, industrial marketing, current developments in marketing theory, and analysis of ethical, social, and public policy aspects of marketing. May be repeated for credit when topics vary, but not more than 6 semester credit hours will apply to a bachelor's degree. Generally offered: Spring, Summer. Differential Tuition: \$126. Course Fee: DL01 \$75.

Mathematics (MAT)

NOTE: All prerequisites for Mathematics (MAT) courses must be completed with a grade of "C-" or better.

Mathematics (MAT) Courses

MAT 0203. Basic Mathematics. (3-0) 3 Credit Hours.

A course intended for students with minimal mathematical skills who need a comprehensive review before they can successfully complete an algebra course. Topics include the Fundamental Mathematics and Geometry objectives of the Texas Success Initiative (TSI), with an introduction to algebra. Intensive review and maintenance of computational skills with integers, fractions, decimals, percentages, ratios, and proportions; reading and interpreting information presented in graphs, tables, and charts; solving word problems, elementary algebraic equations, problems with two- and three-dimensional geometric figures; and inductive and deductive reasoning skills. Course does not count toward any degree at UTSA. This course may be repeated. (Formerly MTC 0103.) Course Fees: LRS1 \$45; STSI \$21.

MAT 0213. Intermediate Algebra. (3-0) 3 Credit Hours.

Introductory algebra course that includes the Texas Success Initiative (TSI) Algebra and Problem Solving objectives. Operations with algebraic expressions; solving one- and two-variable equations; solving word problems involving one and two variables; graphing number relationships; and solving problems involving quadratic equations. Course does not count toward any degree at UTSA. This course may be repeated. (Formerly MTC 0113.) Course Fees: LRS1 \$45; STSI \$21.

MAT 1023. College Algebra with Applications. (3-0) 3 Credit Hours. (TCCN = MATH 1314)

Prerequisite: Satisfactory performance on a placement examination. Topics include algebraic expressions; equations; inequalities over the real numbers; relations, functions and graphs; polynomial and rational functions; systems of linear equations and inequalities; complex numbers; and matrices and determinants. A wide range of applications will be included in this course. Students majoring in areas that require MAT 1214 Calculus I are encouraged to take MAT 1073 instead of MAT 1023. (Formerly MTC 1023. Credit can be earned for only one of the following: MAT 1023, MTC 1023, MAT 1063, MTC 1073, or MAT 1073. NOTE: For the purpose of the Three-Attempt Rule, these courses are considered to be equivalent and additional fees may be charged for the third or subsequent attempt to take any of these courses in any combination.) This course is designed for majors outside sciences and engineering. May apply toward the Core Curriculum requirement in Mathematics. Generally offered: Fall, Spring, Summer. Course Fees: LRC1 \$12; LRS1 \$45; STSI \$21.

MAT 1043. Introduction to Mathematics. (3-0) 3 Credit Hours. (TCCN = MATH 1332)

Prerequisite: Satisfactory performance on a placement examination. This course is designed primarily for the liberal arts major to satisfy the Core Curriculum mathematics requirement. Topics may include logic; proofs; deductive and inductive reasoning; number theory; fundamentals of statistics; basic statistical graphs; causal connections; financial management; functions; linear graphs and modeling; exponential growth and decay; logarithms; fundamentals of probability; fundamentals of geometry; and basic ideas from trigonometry, calculus, and discrete mathematics. (Formerly MTC 1043. Credit cannot be earned for both MAT 1043 and MTC 1043.) May apply toward the Core Curriculum requirement in Mathematics. Generally offered: Fall, Spring, Summer. Course Fees: LRC1 \$12; LRS1 \$45; STSI \$21.

MAT 1053. Mathematics for Business. (3-0) 3 Credit Hours. (TCCN = MATH 1324)

Prerequisite: Satisfactory performance on a placement examination. This course is designed to prepare the student for MAT 1133 Calculus for Business. Topics include the application of common algebraic functions, including polynomial, exponential, logarithmic, and rational, to problems in business, economics, statistics, finance, and accounting. The applications include mathematics of finance, including simple and compound interest and annuities; systems of linear equations; matrices; linear programming; and probability, including expected value. May apply toward the Core Curriculum requirement in Mathematics. (Credit can be earned for only one of the following: MAT 1053, MAT 1063, or MAT 1073.) Generally offered: Fall, Spring, Summer. Course Fees: LRC1 \$12; LRS1 \$45; STSI \$21.

MAT 1073. Algebra for Scientists and Engineers. (1-4) 3 Credit Hours. (TCCN = MATH 1314)

Prerequisite: Satisfactory performance on a placement examination. This course is designed to prepare the student for MAT 1093 Precalculus and MAT 1214 Calculus I. Topics may include algebraic expressions; equations; inequalities over the real numbers; relations; functions; polynomial and rational functions; logarithmic and exponential functions; systems of linear equations and inequalities; matrices and determinants; complex numbers; sequences; series binomial expansion; mathematical induction; permutations, and combinations. (Formerly MTC 1073. Credit can be earned for only one of the following: MAT 1073, MTC 1073, MAT 1063, MTC 1023, or MAT 1023. NOTE: For the purpose of the Three-Attempt Rule, these courses are considered to be equivalent and additional fees may be charged for the third or subsequent attempt to take any of these courses in any combination.) May apply toward the Core Curriculum requirement in Mathematics. Generally offered: Fall, Spring, Summer. Course Fees: LRC1 \$12; LRS1 \$45; STSI \$21.

MAT 1093. Precalculus. (3-0) 3 Credit Hours. (TCCN = MATH 2312)

Prerequisite: MAT 1073 or the equivalent course or satisfactory performance on a placement examination. Exponential functions, logarithmic functions, trigonometric functions, complex numbers, DeMoivre's theorem, and polar coordinates. May apply toward the Core Curriculum requirement in Mathematics. Generally offered: Fall, Spring, Summer. Course Fees: DL01 \$75; LRC1 \$12; LRS1 \$45; STSI \$21.

MAT 1133. Calculus for Business. (3-0) 3 Credit Hours. (TCCN = MATH 1325)

Prerequisite: MAT 1053 with a grade of "C-" or better, or an equivalent course, or satisfactory performance on a placement examination. This course is the basic study of limits and continuity, differentiation of single and multivariable functions, optimization and graphing, and integration of elementary, single variable functions, with an emphasis on applications in business and economics. May apply toward the Core Curriculum requirement in Mathematics. (Credit cannot be earned for both MAT 1033 and MAT 1133.) Generally offered: Fall, Spring, Summer. Course Fees: DL01 \$75; LRC1 \$12; LRS1 \$45; STSI \$21.

MAT 1153. Essential Elements in Mathematics I. (3-0) 3 Credit Hours. (TCCN = MATH 1350)

Prerequisite: MAT 1023 or MAT 1073. Numeration systems; properties of the systems of whole numbers, integers, rational numbers, and real numbers; problem solving; logic. May not be applied toward a major in mathematics. (Credit cannot be earned for both MAT 1153 and MAT 1143.) Generally offered: Fall, Spring, Summer. Course Fees: LRS1 \$45; MFSM \$30; STSI \$21.

MAT 1163. Essential Elements in Mathematics II. (3-0) 3 Credit Hours. (TCCN = MATH 1351)

Prerequisite: MAT 1153. Algebra, statistics and probability; geometric shapes; measurement; coordinate and transformational geometry. May not be applied toward a major in mathematics. Generally offered: Fall, Spring, Summer. Course Fees: LRS1 \$45; MFSM \$30; STSI \$21.

MAT 1193. Calculus for the Biosciences. (3-0) 3 Credit Hours. (TCCN = MATH 2313)

Prerequisite: MAT 1093 or an equivalent course or satisfactory performance on a placement examination. An introduction to calculus is presented using discrete-time dynamical systems and differential equations to model fundamental processes important in biological and biomedical applications. Specific topics to be covered are limits, continuity, differentiation, antiderivatives, definite and indefinite integrals, the fundamental theorem of calculus, differential equations, and the phase-plane. (Formerly MAT 1194. Credit can be earned for only one of the following: MAT 1193, MAT 1194, or MAT 1214.) May apply toward the Core Curriculum requirement in Mathematics. Generally offered: Fall, Spring, Summer. Course Fees: DL01 \$72; LRC1 \$12; LRS1 \$45; STSI \$21.

MAT 1214. Calculus I. (4-0) 4 Credit Hours. (TCCN = MATH 2413)

Prerequisite: MAT 1093 or an equivalent course or satisfactory performance on a placement examination. An introduction to the concepts of limit, continuity and derivative, mean value theorem, and applications of derivatives such as velocity, acceleration, maximization, and curve sketching; introduction to the Riemann integral and the fundamental theorem of calculus. (Credit can be earned for only one of the following: MAT 1214, MAT 1193, or MAT 1194.) May apply toward the Core Curriculum requirement in Mathematics. Generally offered: Fall, Spring, Summer. Course Fees: DL01 \$100; LRC1 \$16; LRS1 \$60; STSI \$28.

MAT 1224. Calculus II. (4-0) 4 Credit Hours. (TCCN = MATH 2414)

Prerequisite: MAT 1193 or MAT 1214. Methods of integration, applications of the integral, sequences, series, and Taylor expansions. (Formerly MAT 1223. Credit cannot be earned for both MAT 1224 and MAT 1223.) Generally offered: Fall, Spring, Summer. Course Fees: LRS1 \$60; STSI \$28.

MAT 1313. Algebra and Number Systems. (3-0) 3 Credit Hours.

Corequisite: MAT 1214. Basic logic and proofs. Properties of integer numbers, mathematical induction, the fundamental theorem of arithmetic, the infinitude of primes, modular arithmetic, rational and irrational numbers, complex numbers, functions, polynomials, and the binomial theorem. Generally offered: Fall, Spring. Course Fees: LRS1 \$45; STSI \$21.

MAT 2113. Functions and Modeling. (3-0) 3 Credit Hours.

Prerequisite: MAT 1093 or consent of instructor and admission to the UTeachSA teacher preparation program. In-depth study of concepts needed to teach secondary school mathematics at various levels. Emphasizes the development of the concept of function, exploring function patterns in data sets, and the connections between the main topics of mathematics associated with a secondary school curriculum. Use of appropriate technology is explored. May not be applied toward the Mathematics Concentration of the B.S. degree in Mathematics. (Same as UTE 2113. Credit cannot be earned for both MAT 2113 and UTE 2113.) Course Fees: LRS1 \$45; STSI \$21.

MAT 2214. Calculus III. (4-0) 4 Credit Hours. (TCCN = MATH 2415)

Prerequisite: MAT 1224. Vectors, functions of several variables, partial derivatives, line, surface and volume integrals, Green's, Stokes' and the Divergence theorems. (Formerly MAT 2213. Credit cannot be earned for both MAT 2214 and MAT 2213.) Generally offered: Fall, Spring, Summer. Course Fees: LRS1 \$60; STSI \$28.

MAT 2233. Linear Algebra. (3-0) 3 Credit Hours. (TCCN = MATH 2318)

Prerequisite: MAT 1224 or EGR 2323. Vector spaces and matrix algebra, matrices and determinants, characteristic values of matrices, and reduction to canonical forms. Emphasis on applications. Generally offered: Fall, Spring, Summer. Course Fees: LRS1 \$45; STSI \$21.

MAT 3013. Foundations of Mathematics. (3-0) 3 Credit Hours.

Prerequisite: MAT 1214. Development of theoretical tools for rigorous mathematics. Topics may include mathematical logic, propositional and predicate calculus, set theory, functions and relations, cardinal and ordinal numbers, Boolean algebras, and construction of the natural numbers, integers, and rational numbers. Emphasis on theorem proving. (Formerly MAT 2243. Credit cannot be earned for MAT 3013 and MAT 2243.) Generally offered: Fall, Spring, Summer. Differential Tuition: \$150.

MAT 3023. Perspectives on Science and Mathematics. (3-0) 3 Credit Hours.

Prerequisite: MAT 1193, MAT 1214, STA 1053, or consent of instructor. An examination of important episodes in the history of mathematics and science that illustrate the nature of scientific inquiry and convey that scientific and mathematical concepts are not static. Topics may include Galileo's conflict with the Catholic Church, Isaac Newton's formulation of the laws of motion and invention of calculus, Charles Darwin's proposal of the theory of evolution by natural selection, the development of the atomic bomb, and the discovery of the double helix structure of DNA, or others chosen by the instructor. May not be applied toward the Mathematics Concentration of the B.S. degree in Mathematics. (Same as UTE 3023. Credit cannot be earned for both MAT 3023 and UTE 3023. Credit cannot be earned for both MAT 3023 and MAT 4123.) Differential Tuition: \$150.

MAT 3103. Data Analysis and Interpretation. (3-0) 3 Credit Hours.

Prerequisite: MAT 1093 or consent of instructor. Measurement, sampling, summarizing and displaying data, types of data, inferential methods, nonparametric methods, qualitative research designs and methods, interpreting research results, and research design. Applications to research techniques in school-based settings will be emphasized. May not be applied toward the Mathematics Concentration of the B.S. degree in Mathematics. Generally offered: Fall, Spring, Summer. Differential Tuition: \$150.

MAT 3123. Fundamentals of Geometry. (3-0) 3 Credit Hours.

Prerequisite: MAT 1093 or consent of instructor. A survey of geometric concepts, including axiomatic development of advanced Euclidean geometry, coordinate geometry, non-Euclidean geometry, three-dimensional geometry, and topology. May not be applied toward the Mathematics Concentration of the B.S. degree in Mathematics. Generally offered: Fall, Spring. Differential Tuition: \$150.

MAT 3213. Foundations of Analysis. (3-0) 3 Credit Hours.

Prerequisites: MAT 1224 and MAT 3013. Axiomatic definition of real numbers, including order properties and completeness; infinite sequences and their convergence; basic notions related to series and their convergence; functions and function limits. Introduction to topology of the real line. Emphasis on theorem proving. Generally offered: Fall, Spring, Summer. Differential Tuition: \$150.

MAT 3223. Complex Variables. (3-0) 3 Credit Hours.

Prerequisites: MAT 2214 and MAT 3213. An introduction to complex variables, including elementary functions, line integrals, power series, residues and poles, and conformal mappings. Generally offered: Spring. Differential Tuition: \$150.

MAT 3233. Modern Algebra. (3-0) 3 Credit Hours.

Prerequisite: MAT 3013. Topics will include the development of groups, integral domains, fields, and number systems, including the complex numbers. Divisibility, congruences, primes, perfect numbers, and some other problems of number theory will be considered. Generally offered: Fall, Spring, Summer. Differential Tuition: \$150.

MAT 3273. Applied Mathematics for Sciences and Engineering. (3-0) 3 Credit Hours.

Prerequisite: MAT 2214 or MAT 3613 or consent of instructor. Mathematical applications in biology, physics, engineering or other scientific disciplines. Topics may employ techniques of complex analysis, harmonic analysis, Fourier series, Fourier transforms, and partial differential equations. Differential Tuition: \$150.

MAT 3313. Logic and Computability. (3-0) 3 Credit Hours.

Prerequisites: MAT 1214 and MAT 3013. Recursive functions, Turing computability, unsolvability, decidability, completeness and compactness of first order logic. Generally offered: Spring. Differential Tuition: \$150.

MAT 3613. Differential Equations I. (3-0) 3 Credit Hours.

Prerequisite: Completion of or concurrent enrollment in MAT 2233. Basic notions of differential equations, solution of first-order equations and linear equations with constant coefficients, n th-order initial value problems, Laplace transforms, and may include additional topics such as power series solutions of differential equations, linear systems, and stability. Generally offered: Fall, Spring, Summer. Differential Tuition: \$150.

MAT 3623. Differential Equations II. (3-0) 3 Credit Hours.

Prerequisite: MAT 3613. Continuation of MAT 3613. May include topics in stability, linear systems, power series solutions, partial differential equations, and boundary value problems. Generally offered: Spring. Differential Tuition: \$150.

MAT 3633. Numerical Analysis. (3-0) 3 Credit Hours.

Prerequisites: MAT 2233, MAT 3213, and one of the following: CS 1063, CS 1714, or CS 2073. Solution of linear and nonlinear equations, curve-fitting, and eigenvalue problems. Generally offered: Fall, Spring. Differential Tuition: \$150.

MAT 3653. Stochastic Calculus. (3-0) 3 Credit Hours.

Prerequisite: STA 3513. Probability, random walk, Brownian motion, stationary and evolutionary processes and stochastic differential equations. Differential Tuition: \$150.

MAT 4113. Computer Mathematical Topics. (3-0) 3 Credit Hours.

Prerequisite: MAT 1214. Mathematical topics from algebra, Euclidean and non-Euclidean geometry, number theory, and probability and statistics will be investigated using Geometer's Sketchpad and a variety of Web-based mathematics resources. Course will also include the application of software to the solution of a variety of geometric and algebraic problems. May not be applied toward the Mathematics Concentration of the B.S. degree in Mathematics. Generally offered: Spring, Summer. Differential Tuition: \$150.

MAT 4123. History of Mathematics. (3-0) 3 Credit Hours.

Prerequisites: MAT 3233 or MAT 4233, and either MAT 3123 or MAT 4263. Selected subjects in mathematics developed through historical perspectives and biographies. May not be applied toward the Mathematics Concentration of the B.S. degree in Mathematics. (Credit cannot be earned for both UTE 3023 and MAT 4123.) Generally offered: Spring, Summer. Differential Tuition: \$150.

MAT 4213. Real Analysis I. (3-0) 3 Credit Hours.

Prerequisite: MAT 3213. Continuous functions, uniform continuity; theory of differentiation; applications of the derivative to properties of functions; antiderivatives; Riemann integral; connection between differentiation and integration. Generally offered: Fall, Spring, Summer. Differential Tuition: \$150.

MAT 4223. Real Analysis II. (3-0) 3 Credit Hours.

Prerequisite: MAT 4213. Lebesgue integral on the real line; n -dimensional spaces; vectors; calculus of functions of several variables; multidimensional integration. Generally offered: Fall, Spring. Differential Tuition: \$150.

MAT 4233. Modern Abstract Algebra. (3-0) 3 Credit Hours.

Prerequisites: MAT 2233 and MAT 3013. Basic properties and examples of semigroups, monoids, and groups, detailed study of permutation, dihedral, and congruence groups, cyclic groups, normal subgroups, quotient groups, homomorphism, isomorphism theorems, direct products of groups, The Sylow Theorems, rings and fields and their basic properties, ideals, polynomial rings. Generally offered: Spring. Differential Tuition: \$150.

MAT 4263. Geometry. (3-0) 3 Credit Hours.

Prerequisite: MAT 3013. A study of non-Euclidean geometries, including spherical geometry, hyperbolic geometry and others. Generally offered: Spring. Differential Tuition: \$150.

MAT 4273. Topology. (3-0) 3 Credit Hours.

Prerequisite: MAT 3213. Set theory, including cardinal and ordinal numbers. Topological properties of the real-line and metric spaces. Generally offered: Fall. Differential Tuition: \$150.

MAT 4303. Capstone Course for Mathematics. (3-0) 3 Credit Hours.

Prerequisites: Consent of instructor or one each from MAT 3123 or MAT 4263, MAT 3233 or MAT 4233, and MAT 4113. This course is for any interested mathematics major, particularly for those students who intend to pursue secondary certification in Mathematics. The goals of the course are to enable students to build connections among the mathematical areas they have studied and between undergraduate mathematics and high school mathematics, to develop their understanding of mathematics as an integrated discipline, and to strengthen their oral and written communication skills in mathematics. May not be applied toward the Mathematics Concentration of the B.S. degree in Mathematics. Generally offered: Fall, Spring. Differential Tuition: \$150.

MAT 4353. Mathematical Foundations of Cryptography. (3-0) 3 Credit Hours.

Prerequisite: MAT 3233 or MAT 4233 or consent of instructor. Congruences and residue class rings, Fermat's Little Theorem, the Euler phi-function, the Chinese Remainder Theorem; complexity; symmetric-key cryptosystems; cyclic groups, primitive roots, discrete logarithms, one-way functions; public-key cryptosystems (Diffie-Hellman key exchange, RSA, Rabin, El Gamal); digital signatures; and other groups (finite fields, elliptic curves). Generally offered: Spring. Differential Tuition: \$150.

MAT 4803. Statistical Quality Control. (3-0) 3 Credit Hours.

Prerequisites: MAT 1224 and STA 3003 or STA 3513. Statistical methods are introduced in terms of problems that arise in manufacturing and their applications to the control of manufacturing processes. Topics include control charts and acceptance sampling plans. (Same as STA 4803. Credit cannot be earned for both MAT 4803 and STA 4803.) Differential Tuition: \$150.

MAT 4913. Independent Study. (0-0) 3 Credit Hours.

Prerequisites: Permission in writing (form available) of the instructor, the student's advisor, the Department Chair, and the Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. Differential Tuition: \$150.

MAT 4953. Special Studies in Mathematics. (3-0) 3 Credit Hours.

Prerequisite: Consent of instructor. An organized course offering the opportunity for specialized study not normally or not often available as part of the regular course offerings. May be repeated for credit when the topics vary, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. Generally offered: Fall, Spring, Summer. Differential Tuition: \$150.

MAT 4993. Honors Research. (0-0) 3 Credit Hours.

Prerequisites: Enrollment limited to candidates for College Honors during their last two semesters; approval by the College Honors Committee. Supervised research and preparation of an honors thesis. May be repeated once with approval. Differential Tuition: \$150.

Mechanical Engineering (ME)

Mechanical Engineering (ME) Courses

ME 1403. Engineering Practice and Graphics. (2-3) 3 Credit Hours. (TCCN = ENGR 1304)

Prerequisites: MAT 1093 and completion of or concurrent enrollment in WRC 1013. Introduction to engineering practice and engineering graphics: geometric constructions, multi-view drawing, dimensioning, sections, pictorials and auxiliary views. Computer-aided design, generation of mechanical drawings, and design projects. (Formerly ME 1402. Credit cannot be earned for both ME 1402 and ME 1403.) Course Fees: LRE1 \$20; STSE \$30.

ME 2173. Numerical Methods. (2-3) 3 Credit Hours.

Prerequisite: EGR 2323. Introduction to numerical algorithms to solve science and engineering problems. Construction and derivation of numerical algorithm as well as application limits. Various numerical approaches in finding roots of linear and non-linear functions, regression analysis, interpolation, curve fitting procedures, differentiation, integration, solutions of system of linear algebraic equations, solutions of ordinary differential equations and boundary value problems. Introduction to structured programming (MATLAB), including error estimation, and stability. (Formerly ME 3173. Credit cannot be earned for both ME 3173 and ME 2173.) Generally offered: Fall, Spring, Summer. Course Fees: LRE1 \$20; STSE \$30.

ME 3113. Measurements and Instrumentation. (2-3) 3 Credit Hours.

Prerequisites: EE 2213, EGR 2513, PHY 1951, and PHY 1971. Fundamentals of measurement systems theory and laboratory practice. Descriptive statistics, probability distributions, error, uncertainty analysis, technical report writing, and data acquisition. Generally offered: Fall, Spring, Summer. Differential Tuition: \$165. Course Fee: L001 \$30.

ME 3241. Materials Engineering Laboratory. (0-3) 1 Credit Hour.

Prerequisite: Concurrent enrollment in or completion of ME 3243. Investigation of the mechanical properties of engineering materials, with emphasis on metals, sample preparation, and metallography. (Formally ME 3244. Credit cannot be earned for both ME 3244 and ME 3241.) Differential Tuition: \$55. Course Fee: L001 \$30.

ME 3243. Materials Engineering. (3-0) 3 Credit Hours.

Prerequisites: CHE 1103, EGR 2103, and concurrent enrollment in or completion of ME 3241. Fundamentals in atomic structure, microstructures, properties, and mechanical behavior of engineering materials, such as metals, polymers, and ceramics. (Formerly ME 3244. Credit cannot be earned for both ME 3244 and ME 3243/ME 3241. Prior completion of ME 3244 can be substituted for ME 3243 and ME 3241.) Generally offered: Fall, Spring. Differential Tuition: \$165.

ME 3263. Manufacturing Engineering. (3-0) 3 Credit Hours.

Prerequisites: EGR 2513, ME 3241 and ME 3243 (or ME 3244 in previous catalogs). Manufacturing processes, quality assurance, statistical methods, economic analysis, planning, and communication. (Formerly titled "Materials Processing.") Generally offered: Fall, Spring, Summer. Differential Tuition: \$165.

ME 3293. Thermodynamics I. (3-0) 3 Credit Hours.

Prerequisites: EGR 2103 and MAT 1224. Heat, work, equations of state, thermodynamics systems, control volume, first and second laws of thermodynamics, applications of the laws of thermodynamics, reversible and irreversible processes, and introduction to basic thermodynamic cycles. (Credit cannot be earned for both ME 3293 and CME 3103.) Generally offered: Fall, Spring, Summer. Differential Tuition: \$165.

ME 3323. Mechanical Vibration. (3-0) 3 Credit Hours.

Prerequisites: EGR 2323 and EGR 2513. Free and forced vibrations, single and multiple degree of freedom systems, damping, matrix methods, time-domain and frequency-domain. Applications in the transmission and control of vibration. Generally offered: Spring. Differential Tuition: \$165.

ME 3513. Mechanism Design. (3-0) 3 Credit Hours.

Prerequisites: EGR 2513 and ME 1403. Introduction to mechanisms, graphical and linear analytical methods for kinematic synthesis of mechanisms; design of cam follower; gearing fundamentals, ordinary and planetary gear trains; and computer-aided design projects. Differential Tuition: \$165.

ME 3541. Dynamics and Controls Laboratory. (0-2) 1 Credit Hour.

Prerequisites: ME 3113 and concurrent enrollment in or completion of ME 3543. Investigation of the dynamics and control of physical systems. (Formally ME 4733. Credit cannot be earned for both ME 4733 and ME 3541.) Differential Tuition: \$55.

ME 3543. Dynamic Systems and Control. (3-0) 3 Credit Hours.

Prerequisites: EGR 2513 and EGR 3323, and concurrent enrollment in or completion of ME 3113. Introduction to modeling and control of dynamic physical systems, analysis and design of control systems for mechanical, electrical, manufacturing, fluid, and thermal systems. (Formerly ME 4522 and ME 4523. Credit cannot be earned for more than one of the following: ME 3543, ME 4522, or ME 4523.) Generally offered: Fall, Spring, Summer. Differential Tuition: \$165.

ME 3663. Fluid Mechanics. (3-0) 3 Credit Hours.

Prerequisites: EGR 2323, EGR 2513, and completion of or concurrent enrollment in ME 3293. Fluid properties, fluid statics, integral and differential analysis of fluid flow, viscous laminar and turbulent flow in conduits, dimensional analysis, boundary layer concepts, drag and lift. Generally offered: Fall, Spring, Summer. Differential Tuition: \$165.

ME 3813. Mechanics of Solids. (3-0) 3 Credit Hours.

Prerequisites: EGR 2103 and MAT 1224. Internal forces and deformations in solids, stress, strain and their relations, torsion, stresses and deflections in beams, and elastic behavior of columns. (Credit cannot be earned for both ME 3813 and CE 3103.) Generally offered: Fall, Spring, Summer. Differential Tuition: \$165.

ME 3823. Machine Element Design I. (3-0) 3 Credit Hours.

Prerequisites: ME 1403, ME 3241 and ME 3243 (or ME 3244 in previous catalogs), and ME 3813. Introduction to design of machine elements, materials selection, static and fatigue failures, shafts, fasteners, springs, gears, bearings and design projects. (Formerly ME 4423. Credit cannot be earned for both ME 3823 and ME 4423.) Generally offered: Fall, Spring, Summer. Differential Tuition: \$165.

ME 4173. High Performance Computing. (3-0) 3 Credit Hours.

Prerequisite: ME 2173. Introduction to UNIX (login, shell scripts, editors, file permissions), visualization (software tools, data formats), Parallel programming (numerical libraries, Message Passing Interface, Trilinos, GPGPU programming). Differential Tuition: \$165.

ME 4183. Compressible Flow and Propulsion Systems. (3-0) 3 Credit Hours.

Prerequisites: ME 3293 and ME 3663. Analysis of one-dimensional steady compressible flow, isentropic flow, compressible boundary layers, transition from subsonic to supersonic flow, Fanno and Rayleigh flow, supersonic nozzle design, normal and oblique shock waves, and expansion fans. (Formerly EGR 4183. Credit cannot be earned for both ME 4183 and EGR 4183.) Differential Tuition: \$165.

ME 4243. Intermediate Materials Engineering. (3-0) 3 Credit Hours.

Prerequisites: ME 3241 and ME 3243 (or ME 3244 in previous catalogs) and ME 3813. Selected topics in fabrication and processing of materials; macroscopic and microscopic aspects of the mechanical behavior of metals, ceramics, polymers and composites; Failure mode analysis in materials; optimization of material selection in the design process. Differential Tuition: \$165.

ME 4293. Thermodynamics II. (3-0) 3 Credit Hours.

Prerequisite: ME 3293. Energy and availability analysis, reactive and nonreactive mixtures, moist air properties, psychrometric systems and analysis, vapor and gas power cycles, refrigeration and heat-pump cycles, thermodynamic relations, and chemical equilibria. Generally offered: Fall, Spring. Differential Tuition: \$165.

ME 4312. Thermal and Fluids Laboratory. (0-4) 2 Credit Hours.

Prerequisites: ME 3113, ME 4293, and concurrent enrollment in or completion of ME 4313. Investigation of thermal and fluid physical systems, and design of experiments. (Formerly ME 4733. Credit cannot be earned for both ME 4733 and ME 4312.) Differential Tuition: \$110.

ME 4313. Heat Transfer. (3-0) 3 Credit Hours.

Prerequisites: EGR 3323, ME 2173, ME 3293, and ME 3663. Generalized potential distribution and gradients, and heat transfer, including transient and steady state conduction, forced and free convection, radiation, and heat exchanger analysis. Generally offered: Fall, Spring. Differential Tuition: \$165.

ME 4323. Thermal Systems Design. (3-0) 3 Credit Hours.

Prerequisite: ME 4313. Application of basic thermodynamics, fluid mechanics, heat transfer, and computer methods to the design of heat exchangers, coils, fans, pumps, and thermal energy systems. Differential Tuition: \$165.

ME 4343. Heating, Air Conditioning, and Refrigeration Design. (3-0) 3 Credit Hours.

Prerequisite: ME 4293. Moist air properties, human comfort, solar radiation, heating loads, design selection, construction, and operation of air conditioning equipment, and duct design. Differential Tuition: \$165.

ME 4373. Separation Processes. (3-0) 3 Credit Hours.

Prerequisite: ME 4293. Rate- and equilibrium-controlled separation, mass transfer, phase equilibrium, distillation, and extraction. Differential Tuition: \$165.

ME 4503. Lean Manufacturing and Enterprise Engineering. (3-0) 3 Credit Hours.

Prerequisite: ME 3263. Concepts and applications of Lean Systems applied to manufacturing and non-manufacturing environments. Topics include lean fundamentals and various tools and methodologies for transformation of companies and organizations into globally competitive enterprises. Team project on Value Streaming Mapping analysis of processes in real settings is required. Differential Tuition: \$165.

ME 4543. Mechatronics. (2-3) 3 Credit Hours.

Prerequisite: ME 3113. Modeling and analysis of electrical (resistors, capacitors, inductors, diodes, transistors, operational amplifiers, combinational logic and sequential logic) and mechanical systems (spring mass damper), data acquisition and measurements, sensors, actuators, and micro-controller programming. A lab component with emphasis on building electrical circuits, data acquisition using LabVIEW, and integration of sensors, actuators, and micro-controller programming (Arduino) to create a mechatronics system. Generally offered: Fall, Spring. Differential Tuition: \$165. Course Fee: L001 \$30.

ME 4553. Automotive Vehicle Dynamics. (3-0) 3 Credit Hours.

Prerequisites: EGR 2323 and EGR 2513. Dynamics and control of automotive systems, handling, tires, suspension, steering, and aerodynamic forces. Differential Tuition: \$165.

ME 4563. Computer Integrated Manufacturing. (3-0) 3 Credit Hours.

Prerequisite: ME 3263. Fundamental concepts and models related to computer-aided design, computer-aided process planning, computer-aided manufacturing, production planning and scheduling, and manufacturing execution systems. Laboratory work includes computer-aided applications and programming of automated production equipment. Differential Tuition: \$165.

ME 4573. Facilities Planning and Design. (3-0) 3 Credit Hours.

Prerequisite: ME 3263. Product, process, and schedule design, flow, space, and activity relationships, material handling, layout planning models and design algorithms, and warehouse operations. Differential Tuition: \$165.

ME 4583. Enterprise Process Engineering. (3-0) 3 Credit Hours.

Prerequisite: ME 3263. Fundamental concepts, methodologies, and tools for the design, engineering and continuous improvement of enterprises. Topics include Six Sigma for process design and improvement, lean manufacturing fundamentals, value-stream mapping, performance evaluation, and other contemporary enterprise process engineering approaches. Generally offered: Fall. Differential Tuition: \$165.

ME 4593. Alternative Energy Sources. (3-0) 3 Credit Hours.

Prerequisites: ME 3293 and ME 3663. Solar, nuclear, wind, hydrogen, and geothermal energy sources. Resources, production, utilization, economics, sustainability, and environmental considerations. (Formerly ME 3593. Credit cannot be earned for both ME 3593 and ME 4593.) Differential Tuition: \$165.

ME 4603. Finite Element Analysis. (3-0) 3 Credit Hours.

Prerequisites: EGR 3323, ME 2173 and ME 3823. Finite element method fundamentals, advanced geometric modeling of mechanical components and systems, and finite element modeling of components. Differential Tuition: \$165.

ME 4613. Power Plant System Design. (3-0) 3 Credit Hours.

Prerequisite: ME 4293. Application of thermodynamics and fluid mechanics to the design of vapor and gas-turbine power plant systems including boilers, condensers, turbines, pumps, compressors, and cooling towers. Differential Tuition: \$165.

ME 4623. Internal Combustion Engines. (3-0) 3 Credit Hours.

Prerequisite: ME 4293. Application of thermodynamic cycles in design, analysis, and modeling of internal combustion engines including spark-ignition and compression-ignition cycles, thermochemistry, fuels, combustion, emissions, and pollution. Differential Tuition: \$165.

ME 4643. Pressure Vessel and Piping Design. (3-0) 3 Credit Hours.

Prerequisites: ME 3663 and ME 3813. ASME Section XIII Boiler and Pressure Vessel code, inspection, maintenance, repair, and modification of pressure vessels. Piping design and construction. Differential Tuition: \$165.

ME 4653. Oil and Gas Engineering and Reservoir Geomechanics. (3-0) 3 Credit Hours.

Prerequisites: ME 3663 and ME 3813. Introduction to the oil and gas industry, Measurement; deformation mechanisms in rock; rock fracture description and analysis; wellbore stresses and failure; wellbore stability analysis; fault stability analysis; depletion-induced reservoir deformation; and hydraulic fracturing. Differential Tuition: \$165.

ME 4683. Corrosion Engineering. (3-0) 3 Credit Hours.

Prerequisites: ME 3241 and ME 3243 (or ME 3244 in previous catalogs). Principles of electrochemistry, fundamentals of the environmental degradation of materials, corrosion thermodynamics and kinetics, corrosion phenomenology, and corrosion control and prevention. Differential Tuition: \$165.

ME 4723. Reliability and Quality Control in Engineering Design. (3-0) 3 Credit Hours.

Prerequisite: ME 3113. Introduction to statistical methods in reliability and probabilistic engineering design methodology, statistical quality control and inspection, life prediction and testing, and design optimization. Generally offered: Fall. Differential Tuition: \$165.

ME 4773. Robotics. (3-0) 3 Credit Hours.

Prerequisites: EGR 2513 and ME 2173. Kinematics, dynamics, planning and control of mobile robots and manipulators. Special topics may include legged robots, soft robots, climbing robots, advanced control methods, image processing, computer vision, estimation. A LEGO-based laboratory with emphasis on prototyping robotic systems for practical applications. Differential Tuition: \$165.

ME 4801. Manufacturing Practices Laboratory. (0-2) 1 Credit Hour.

Prerequisites: Concurrent enrollment in, or completion of, ME 3263 and ME 4812. Use of measurement tools, saw, drill, mill, lathe, and welder. Differential Tuition: \$55.

ME 4812. Senior Design I. (2-0) 2 Credit Hours.

Prerequisites: ME 3113, ME 3263, ME 3543, ME 3663, ME 3823, and ME 4293. Completion of or concurrent enrollment in ME 4313, ME 4543 (or ME 3513 in previous catalogs), ME 4801, and ME 4312 required. Design project proposals, computer-aided synthesis, analysis, and modeling of an open-ended problem development and presentation of conceptual designs. Industrial cooperation is encouraged. This course, as well as ME 4313, ME 4543, ME 4801, and ME 3541, must be completed with a grade of "C-" or better to serve as prerequisites for ME 4813. (Formerly ME 4811 and ME 4803. Credit cannot be earned for more than one of the following: ME 4812, ME 4803, or ME 4811.) Differential Tuition: \$110.

ME 4813. Senior Design II. (2-3) 3 Credit Hours.

Prerequisites: ME 4312, ME 4313, ME 4543, ME 4801, and ME 4812. Development of a working design of an instructor-approved design project using computer-aided synthesis, analysis, modeling, and optimization methods. Industrial cooperation encouraged. Considerations of safety, reliability, environmental, and economic constraints, and ethical and social impacts. Generally offered: Fall, Spring. Differential Tuition: \$165. Course Fee: L001 \$30.

ME 4911. Independent Study. (0-0) 1 Credit Hour.

Prerequisite: Permission in writing (form available) from the instructor, the Department Chair, and Dean of the College. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Differential Tuition: \$55.

ME 4913. Independent Study. (0-0) 3 Credit Hours.

Prerequisite: Permission in writing (form available) from the instructor, the Department Chair, and Dean of the College. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Differential Tuition: \$165.

ME 4953. Special Studies in Mechanical Engineering. (3-0) 3 Credit Hours.

Prerequisite: Will depend on the topic. An organized course offering the opportunity for specialized study not normally or not often available as part of the regular course offerings. Special Studies may be repeated for credit when topics vary, but not more than 9 semester credit hours, regardless of discipline, will apply to a bachelor's degree. Generally offered: Fall, Spring. Differential Tuition: \$165.

ME 4963. Mechanical Engineering Applications to Biomedical Systems. (3-0) 3 Credit Hours.

Prerequisites: EGR 2513, ME 3663 and ME 3813. Applications of dynamics, solid mechanics and fluid mechanics to biomedical systems. (Formerly titled Bioengineering.) Differential Tuition: \$165.

Media Studies (MES)

Media Studies (MES) Courses

MES 3113. Film Studies. (3-0) 3 Credit Hours.

Prerequisite: WRC 1023 or the equivalent. CSH 2113 recommended. Advanced analysis of selected films according to genre, director, or national cinema. May be repeated for credit when topics vary. Generally offered: Fall, Spring. Course Fees: LRLF \$10; MM01 \$7; STLF \$18.

MES 3333. Digital Video Production. (2-3) 3 Credit Hours.

Prerequisite: WRC 1023 or the equivalent. Theory and practice of digital video production for the humanities. Writing a storyboard, shooting a story, and editing using professional equipment. May be repeated for credit when topics vary. Generally offered: Spring. Course Fees: LRLF \$10; MM01 \$7; STLF \$18.

MES 4333. Digital Video Practicum. (3-2) 3 Credit Hours.

Prerequisite: MES 3333 or consent of instructor. Advanced digital video production for the humanities. Specialized community service projects. May be repeated for credit when topics vary. Course Fees: LRLF \$10; MM01 \$7; STLF \$18.

Medical Humanities (MHU)

Medical Humanities (MHU) Courses

MHU 2013. Introduction to Medical Humanities. (3-0) 3 Credit Hours.

Survey of the human aspects of medical practice as addressed through the social sciences, arts, and humanities. Examines concepts of illness and wellness as influenced by the study of history, psychology, cross-cultural variation, ethics, and aesthetics. Emphasis on systems of meaning, representation, reflective practice, and the dynamics of patient-provider interactions. Provides a history of the field of medical humanities and outlines current and future career paths. Course Fees: DL01 \$75; LRLF \$10; STLF \$18.

MHU 2023. Introduction to Pharmaceutical Technology. (3-0) 3 Credit Hours.

This course will provide students with instruction on the knowledge and skills relevant to pharmacy technicians. The course will prepare students to take either the Pharmacy Technician Certification Board Exam or the Exam for the Certification of Pharmacy Technicians. Course Fees: LRLF \$10; STLF \$18.

MHU 3013. Inequality, Intersectionality, and Healthcare. (3-0) 3 Credit Hours.

This course will introduce students to the ways in which healthcare can form the axis at which types of inequality intersect, with an emphasis on the ways in which healthcare practitioners and institutions can both perpetuate and ameliorate inequality. Students will gain a deeper theoretical understanding of the ways in which healthcare both reflects and shapes societal norms, especially surrounding race, gender, sexual orientation, disability, citizenship, and poverty. The course may be a survey or it may have a more particular focus, e.g. mental health, hospitalization, the immune system. Course Fees: LRLF \$10; STLF \$18.

MHU 4813. Seminar in Medical Humanities. (3-0) 3 Credit Hours.

Prerequisite: MHU 2013. Examines current theories, critiques, and applied approaches in medical humanities. Reviews case studies exemplifying contrasting or competing definitions of health, wellness, illness, embodiment, disease, and disability. Sample topics include body image, diagnosis, narrative medicine, and professionalization. May be taught from different perspectives depending upon faculty expertise and interests. May be repeated for credit when topics vary. Course Fees: LRLF \$10; STLF \$18.

MHU 4913. Independent Study. (0-0) 3 Credit Hours.

Prerequisites: MHU 2013, Medical Humanities major, and permission in writing (form available) of the instructor, the student's advisor, the Department Chair, and the Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Course Fees: LRLF \$10; STLF \$18.

MHU 4931. Internship in Medical Humanities. (0-0) 1 Credit Hour.

Prerequisite: Consent of instructor required. Supervised experience relevant to medical humanities within selected community organizations. May be repeated for credit. A maximum of 6 semester credit hours may be earned through Internship in Medical Humanities. Course Fees: LRLF \$10; STLF \$6.

MHU 4932. Internship in Medical Humanities. (0-0) 2 Credit Hours.

Prerequisite: Consent of instructor required. Supervised experience relevant to medical humanities within selected community organizations. May be repeated for credit. A maximum of 6 semester credit hours may be earned through Internship in Medical Humanities. Course Fees: LRLF \$10; STLF \$12.

MHU 4933. Internship in Medical Humanities. (0-0) 3 Credit Hours.

Prerequisite: Consent of instructor required. Supervised experience relevant to medical humanities within selected community organizations. May be repeated for credit. A maximum of 6 semester credit hours may be earned through Internship in Medical Humanities. Course Fees: LRLF \$10; STLF \$18.

MHU 4953. Special Topics in Medical Humanities. (3-0) 3 Credit Hours.

Organized course offering the opportunity for specialized study not normally or not often available as part of the regular course offerings. Special Studies may be repeated for credit when topics vary, but not more than 6 semester credit hours will apply to a bachelor's degree. Course Fees: LRLF \$10; STLF \$18.

Mexican American Studies (MAS)

Mexican American Studies (MAS) Courses

MAS 2013. Introduction to Chicano(a) Studies. (3-0) 3 Credit Hours.

(TCCN = HUMA 1305)

An introduction to the field of Chicano(a) studies from its inception to the present. Chicano(a) studies and scholarship are explored through multidisciplinary concepts, theory, and methodologies, providing differing interpretations of the Chicano and Chicana experience in the United States. May be applied toward the Core Curriculum requirement in Language, Philosophy and Culture. (Formerly BBL 2013. Credit cannot be earned for both MAS 2013 and BBL 2013.) Generally offered: Spring. Course Fees: LRC1 \$12; LRH1 \$20; STSH \$30.

MAS 2023. Latino Cultural Expressions. (3-0) 3 Credit Hours. (TCCN = HUMA 1311)

An introductory overview of Hispanic visual, performing, and folk arts from their origins in the Iberian peninsula, through the later blending of cultures and their parallelism during revolutionary periods, to contemporary Latino expressions in the United States. May be applied toward the Core Curriculum requirement in Creative Arts. (Same as BBL 2023. Credit cannot be earned for both MAS 2023 and BBL 2023.) Course Fees: DL01 \$75; LRC1 \$12; LRH1 \$20; STSH \$30.

MAS 2033. Multiculturalism in the Southwest. (3-0) 3 Credit Hours.

A panoramic study of the concept of culture and the social dynamics of exchange among those ethnic groups that determine the multicultural milieu of the Southwest. Examination of cultural differences and similarities among all peoples of the region and the role of multiculturalism in politics, education, economics, religion, and everyday life. (Same as BBL 2033. Credit cannot be earned for both MAS 2033 and BBL 2033.) Course Fees: LRH1 \$20; STSH \$30.

MAS 2043. Selena: A Mexican American Identity and Experience. (3-0) 3 Credit Hours.

This course examines how the life and career of Selena Quintanilla-la Reina de Tejano music-embodies the historical trajectory of the Mexican American identity and experience in Texas. As exemplified by a line from the biopic about her life, "We gotta prove to the Mexicans how Mexican we are, and we gotta prove to the Americans how American we are. We gotta be more Mexican than the Mexicans and more American than the Americans, both at the same time." Selena's rise to fame will be contextualized by addressing how systemic oppression and intersectionality impact the Mexican American experience. In particular, the course will emphasize how race/ethnicity, gender, class, sexuality, and citizenship function as axes of marginalization, as well as how sociohistorical, economic, and political factors converge to shape a Mexican American group identity in Texas, the Southwest and the United States. Course Fees: LRH1 \$20; STSH \$30.

MAS 3003. Chicana/o/x Music. (3-0) 3 Credit Hours.

Designed to examine Mexican American experience at the borders where the cultural form of music becomes a way of expressing cultural contact, tension, conflict as well as accommodation and resistance. Music becomes a site of excavating issues of inheritance as well as understanding the dynamics of creative expression. Course reflects historical and social contexts to engage the cultural production of the genres and themes of music found in Mexican American communities. (Formerly titled Musical Mestizaje.) Course Fees: LRH1 \$20; STSH \$30.

MAS 3013. Chicana/o Queer Communities, Identities and Theories. (3-0) 3 Credit Hours.

Through an intersectional lens that addresses gender and sexuality in conjunction with race and class, this course examines concepts of identity, community, and belonging for and by Mexican American lesbian, bisexual, transgender, intersex and queer communities. Topics may include language, migration, history, health, family and kinship. Course Fees: LRH1 \$20; STSH \$30.

MAS 3033. Mexican Americans in the Southwest. (3-0) 3 Credit Hours.

Historical foundations of the United States–Mexico biculturalism in the Southwest. An examination of the historical forces that created and shaped the Mexican American people as a bicultural community. Attention is given to Mexican American contributions in arts, economics, literature, and politics. (Same as BBL 3033. Credit cannot be earned for both MAS 3033 and BBL 3033.) Generally offered: Fall, Spring. Course Fees: LRH1 \$20; STSH \$30.

MAS 3043. Social Psychological Considerations in Mexican American Communities. (3-0) 3 Credit Hours.

A cross-cultural and social psychological study of human development, interethnic communication, stereotyping, learning styles, or other topics relevant to the bicultural setting. (Same as BBL 3043. Credit cannot be earned for both MAS 3043 and BBL 3043.) Course Fees: LRH1 \$20; STSH \$30.

MAS 3063. Historical Legacies: Chicanas/os in Education. (3-0) 3 Credit Hours.

This course presents key texts that are central to the study of Chicanas/os in education. This course critically examines the historical legacies and contemporary experiences of Chicana/o children and youth in U.S. educational institutions. The course will present various theoretical perspectives that problematize the pervasive history of educational inequality and patterns of academic attainment and achievement throughout the educational pipeline. Special attention will be given to the pervasive history of segregation, tracking, language oppression, and assimilationist ideologies and practices, as well as the current struggles for educational justice in Chicana/o schools and communities. (Formerly MAS 3023. Same as BBL 3063. Credit can be earned for only one of the following: BBL 3063, MAS 3023, or MAS 3063.) Course Fees: LRH1 \$20; STSH \$30.

MAS 3123. Mexican American Culture. (3-0) 3 Credit Hours.

A survey of Mexican American cultural distinctiveness in the areas of biculturalism, cultural production, and social organization. Topics may include family and kinship, folklore, health, language, music, and religion. (Same as BBL 3123. Credit cannot be earned for both BBL 3123 and MAS 3123.) Generally offered: Fall, Spring, Summer. Course Fees: LRH1 \$20; STSH \$30.

MAS 3413. Mexican American Family. (3-0) 3 Credit Hours.

This course offers an examination of the social status of Mexican Americans and their relationship to the dominant society. Issues may include the position of Mexican Americans in economic, political, and status hierarchies and the major factors limiting mobility within these systems. (Formerly BBL 3413. Same as SOC 3413. Credit cannot be earned for more than one of the following: BBL 3413, MAS 3413, or SOC 3413.) Course Fees: LRH1 \$20; STSH \$30.

MAS 4013. Sí se puede! Latino Leadership, Activism and Organizing. (3-0) 3 Credit Hours.

Prerequisite: MAS 2013. This course will examine theories of social justice, social change, leadership styles, and basic components required to organizing at the local level for creating meaningful social change. By studying the history and legacy of activism among Mexican American and other Latina/o/x communities, it provides students with the basic tools to become more effective leaders at the grassroots level. Course may include community engagement component as part of the coursework. Course Fees: LRH1 \$20; STSH \$30.

MAS 4083. Research Seminar in Mexican American Studies. (3-0) 3 Credit Hours.

Provides students the opportunity to compare, contrast, and integrate social science theory and methods, and guides students in the conduct of sociocultural research in the Mexican American community. Emphasis will be given to qualitative and ethnographic methods and theory. (Formerly BBL 4083. Credit cannot be earned for both MAS 4083 and BBL 4083.) Generally offered: Spring. Course Fees: LRH1 \$20; STSH \$30.

MAS 4931. Internship in Mexican American Studies. (0-0) 1 Credit Hour.

A supervised experience, relevant to the student's program of study within selected community organizations and agencies. Must be taken on a credit/no-credit basis. Course Fee: STSH \$10.

MAS 4932. Internship in Mexican American Studies. (0-0) 2 Credit Hours.

A supervised experience, relevant to the student's program of study within selected community organizations and agencies. Must be taken on a credit/no-credit basis. Course Fee: STSH \$20.

MAS 4933. Internship in Mexican American Studies. (0-0) 3 Credit Hours.
A supervised experience, relevant to the student's program of study within selected community organizations and agencies. Must be taken on a credit/no-credit basis. Course Fee: STSH \$30.

MAS 4953. Special Studies in Mexican American Studies. (3-0) 3 Credit Hours.

Prerequisite: Consent of instructor. An organized course offering the opportunity for specialized study not normally or not often available as part of the regular course offerings. Special Studies may be repeated for credit when the topics vary, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. To apply credit earned in MAS 4953 toward a minor, consent of the academic advisor is required. Generally offered: Fall, Spring. Course Fees: DL01 \$75; LRH1 \$20; STSH \$30.

MAS 4993. Honors Thesis. (0-0) 3 Credit Hours.

Prerequisites: Enrollment limited to candidates for Honors in Mexican American Studies during their last two semesters; completion of honors examination and consent of the Honors College. Supervised research and preparation of an honors thesis. May be repeated once with thesis advisor's approval. Course Fee: STSH \$30.

Military Science (MSC)

Military Science (MSC) Courses

MSC 1012. Introduction to the Army and Critical Thinking. (2-0) 2 Credit Hours.

Introduces personal challenges and competencies that are critical for effective leadership. Students learn how the personal development of life skills such as critical thinking, time management, goal setting, stress management, and comprehensive fitness relate to leadership, and the Army profession. Students will participate in organized physical fitness training. Students will have an opportunity to participate in one weekend exercise; additional weekend exercises may be offered. Concurrent enrollment in KIN 1001 Ind PhysAct: AROTC is recommended. (Formerly MSC 1011. Credit cannot be earned for both MSC 1012 and MSC 1011.) (Formerly titled "Introduction to Army ROTC").

MSC 1122. Adaptive Leadership and Professional Competence. (2-0) 2 Credit Hours.

This course introduces students to the professional challenges and competencies that are needed for effective execution of the profession of arms and Army communication. Through this course, students will learn how Army ethics and values shape the army and the specific ways that these ethics are inculcated into Army culture. Students will participate in organized physical fitness training. Students will have an opportunity to participate in one weekend exercise; additional weekend exercises may be offered. Concurrent enrollment in KIN 1001 Ind PhysAct: AROTC is recommended. (Formerly MSC 1021. Credit cannot be earned for both MSC 1122 and MSC 1021.) (Formerly titled "Introduction to Tactical Leadership").

MSC 2012. Leadership and Decision Making. (2-0) 2 Credit Hours.

This is an academically challenging course where students will study, practice, and apply the fundamentals of Army Leadership, Officership, Army Values and Ethics, Personal Development, and small unit tactics at the squad level. Students are required to demonstrate writing skills and present information briefings in preparation for becoming a successful future U.S. Army officer. Students will participate in physical fitness training. Students will have an opportunity to participate in one weekend exercise; additional weekend exercises may be offered. Concurrent enrollment in KIN 1001 Ind PhysAct: AROTC is recommended. (Formerly titled "Foundations of Leadership"). Generally offered: Fall.

MSC 2022. Army Doctrine and Team Development. (2-0) 2 Credit Hours.

This course examines the challenges of leading teams in the complex operational environment. The course highlights dimensions of terrain analysis, patrolling, and operation orders. Further study of the theoretical basis of the Army Leadership Requirements Model explores the dynamics of adaptive leadership in the context of military operations. Students develop greater self-awareness as they assess their own leadership styles and practice communication and team building skills. Students will participate in physical fitness training. Students will have an opportunity to participate in one weekend exercise; additional weekend exercises may be offered. Concurrent enrollment in KIN 1001 Ind PhysAct: AROTC is recommended. (Formerly titled "Foundations of Tactical Leadership"). Generally offered: Spring.

MSC 3013. Training Management and the Warfighting Functions. (3-0) 3 Credit Hours.

This course introduces students to Military Mission Planning, the Army Operations Order Process, Military Land Navigation, the Tenants of Mission Command and the tactical skills and knowledge needed to lead at the squad and platoon level. At the conclusion of this course, students will be capable of planning, coordinating, navigating, motivating and leading a squad and platoon in the execution of a mission during a classroom PE, a Leadership Lab, or during a Leader Training Exercise (LTX). Students will receive feedback on their abilities as a leader and how to improve those leader skills that they can be further developed into a successful U.S. Army officer. Students will participate in weekly organized physical fitness training. Students will have an opportunity to participate in one weekend exercise; additional weekend exercises may be offered. Concurrent enrollment in KIN 1001 Ind PhysAct: AROTC is recommended. (Formerly titled "Leading Small Organizations I"). Generally offered: Fall.

MSC 3023. Applied Leadership in Small Unit Operations. (3-0) 3 Credit Hours.

This course continues to build on the skills and fundamentals taught and discussed during MSC 3013. Students will continue to study, practice, and apply the fundamentals of Army Leadership, Officership, Army Values and Ethics, Personal Development, and small unit tactics at the platoon level. At the conclusion of this course, students will be capable of planning, coordinating, navigating, motivating and leading a platoon in the execution of a mission during a classroom PE, a Leadership Lab, or during a Leader Training Exercise (LTX). Successful completion of this course prepares students for the ROTC Cadet Leader Course (CLC), which they will attend in the summer at Fort Knox, KY. Students will participate in weekly organized physical fitness training. Students will have an opportunity to participate in one weekend exercise; additional weekend exercises may be offered. Concurrent enrollment in KIN 1001 Ind PhysAct: AROTC is recommended. (Formerly titled "Leading Small Organizations II"). Generally offered: Spring.

MSC 3033. American Military History. (3-0) 3 Credit Hours.

A comprehensive, but brief account of the US Army from past to present. Integrates the basic knowledge of American military history into the future officer's education. This is an Army standardized, mandatory course that is a part of pre-commissioning training for contracted US Army ROTC cadets. Employs American military history as a tool for studying military professionalism and applying critical-thinking skills and decision-making skills to military problems. Analyzes the definition of Military History, the theory and practice of war, and the American Military System as an intellectual framework for applying critical-thinking skills and problem-solving skills to the study of historical military problems.

MSC 4013. The Army Officer. (3-0) 3 Credit Hours.

This is an advanced course that places primary emphasis on Officership with our Senior Students. The overall objective of this course is to focus on the leadership development, critical thinking and final preparation for commissioning as U.S. Army 2nd Lieutenant. Students will participate in weekly organized physical fitness training. Students will have an opportunity to participate in one weekend exercise; additional weekend exercises may be offered. Concurrent enrollment in KIN 1001 Ind PhysAct: AROTC is recommended. (Formerly titled "Adaptive Leadership"). Generally offered: Fall.

MSC 4023. Company Grade Leadership. (3-0) 3 Credit Hours.

Continues the methodology from MSC 4013. This course places significant emphasis on preparing Cadets for their Officer Basic Course, and their first unit of assignment. Cadets explore military professional ethics and ethical decision making process and how it applies to a complex operational environment. Cadets gain practical experience in cadet battalion leadership roles, demonstrate personnel skills in operations and communications, develop and evaluate junior students and gain an understanding of the contemporary military operating environment. Students will participate in weekly organized physical fitness training. Students will have an opportunity to participate in one weekend exercise; additional weekend exercises may be offered. Concurrent enrollment in KIN 1001 Ind PhysAct: AROTC is recommended. (Formerly titled "Leadership in a Complex World"). Generally offered: Spring.

MSC 4033. Practical Leadership. (3-0) 3 Credit Hours.

Prerequisite: MSC 4023 or consent of instructor. Performance-oriented instruction and preparation for commissioning. Additional development of students' ability to plan, coordinate, and direct the efforts of Army small-unit organizations in the execution of tactical missions; planning and execution of leadership laboratories. Generally offered: Fall, Spring.

Multidisciplinary Studies (MDS)

Multidisciplinary Studies (MDS) Courses

MDS 2013. Introduction to Multidisciplinary Studies. (3-0) 3 Credit Hours.

Introduction to Multidisciplinary Studies as an academic program. This course is required for the B.A. degree in Multidisciplinary Studies. It provides foundational skills from various academic areas and methodologies for approaching complex issues across the disciplines. Students develop and apply critical thinking, problem solving, and effective oral and written communication skills to social, political, scientific, and civic problems. The course includes a capstone project in which students plan a program of study appropriate within the Multidisciplinary Studies degree. Course Fee: DL01 \$75.

MDS 2023. Introduction to Multidisciplinary Studies. (3-0) 3 Credit Hours.

Introduction to Multidisciplinary Studies as an academic program. This course is required for the B.S. Degree in Multidisciplinary Studies. This course integrates experiential learning opportunities with foundational skills from various academic areas and methodologies for approaching complex issues across the disciplines. Students develop and apply critical thinking, problem solving, and effective oral and written communication skills to scientific, engineering, technical, social, and civic problems. The course includes a capstone project in which students design and present the experiential learning project.

MDS 4911. Independent Study in Multidisciplinary Studies. (0-0) 1 Credit Hour.

Prerequisites: Permission in writing (form available) from the instructor, the student's advisor, the Program Director, and Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree.

MDS 4913. Independent Study in Multidisciplinary Studies. (0-0) 3 Credit Hours.

Prerequisites: Permission in writing (form available) from the instructor, the student's advisor, the Program Director, and Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree.

MDS 4933. Internship in Multidisciplinary Studies. (0-0) 3 Credit Hours.

Prerequisite: Consent of internship coordinator. Supervised experience relevant to the student's program of study within selected community organizations. May be repeated for credit, but not more than 6 semester credit hours of internship will apply to a bachelor's degree.

MDS 4983. Senior Seminar for Multidisciplinary Studies. (3-0) 3 Credit Hours.

Prerequisite: Declared major in Multidisciplinary Studies and senior status. The seminar surveys topics in ethics, reinforces writing and communication skills through oral and written presentations and discussions, demonstrates student's progress through a capstone portfolio, and culminates in a senior project approved by the instructor. Generally offered: Fall, Spring. Course Fee: DL01 \$75.

Museum Studies (MSM)

Museum Studies (MSM) Courses

MSM 3003. Fundamentals of Museum Studies. (3-0) 3 Credit Hours.

A general overview of the field of museum studies, including curatorship, collections management, fieldwork, exhibits, interpretation, educational and public programming, marketing, fundraising, and administration. Course Fees: LRLF \$10; STLF \$18.

MSM 4813. Topics in Museum Science. (3-0) 3 Credit Hours.

Prerequisite: MSM 3003 or consent of instructor. Advanced examination of one or more topics in the museum profession. May be repeated for credit when topics vary. Course Fees: LRLF \$10; STLF \$18.

MSM 4913. Independent Study in Museum Studies. (0-0) 3 Credit Hours.

Prerequisite: Consent of instructor. Scholarly research under the supervision of a faculty member on method, theory, or practice in the museum profession. May be repeated for credit, but not more than 6 hours of independent study, regardless of discipline, may apply to the Minor in Museum Studies or a bachelor's degree. Course Fees: LRLF \$10; STLF \$18.

MSM 4933. Museum Internship. (0-0) 3 Credit Hours.

Prerequisite: Consent of instructor. Supervised work at a museum in one or more areas of museum studies. Internships in other major or minor disciplines may be substituted for the Museum Internship course when conducted at museums or galleries. May be repeated for credit in the minor, up to 6 hours. Course Fees: LRLF \$10; STLF \$18.

Music (MUS)

Music (MUS) Courses

MUS 1102. Aural Skills I. (2-1) 2 Credit Hours. (TCCN = MUSI 1216)

Enrollment is limited to music majors and students pursuing the Minor in Music. Introductory course in diatonic sight-singing and ear training. Includes the study of solfege, dictation (rhythmic, melodic, and harmonic), error detection, transcription, and form. Should be taken concurrently with MUS 1112. May not be attempted more than two times. Generally offered: Fall. Course Fees: LRLF \$10; STLF \$12.

MUS 1112. Basic Skills of Music I. (2-1) 2 Credit Hours. (TCCN = MUSI 1211)

Enrollment is limited to music majors and students pursuing the Minor in Music. Introductory course in music theory, with emphasis on fundamentals and rudiments. Also includes an introduction to diatonic harmony, counterpoint, and fugue as applied to repertoire from a variety of style periods. Should be taken concurrently with MUS 1102. May not be attempted more than two times. Generally offered: Fall. Course Fees: LRLF \$10; STLF \$12.

MUS 1122. Aural Skills II. (2-1) 2 Credit Hours. (TCCN = MUSI 1217)

Prerequisite: MUS 1102. Enrollment is limited to music majors and students pursuing the Minor in Music. Continued study of sight-singing and ear training with more advanced diatonic materials. Includes the study of solfege, dictation (rhythmic, melodic, and harmonic), error detection, transcription, and form. Should be taken concurrently with MUS 1132. May not be attempted more than three times. Generally offered: Spring. Course Fees: LRLF \$10; STLF \$12.

MUS 1132. Basic Skills of Music II. (2-1) 2 Credit Hours. (TCCN = MUSI 1212)

Prerequisite: MUS 1112. Enrollment is limited to music majors and students pursuing the Minor in Music. Continued study of music theory with emphasis on the development of analytical and compositional skills as applied to diatonic music from a variety of style periods. Also includes an introduction to small forms. May not be attempted more than three times. Generally offered: Spring. Course Fees: LRLF \$10; STLF \$12.

MUS 1141. Beginning Composition. (1-1) 1 Credit Hour.

Prerequisites: MUS 1102 and MUS 1112. Enrollment is limited to music majors. An introduction to the fundamentals and techniques of composition, including development of listening skills, notation, and improvisational aspects of generating original creative ideas. Attendance at composition seminar is required. Course Fees: LRLF \$10; STLF \$6.

MUS 1511. Secondary Private Instruction. (0-0) 1 Credit Hour.

Prerequisite: Enrollment is limited to music majors. Private instruction for students desiring to or required to study the following as a secondary instrument: bassoon, clarinet, contrabass, cornet, electric bass, euphonium, flute, classical guitar, harp, harpsichord, horn, oboe, organ, percussion, piano, saxophone, trombone, trumpet, tuba, viola, violin, violoncello, or voice. Seminar attendance may be required. May be repeated for credit. (Formerly Music Performance-Secondary Instruction.) Generally offered: Fall, Spring. Course Fees: LRLF \$10; M001 \$150; STLF \$6.

MUS 1512. Private Instruction. (0-0) 2 Credit Hours.

Prerequisite: Enrollment is limited to music majors. Private instruction for all first-semester students, both freshmen and transfer students, whose principal instrument is: bassoon, clarinet, contrabass, cornet, electric bass, euphonium, flute, classical guitar, harp, harpsichord, horn, oboe, organ, percussion, piano, saxophone, trombone, trumpet, tuba, viola, violin, violoncello, or voice. Attendance at weekly performance seminar and concurrent enrollment in an assigned University ensemble are required. Students must earn a grade of "C-" or higher to progress to MUS 1542. May be repeated for credit a maximum of two semesters. (Formerly Music Performance-Private Instruction.) Generally offered: Fall, Spring. Course Fees: LRLF \$10; M001 \$300; STLF \$12.

MUS 1521. Class Piano 1. (1-1) 1 Credit Hour. (TCCN = MUSI 1181)

Prerequisite: Music major or consent of instructor. Focuses on the development of functional keyboard skills for the non-keyboard music major. Emphases include solo and ensemble repertoire, technique, sight reading, transposition, harmonization, improvisation, and accompanying. May not be attempted more than three times. Generally offered: Fall, Spring. Course Fees: IUM1 \$30; LRLF \$10; STLF \$6.

MUS 1531. Class Voice. (1-0) 1 Credit Hour. (TCCN = MUSI 1183)

For students with no previous vocal training. Offers the opportunity for development of fundamentals of voice technique through in-class performances of suitable songs. Generally offered: Fall, Spring. Course Fees: IUM1 \$30; LRLF \$10; STLF \$6.

MUS 1542. Private Instruction. (0-0) 2 Credit Hours.

Prerequisite: Successful completion of MUS 1512 with a grade of "C-" or better. Private instruction for students whose principal instrument is: bassoon, clarinet, contrabass, cornet, electric bass, euphonium, flute, classical guitar, harp, harpsichord, horn, oboe, organ, percussion, piano, saxophone, trombone, trumpet, tuba, viola, violin, violoncello, or voice. Attendance at weekly performance seminar and concurrent enrollment in an assigned University ensemble are required. May be repeated for credit a maximum of two semesters. (Formerly Music Performance-Private Instruction I.) Generally offered: Fall, Spring. Course Fees: LRLF \$10; M001 \$300; STLF \$12.

MUS 1552. Functional Piano for Keyboard Principals. (2-0) 2 Credit Hours.

Prerequisite: Music major with piano or organ as the principal instrument. Offers the opportunity for development of keyboard skills, harmonization, transposition, and improvisation of accompaniments to melodies, sight-reading, score reading, and multiple-part reading. Generally offered: Spring of even-numbered years. Course Fees: IUM1 \$60; LRLF \$10; STLF \$12.

MUS 1621. Class Piano 2. (1-1) 1 Credit Hour.

Prerequisite: MUS 1521. Continues the development of functional keyboard skills for the non-keyboard music major. Emphases include solo and ensemble repertoire, technique, sight reading, transposition, harmonization, improvisation, and accompanying. May not be attempted more than three times. Generally offered: Fall, Spring. Course Fees: IUM1 \$30; LRLF \$10; STLF \$6.

MUS 2000. Music Convocation. (0-0) 0 Credit Hours.

Prerequisite: Music major. Required attendance at a selected number of approved music concerts, recitals, lectures, and master classes as determined by the Department of Music. May be repeated for credit. Generally offered: Fall, Spring.

MUS 2102. Aural Skills III. (2-1) 2 Credit Hours. (TCCN = MUSI 2216)

Prerequisite: MUS 1122. Enrollment is limited to music majors. Continued study of sight-singing and ear training with repertoire featuring decorative chromaticism, chromatic chords, and modulation. Includes the study of solfege, dictation (rhythmic, melodic, and harmonic), error detection, transcription, and form. Should be taken concurrently with MUS 2152. May not be attempted more than three times. Generally offered: Fall. Course Fees: LRLF \$10; STLF \$12.

MUS 2112. Aural Skills IV. (2-1) 2 Credit Hours. (TCCN = MUSI 2217)

Prerequisite: MUS 2102. Enrollment is limited to music majors. Continued study of sight-singing and ear training as applied to repertoire featuring increased chromaticism and compositional techniques first introduced in the twentieth century. Includes the study of solfege, dictation (rhythmic, melodic, and harmonic), error detection, transcription, and form. Should be taken concurrently with MUS 2162. May not be attempted more than three times. Generally offered: Spring. Course Fees: LRLF \$10; STLF \$12.

MUS 2122. Aural Skills Review. (2-1) 2 Credit Hours.

Prerequisite: MUS 2112 or the equivalent. Review of aural skills materials for incoming transfer students. Designed to satisfy deficiencies indicated by the aural skills proficiency exam. Offers an overview of sight-singing methodology and ear training techniques, with an emphasis on rhythmic, melodic, and harmonic materials drawn from common-practice literature. Generally offered: Fall. Course Fees: LRLF \$10; STLF \$12.

MUS 2132. Introduction to Improvisation. (2-0) 2 Credit Hours.

Prerequisites: Enrollment is limited to music majors and students pursuing the Minor in Jazz Studies. Classroom instruction for development of creative skills applied to melodic, rhythmic, and harmonic elaboration techniques adapted to the student's instrument. Generally offered: Fall, Spring. Course Fees: LRLF \$10; M001 \$300; STLF \$12.

MUS 2141. Composition II. (0-0) 1 Credit Hour.

Prerequisites: MUS 1122, MUS 1132, and MUS 1141. Private study of the fundamentals of composition through small forms. Attendance at composition seminar is required. May be repeated for credit a maximum of two times. (Formerly MUS 2142. Credit cannot be earned for both MUS 2141 and MUS 2142.) Generally offered: Fall, Spring. Course Fees: LRLF \$10; M001 \$150; STLF \$6.

MUS 2152. Basic Skills of Music III. (2-1) 2 Credit Hours. (TCCN = MUSI 2211)

Prerequisite: MUS 1132. Enrollment is limited to music majors. Continued study of music theory, with emphasis on the analysis and composition of chromatic materials and modulation as applied to repertoire from a variety of style periods. Also includes the continued study of small forms. Should be taken concurrently with MUS 2102. May not be attempted more than three times. Generally offered: Fall. Course Fees: LRLF \$10; STLF \$12.

MUS 2162. Basic Skills of Music IV. (2-1) 2 Credit Hours. (TCCN = MUSI 2212)

Prerequisite: MUS 2152. Continued study of music theory, with emphasis on nineteenth-century chromaticism, large-scale forms, and analytical techniques for early twentieth-century music. Should be taken concurrently with MUS 2112. May not be attempted more than three times. Generally offered: Spring. Course Fees: LRLF \$10; STLF \$12.

MUS 2172. Tonal Analysis Review. (2-1) 2 Credit Hours.

Prerequisite: MUS 2162 or the equivalent. Review of tonal analysis for incoming transfer students. Designed to satisfy deficiencies indicated by the music theory proficiency exam. Offers an overview of harmony and form, with an emphasis on binary form, ternary form, rondo form, sonata-allegro form, and contrapuntal techniques. (Formerly MUS 2173 and MUS 3113. Credit cannot be earned for more than one of the following: MUS 2172, MUS 2173, or MUS 3113.) Course Fees: LRLF \$10; STLF \$12.

MUS 2183. Jazz Skills. (3-0) 3 Credit Hours.

Prerequisites: MUS 1122 and MUS 1132 or instructor approval. The study of harmonic, melodic, rhythmic and formal elements of jazz as applied to improvisation, performance, arranging, and composition. (Formerly MUS 2182. Credit may not be earned for both MUS 2183 and MUS 2182.) Generally offered: Fall. Course Fees: LRLF \$10; STLF \$18.

MUS 2232. Introduction to Guitar Literature. (2-1) 2 Credit Hours.

Enrollment is limited to music majors. An introductory study of the history and literature of the modern concert guitar and its historical predecessors. Designed to improve students' understanding of the solo repertoire for their instrument throughout the 16th–20th centuries. Generally offered: Fall of odd-numbered years. Course Fees: LRLF \$10; STLF \$12.

MUS 2243. World Music in Society. (3-0) 3 Credit Hours.

A survey of the music cultures of Africa, the Americas, Asia and Oceania. Music traditions are studied from a perspective that emphasizes music as an integral part of society and culture. May be applied toward the Core Curriculum requirement in Creative Arts. (Formerly MUS 2252. Credit may not be earned for both MUS 2243 and MUS 2252.) Generally offered: Fall, Spring, Summer. Course Fees: LRC1 \$12; LRLF \$10; MC01 \$75; STLF \$18.

MUS 2263. Introduction to the Music Industry. (3-0) 3 Credit Hours.

A survey of the various structures and facets of the American and international music industry, focusing on how music and commerce have intersected in our society throughout the 20th century and into the present. Topics include intellectual property (copyright, licensing, publishing), artist management, concert promotion, arts administration, recording industry, broadcast music, and music on the Internet. Generally offered: Fall. Course Fees: LRLF \$10; STLF \$18.

MUS 2273. Introduction to Music and Art Nonprofit Organizations. (3-0) 3 Credit Hours.

An introduction to the world of nonprofit music and arts organizations. Focused on strategies of management, financial structuring, artistic direction, and marketing, primarily within the context of opera companies, symphony orchestras, ballet companies, theaters and other performing arts venues, museums, and chamber music organizations. Includes an examination of the challenges of audience development and discussion of the role of art in contemporary society. Generally offered: Spring. Course Fees: LRLF \$10; STLF \$18.

MUS 2402. Conducting I. (2-2) 2 Credit Hours.

Prerequisites: MUS 1122 and MUS 1132. Fundamentals of beat patterns, score mechanics and score reading, regular and irregular meters, gesture design, left-hand cueing, and rehearsal techniques. Different sections for Choral Conducting and Instrumental Conducting. Laboratory attendance is required. (Formerly MUS 2403. Credit cannot be earned for both MUS 2402 and MUS 2403.) Generally offered: Fall, Spring. Course Fees: LRLF \$10; STLF \$12.

MUS 2421. Class Piano 3. (1-1) 1 Credit Hour.

Prerequisite: MUS 1621. Continues the development of functional keyboard skills for the non-keyboard music major. Emphases include solo and ensemble repertoire, technique, sight reading, transposition, harmonization, improvisation, and accompanying. Also focuses on developing multiple-part sight reading skills. May not be attempted more than three times. Generally offered: Fall, Spring. Course Fees: IUM1 \$30; LRLF \$10; STLF \$6.

MUS 2501. Accompanying. (0-2) 1 Credit Hour.

Enrollment is limited to music majors. The study of the skills and aesthetic principles needed to accompany vocal and instrumental music. Practical experience may be accomplished through accompanying. Intended for piano principals and piano performance majors. May be repeated for credit. Generally offered: Fall, Spring. Course Fees: LRLF \$10; M001 \$150; STLF \$6.

MUS 2521. Class Piano 4. (1-1) 1 Credit Hour.

Prerequisite: MUS 2421. Continues the development of functional keyboard skills for the non-keyboard music major. Emphases include solo and ensemble repertoire, technique, sight reading, transposition, harmonization, improvisation, and accompanying. Also focuses on developing multiple-part sight reading skills. May not be attempted more than three times. Generally offered: Fall, Spring. Course Fees: IUM1 \$30; LRLF \$10; STLF \$6.

MUS 2542. Private Instruction. (0-0) 2 Credit Hours.

Prerequisite: Successful completion of MUS 1542 with a grade of "C-" or better. Private instruction for students whose principal instrument is: bassoon, clarinet, contrabass, cornet, electric bass, euphonium, flute, classical guitar, electric bass, harp, harpsichord, horn, oboe, organ, percussion, piano, saxophone, trombone, trumpet, tuba, viola, violin, violoncello, or voice. Attendance at area performance seminar and concurrent enrollment in an assigned University ensemble are required. May be repeated for credit a maximum of three semesters. (Formerly Music Performance-Private Instruction II.) Generally offered: Fall, Spring. Course Fees: LRLF \$10; M001 \$300; STLF \$12.

MUS 2601. Diction Survey. (1-1) 1 Credit Hour.

Enrollment is limited to music majors. A survey of English and foreign language pronunciation as applied to performance. (Formerly MUS 3501. Credit cannot be earned for both MUS 2601 and MUS 3501.) Generally offered: Fall. Course Fees: LRLF \$10; STLF \$6.

MUS 2603. Beginning Guitar. (3-0) 3 Credit Hours.

An introductory course intended primarily for the non-music major. Emphasis on music in the first position (through the fourth fret) while students learn technical aspects as defined by the early 19th-century guitar masters. Generally offered: Fall, Spring. Course Fees: LRLF \$10; STLF \$18.

MUS 2613. Intermediate Guitar. (3-0) 3 Credit Hours.

Prerequisite: MUS 2603. Designed primarily for the non-music major. Continued study of rudimentary classical guitar repertoire and basic elements of classical guitar technique. Generally offered: Spring. Course Fees: LRLF \$10; STLF \$18.

MUS 2623. Fundamentals of Music for the Non-Music Major. (3-0) 3 Credit Hours. (TCCN = MUSI 1303)

A study of traditional music notation and the fundamentals of music theory. Topics include music reading, rhythmic notation, key signatures, scales, intervals, and triads. Emphasis is placed on the historical development of music notation and music theoretical systems and their applications to both classical and popular music. Generally offered: Fall, Spring, Summer. Course Fees: LRLF \$10; STLF \$18.

MUS 2633. American Roots Music. (3-0) 3 Credit Hours. (TCCN = MUSI 1310)

A survey of Blues, Country and Western, Gospel, Cajun, Zydeco, Conjunto, Tejano, Reggae, Native American, and other uniquely American genres of music that evolved from regional, home-grown traditions into the mass market phenomenon of American popular music today. Designed to provide the opportunity for students to increase their awareness of the diversity of American traditional music, from the pioneers who originated the styles to the contemporary popular music artists influenced by them. May be applied toward the Core Curriculum requirement in Creative Arts. Generally offered: Fall. Course Fees: LRC1 \$12; LRLF \$10; MC01 \$75; STLF \$18.

MUS 2653. Music in Culture. (3-0) 3 Credit Hours.

This course examines the music and the culture of a specific region, on a rotating basis. The alternating regions are: Asia, Africa, Native America/First Nations, and Latin America and the Caribbean. The course will focus not only on the soundscapes of the cultures in these regions, but also on their aesthetic foundations, relation to social and cultural contexts, historical development, and cross-cultural interactions and influences. The course will examine musical and other artistic works from various cultures, as well as the historical, social and cultural criteria that led to their creation. May be applied toward the Core Curriculum requirement in Creative Arts. Course Fees: DL01 \$75; LRC1 \$12; LRLF \$10; MC01 \$75.

MUS 2663. History and Styles of Jazz. (3-0) 3 Credit Hours. (TCCN = MUSI 1310)

A survey of the evolution of jazz styles, contributions of important performers, and musical techniques involved in the creation and performance of jazz music. May be applied toward the Core Curriculum requirement in Creative Arts. Generally offered: Fall, Spring, Summer. Course Fees: DL01 \$75; LRC1 \$12; LRLF \$10; MC01 \$75; STLF \$18.

MUS 2673. History and Styles of Rock. (3-0) 3 Credit Hours. (TCCN = MUSI 1310)

A survey of the evolution of rock styles, contributions of important performers, and musical techniques involved in the creation and performance of rock music. May be applied toward the Core Curriculum requirement in Creative Arts. Generally offered: Fall, Spring, Summer. Course Fees: LRC1 \$12; LRLF \$10; MC01 \$75; STLF \$18.

MUS 2683. History and Styles of Western Art Music. (3-0) 3 Credit Hours. (TCCN = MUSI 1306)

A study of individual works that are representative of the classical musical traditions of the Western world. Includes background information on social setting and function, historical importance, aesthetics, and composer biographies. May be applied toward the Core Curriculum requirement in Creative Arts. (Formerly titled Masterpieces of Music.) Generally offered: Fall, Spring. Course Fees: DL01 \$75; LRC1 \$12; LRLF \$10; MC01 \$75; STLF \$18.

MUS 2713. History of Recorded Music. (3-0) 3 Credit Hours.

A survey of recording innovations from notation to musical boxes and sound recordings. The course will include contributions by the popular performers and significant inventors. It will also treat the topics of technology convergence and displacement, the rise of music piracy, hit records throughout history, and the role of broadcasting. Designed for students interested in the history of preservation of music in any form and its impact on culture and society. No prerequisite and no previous musical background is required. May be applied toward the Core Curriculum requirement in Creative Arts. Course Fees: LRC1 \$12; LRLF \$10; MC01 \$75; STLF \$18.

MUS 2743. Music and Film. (3-0) 3 Credit Hours.

A survey of the evolving role of music in film. Study of how various creative, technological, industrial, economic, historical, social, and cultural factors affect the creation, manufacturing, and consumption of film music. May be applied toward the Core Curriculum requirement in Creative Arts. Course Fees: LRC1 \$12; LRLF \$10; MC01 \$75; STLF \$18.

MUS 3013. Digital Music Production. (3-0) 3 Credit Hours.

The conceptual core of the music technology curriculum. A broad survey of fundamental concepts and skills related to computer-based music production and music technology in general. Topics and/or platforms include the digital audio workstation, MIDI and audio sequencing, synthesis and sampling, analog vs. digital audio, acoustics and the overtone series, basic production (editing and mixing), ProTools, and the history of computer and the recording studio. (Formerly MUS 3313. Credit cannot be earned for both MUS 3013 and MUS 3313.) Generally offered: Fall, Spring. Course Fees: IUM1 \$90; LRLF \$10; STLF \$18.

MUS 3103. Audio Technology I. (3-0) 3 Credit Hours.

The practical core of the music technology curriculum. A summary of current production techniques with an emphasis on creative applications. Topics include live recording, microphone selection and placement, terminology and equipment, signal flow, digital audio systems, mixing and signal processing, mastering, and the employment of MIDI instruments. Students will also have opportunity to develop mastery with ProTools, on which several creative assignments will be completed. (Formerly MUS 3153. Credit cannot be earned for both MUS 3103 and MUS 3153 under the title Audio Technology I.) Generally offered: Fall, Spring. Course Fees: DL01 \$75; IUM1 \$90; LRLF \$10; STLF \$18.

MUS 3123. Introduction to Electronic and Computer Music. (3-0) 3 Credit Hours.

Lecture course serving as a conceptual and practical introduction to digital audio workstation software, synthesizers, sequencers, and other audio hardware and software for the purpose of creating original compositions, with an emphasis on sound-processing techniques and timbral manipulation. Includes a survey of the history and literature of electronic music. Generally offered: Spring. Course Fees: IUM1 \$90; LRLF \$10; STLF \$18.

MUS 3133. Analysis of Twentieth-Century Music. (3-0) 3 Credit Hours.

Prerequisites: MUS 2112, MUS 2162, and one of the following: MUS 1552 or MUS 2521. Analysis of forms and structures drawn from the literature and repertoire of the 20th century. Beginning with a review of late tonal practices, such styles and techniques as Impressionism, atonality, serialism, and pre- and post-serial tonality are studied in depth. Generally offered: Spring of even-numbered years. Course Fees: LRLF \$10; STLF \$18.

MUS 3143. Orchestration. (3-0) 3 Credit Hours.

Prerequisites: MUS 2112, MUS 2162, and either MUS 1552 or MUS 2521. Applied instrumentation emphasizing idiomatic scoring for various orchestral and wind combinations with an approach to writing for full orchestra and symphonic band. Generally offered: Spring of odd-numbered years. Course Fees: LRLF \$10; STLF \$18.

MUS 3153. Conducting II. (3-1) 3 Credit Hours.

Prerequisites: MUS 2112, MUS 2162, MUS 2402, and one of the following: MUS 1552 or MUS 2521. Continued training in conducting, with emphasis on score reading, rehearsal techniques, expressive conducting, score interpretation, and repertoire. Different sections for Choral Conducting and Instrumental Conducting. Laboratory attendance is required. (Formerly MUS 2413. Credit cannot be earned for both MUS 3153 and MUS 2413.) Generally offered: Spring. Course Fees: LRLF \$10; STLF \$18.

MUS 3162. Composition III. (0-0) 2 Credit Hours.

Prerequisites: MUS 2112, MUS 2141, MUS 2162, and one of the following: MUS 1552 or MUS 2521. Private study in applied composition, with emphasis on expansion of musical materials to larger forms. Attendance at composition seminar is required. May be repeated for credit a maximum of two semesters. Generally offered: Fall, Spring. Course Fees: LRLF \$10; M001 \$300; STLF \$12.

MUS 3163. Audio Technology II. (3-0) 3 Credit Hours.

Prerequisite: MUS 3103. A continuation of Audio Technology I, this course emphasizes hands-on and project-oriented application of sound engineering concepts in performance and live studio environments. Topics include session planning, microphone selection and placement, mixing, automation, acoustics, and sound system design. Generally offered: Fall, Spring. Course Fees: IUM1 \$90; LRLF \$10; STLF \$18.

MUS 3213. Music in Civilization I. (3-0) 3 Credit Hours.

Prerequisites: MUS 2112, MUS 2162, and one of the following: MUS 1552 or MUS 2521. A study of the development of musical styles and literature from antiquity to 1750, with emphasis on the parallels and influences of art, architecture, literature, and theater on musical art. In addition, the adaptation and influences of non-Western traditions and styles on Western art music will be considered. Generally offered: Fall, Spring. Course Fees: LRLF \$10; STLF \$18.

MUS 3223. Music in Civilization II. (3-0) 3 Credit Hours.

Prerequisites: MUS 2112, MUS 2162, and one of the following: MUS 1552 or MUS 2521. A study of the development of musical styles and literatures from the Enlightenment to the present, with emphasis on the parallels and influences of art, architecture, literature, and theater on musical art. In addition, the adaptation and influences of non-Western traditions and styles on Western art music will be considered. Generally offered: Fall, Spring. Course Fees: LRLF \$10; STLF \$18.

MUS 3232. Wind and Percussion Literature. (2-1) 2 Credit Hours.

Prerequisites: MUS 2112, MUS 2162, and MUS 2521. A study of music literature for the concert band at all grade levels, including method books for individual instruction. The course will focus on investigating repertoire for different levels of educational groups and/or individuals, from beginning band through more advanced wind ensembles. Generally offered: Spring. Course Fees: LRLF \$10; STLF \$12.

MUS 3242. String Literature. (2-1) 2 Credit Hours.

Prerequisites: MUS 2112, MUS 2162, and MUS 2521. A study of music literature for the string and full orchestra at all grade levels. The course will focus on investigating repertoire for different levels of educational groups and/or individuals, from beginning string orchestras through more advanced high school full symphonies. Leveled repertoire lists such as the PML will be considered and used as references. Generally offered: Spring. Course Fees: LRLF \$10; STLF \$12.

MUS 3263. Music Since 1900. (3-0) 3 Credit Hours.

Prerequisites: MUS 2112, MUS 2162, and one of the following: MUS 1552 or MUS 2521. Designed to provide the student with a working knowledge of the music, terms, and techniques of art music written from 1900 to the present day. The focus will be on specific compositions emphasizing questions of genre, form, and compositional style but also drawing upon the musicological literature to explore a variety of broader historical and cultural issues. Generally offered: Fall of even-numbered years. Course Fees: LRLF \$10; STLF \$18.

MUS 3272. Choral Literature. (2-1) 2 Credit Hours.

Prerequisites: MUS 2112, MUS 2162, and one of the following: MUS 1552 or MUS 2521. A survey of major choral composers, genres, works, and styles appropriate for middle school and high school choirs. Includes exposure to Renaissance, Baroque, Classical, and contemporary choral literature, including jazz and popular music. Generally offered: Fall. Course Fees: LRLF \$10; STLF \$12.

MUS 3282. Vocal Literature. (2-1) 2 Credit Hours.

Prerequisites: MUS 2112, MUS 2162, and MUS 2521. A study of vocal literature and stylistic considerations at an advanced level in such topics as the American Art Song, the German Lied and the French Mélodie. Generally offered: Fall of odd-numbered years. Course Fees: LRLF \$10; STLF \$12.

MUS 3292. Operatic Literature. (2-1) 2 Credit Hours.

Prerequisites: MUS 2112, MUS 2162, and MUS 2521. A study of the historical significance and literature of the opera form from its precursors through the present time. Generally offered: Fall of odd-numbered years. Course Fees: LRLF \$10; STLF \$12.

MUS 3311. Music Technology for Music Educators. (1-1) 1 Credit Hour.

Enrollment is limited to music majors. Designed specifically for Music Education majors. Topics include sequencing, notation, digital musical instruments, music instruction software, communication technologies, and digital media for the classroom. Students build online portfolios of technology projects for assessment and later use in job placement. (Formerly MUS 3312. Credit cannot be earned for both MUS 3311 and MUS 3312.) Generally offered: Spring. Course Fees: IUM1 \$30; LRLF \$10; STLF \$6.

MUS 3322. Keyboard Literature. (2-1) 2 Credit Hours.

Prerequisites: MUS 2112, MUS 2162, and MUS 1552. A study of keyboard literature and analysis at an advanced level. Topics include piano, organ, and harpsichord solo and chamber literature. Course is taught at two levels. May be repeated for credit when topics or levels vary. Generally offered: Spring. Course Fees: LRLF \$10; STLF \$12.

MUS 3332. Advanced Guitar Literature. (2-1) 2 Credit Hours.

Prerequisites: MUS 2112, MUS 2162, and MUS 2521. Advanced study of stylistic development in concert guitar literature, including solo and concerto repertoire from the 18th to the 21st centuries. Designed for guitar performance majors, but open to all music majors interested in classical guitar. Generally offered: Fall of even-numbered years. Course Fees: LRLF \$10; STLF \$12.

MUS 3342. Wind and Percussion Literature for Performance Majors. (0-0) 2 Credit Hours.

Prerequisites: MUS 2112, MUS 2162, and MUS 2521. A study of wind or percussion literature and analysis at an advanced level. Topics include Solo/Chamber Literature and Orchestral/Wind Band Literature. May be repeated for credit when topics vary. Generally offered: Fall, Spring. Course Fees: LRLF \$10; STLF \$12.

MUS 3352. String Literature for Performance Majors. (0-0) 2 Credit Hours.

Prerequisites: MUS 2112, MUS 2162, and MUS 2521. A study of string literature and analysis at an advanced level, covering such elements as orchestral literature, chamber music, and solo repertoire for each individual student's instrument, recital planning and preparation, excerpt study and preparation for auditions, score reading, and sight-reading skills. Topics include Solo/Chamber Literature and Orchestral Literature. May be repeated for credit when topics vary. Generally offered: Fall, Spring. Course Fees: LRLF \$10; STLF \$12.

MUS 3372. Choral Arranging. (2-1) 2 Credit Hours.

Prerequisites: MUS 2112, MUS 2162, and one of the following: MUS 1552 or MUS 2521. A robust introduction to composing and arranging for choral voices. Addresses practical concerns of writing for children's choir, changing voices, teenage voices, and mature voices in a variety of musical genres and styles. Course Fees: LRLF \$10; STLF \$12.

MUS 3401. Brass Instruments. (1-2) 1 Credit Hour.

Prerequisites: MUS 1122 and MUS 1132. Enrollment is limited to music majors. A study of playing techniques, pedagogy, selection of materials, and maintenance of brass instruments. Laboratory attendance is required. Generally offered: Fall, Spring. Course Fees: IUM1 \$30; LRLF \$10; STLF \$6.

MUS 3413. Psychology of Music. (3-0) 3 Credit Hours.

Prerequisites: MUS 2112, MUS 2162, and one of the following: MUS 1552 or MUS 2521. A survey of the field of music psychology, focusing on various interdisciplinary approaches to the study of music. Emphasis is placed on how empirical research methods can be used to study the relationship between music and other disciplines (including philosophy, physics, biology, anthropology, sociology, cognitive psychology, neuroscience, and education). Generally offered: Fall and Spring of odd-numbered years, Summer of even-numbered years. Course Fees: LRLF \$10; STLF \$18.

MUS 3421. Vocal Techniques for Instrumental Majors. (1-1) 1 Credit Hour.

Prerequisites: MUS 1122 and MUS 1132. Enrollment is limited to music majors. A study of basic techniques of vocal production and vocal pedagogy, with a particular emphasis on voice mutation, voice classification, vocal health, the selection of appropriate repertoire and teaching of singing to young children, junior high and high school students. Designed to provide instrumental Music Education majors with the opportunity to develop experience and familiarity with teaching vocal music. Generally offered: Fall, Spring. Course Fees: IUM1 \$30; LRLF \$10; STLF \$6.

MUS 3431. Woodwind Instruments. (1-2) 1 Credit Hour.

Prerequisites: MUS 1122 and MUS 1132. Enrollment is limited to music majors. A study of the playing techniques, pedagogy, selection of materials, and maintenance of woodwind instruments. Laboratory attendance is required. Generally offered: Fall, Spring. Course Fees: IUM1 \$30; LRLF \$10; STLF \$6.

MUS 3453. Teaching Elementary Music. (3-0) 3 Credit Hours.

Prerequisites: MUS 1122 and MUS 1132. Enrollment is limited to music majors. A study of the essential elements of teaching music at the elementary level. Generally offered: Fall, Spring. Course Fees: LRLF \$10; STLF \$18.

MUS 3463. Teaching Secondary Vocal Music. (3-0) 3 Credit Hours.

Prerequisites: MUS 2112, MUS 2162, and one of the following: MUS 1552 or MUS 2521. A study of the essential elements of teaching general and vocal music at the secondary level. Generally offered: Spring. Course Fees: LRLF \$10; STLF \$18.

MUS 3471. String Instruments. (1-2) 1 Credit Hour.

Prerequisites: MUS 1122 and MUS 1132. Enrollment is limited to music majors. A study of playing techniques, pedagogy, selection of materials, and maintenance of string instruments. Generally offered: Fall, Spring. Course Fees: IUM1 \$30; LRLF \$10; STLF \$6.

MUS 3481. Percussion Instruments. (1-2) 1 Credit Hour.

Prerequisites: MUS 1122 and MUS 1132. Enrollment is limited to music majors. A study of playing techniques, pedagogy, selection of materials, and maintenance of percussion instruments. Generally offered: Fall. Course Fees: IUM1 \$30; LRLF \$10; STLF \$6.

MUS 3491. Instrumental Techniques for Voice Majors. (1-1) 1 Credit Hour.

Prerequisites: MUS 1122 and MUS 1132. Enrollment is limited to music majors. A study of playing techniques, pedagogy, selection of materials, and maintenance of percussion, woodwind, brass, and string instruments. Designed to provide choral Music Education majors with the opportunity to develop experience and familiarity with teaching orchestral and band instruments. Generally offered: Spring. Course Fees: IUM1 \$30; LRLF \$10; STLF \$6.

MUS 3511. Diction for Singers. (1-1) 1 Credit Hour.

Enrollment is limited to music majors. Designed specifically for vocal performance majors. An intensive study of language pronunciation as applied to performance. Topics include English, French, Italian, and German. May be repeated for credit when topics vary. Generally offered: Fall, Spring. Course Fees: LRLF \$10; STLF \$6.

MUS 3532. Private Instruction. (0-0) 2 Credit Hours.

Prerequisites: MUS 2112, MUS 2162, successful completion of two semesters of MUS 2542 with grades of "C-" or better, and one of the following: MUS 1552 or MUS 2521. Private instruction for students whose principal instrument is: bassoon, clarinet, contrabass, cornet, electric bass, euphonium, flute, classical guitar, electric bass, euphonium, harp, harpsichord, horn, oboe, organ, percussion, piano, saxophone, trombone, trumpet, tuba, viola, violin, violoncello, or voice. Attendance at performance seminar and concurrent enrollment in an assigned University ensemble are required. May be repeated for credit a maximum of three semesters. (Formerly Music Performance-Private Instruction III.) Generally offered: Fall, Spring. Course Fees: LRLF \$10; M001 \$300; STLF \$12.

MUS 3543. Private Instruction. (0-0) 3 Credit Hours.

Prerequisites: MUS 2112, MUS 2162, successful completion of two semesters of MUS 2542 with grades of "C-" or better, and one of the following: MUS 1552 or MUS 2521. Enrollment is limited to students accepted to upper-division standing in the Performance emphasis of the Bachelor of Music degree program. Private instruction at an advanced level for students whose principal instrument is: bassoon, clarinet, contrabass, cornet, electric bass, euphonium, flute, classical guitar, harp, harpsichord, horn, oboe, organ, percussion, piano, saxophone, trombone, trumpet, tuba, viola, violin, violoncello, or voice. Attendance at performance seminar and concurrent enrollment in an assigned University ensemble are required. May be repeated for credit a maximum of three semesters. (Formerly Music Performance-Private Instruction IV.) Generally offered: Fall, Spring. Course Fees: LRLF \$10; M001 \$450; STLF \$18.

MUS 3583. Advanced Improvisation. (0-0) 3 Credit Hours.

Prerequisites: MUS 2132 and MUS 2183. Private instruction in applied improvisation on a student's instrument, emphasizing melodic creativity and performance within standard literature as well as newly composed materials. May be repeated for credit a maximum of two semesters. Generally offered: Fall, Spring. Course Fees: LRLF \$10; M001 \$450; STLF \$18.

MUS 3613. Entrepreneurship in Music. (3-0) 3 Credit Hours.

Prerequisite: MUS 2263. An advanced study of innovation in the business of music, including historical examination of social trends, technological advances, legal issues, and commercial practices that have influenced the development of the music industry in both the fine arts and popular culture. Strategies for career building in music business are explored with an emphasis on knowledge and skills that support entrepreneurial activities in music. Generally offered: Spring of even-numbered years. Course Fees: LRLF \$10; STLF \$18.

MUS 3623. Composition with the Digital Audio Workstation. (3-0) 3 Credit Hours.

Prerequisite: MUS 3103. The digitization of music production, widespread since the general adoption of computer programs known as Digital Audio Workstations (DAWs), has fundamentally changed the working methods of, and blurred the lines between, composers, and producers. This course examines the formal and practical implications of this shift, emphasizing the recent and prevalent focus on molding real sounds (and the related de-emphasis on molding abstract models of sound). Production tools such as automation, quantization, looping, beat-making, MIDI coding, and sample triggering will be considered with respect to their effect on composition and songwriting. Students will employ these techniques while creating their own productions using the DAW Pro Tools. Course Fees: IUM1 \$60; LRLF \$10; STLF \$18.

MUS 3633. Seminar in Object-Oriented Sound Design. (3-0) 3 Credit Hours.

This course will cover a conceptual and practice approach to making live, interactive sound processing. Employing Ableton Live, Max/MSP, and Jitter, students will create new compositions, instruments, and environments that employ object oriented-approaches to sound processing and video. Generally offered: Fall. Course Fees: IUM1 \$60; LRLF \$10; STLF \$18.

MUS 3711. Mariachi Ensemble. (0-3) 1 Credit Hour.

Open to all students by audition. Ensemble rehearses and performs the music repertoire of the Mexican folk mariachi tradition. May be repeated for credit. Generally offered: Fall, Spring. Course Fees: LRLF \$10; MC01 \$25; STLF \$6.

MUS 3771. Jazz Ensemble. (0-3) 1 Credit Hour.

Open to all students by audition. Ensemble specializes in the performance of the various streams of jazz and other music appropriate to stage bands, jazz ensembles, and vocal jazz groups. May be repeated for credit. Generally offered: Fall, Spring. Course Fees: LRLF \$10; MC01 \$25; STLF \$6.

MUS 3791. Lyric Theatre. (0-5) 1 Credit Hour.

Open to all students by audition. The study and performance of opera and other types of musical theater from the Baroque period to the present. May be repeated for credit. (Formerly MUS 3792.) Generally offered: Fall, Spring. Course Fees: LRLF \$10; MC01 \$25; STLF \$6.

MUS 3801. UTSA Athletic Band. (0-5) 1 Credit Hour.

Open to all students. No audition required. Rehearses and performs music and marching drills for appearances at public events on and off campus. Participation at all performances is required in addition to regularly scheduled rehearsals. May be repeated for credit. (Formerly MUS 3802.) (Formerly titled UTSA Marching Band.) Generally offered: Fall, Spring. Course Fees: LRLF \$10; MC01 \$25; STLF \$6.

MUS 3802. UTSA Athletic Band. (0-5) 2 Credit Hours.

Open to all students. No audition required. Rehearses and performs music and marching drills for appearances at public events on and off campus. Participation at all performances is required in addition to regularly scheduled rehearsals. May be repeated for credit. Generally offered: Fall, Spring. Course Fees: LRLF \$10; MC01 \$50; STLF \$12.

MUS 3803. UTSA Athletic Band. (0-6) 3 Credit Hours.

Open to all students. No audition required. Rehearses and performs music and marching drills for appearances at public events on and off campus. Participation at all performances is required in addition to regularly scheduled rehearsals. May be repeated for credit. Generally offered: Fall, Spring. Course Fees: LRLF \$10; MC01 \$75; STLF \$18.

MUS 3831. Principal Ensemble. (0-5) 1 Credit Hour.

Open to all students, but an audition may be required. Large ensembles that rehearse and perform literature from the standard choral, orchestral, and wind band literature. Possible ensembles are: Chamber Singers, Concert Choir, Women's Choir, Men's Glee Club, UTSA Orchestra, Wind Ensemble, Symphonic Band, and University Band. May be repeated for credit. Generally offered: Fall, Spring. Course Fees: LRLF \$10; MC01 \$25; STLF \$6.

MUS 3832. Principal Ensemble. (0-5) 2 Credit Hours.

Open to all students, but an audition may be required. Large ensembles that rehearse and perform literature from the standard choral, orchestral, and wind band literature. Possible ensembles are: Chamber Singers, Concert Choir, Women's Choir, Men's Glee Club, UTSA Orchestra, Wind Ensemble, Symphonic Band, and University Band. May be repeated for credit. Generally offered: Fall, Spring. Course Fees: LRLF \$10; MC01 \$50; STLF \$12.

MUS 3833. Principal Ensemble. (0-6) 3 Credit Hours.

Open to all students, but an audition may be required. Large ensembles that rehearse and perform literature from the standard choral, orchestral, and wind band literature. Possible ensembles are: Chamber Singers, Concert Choir, Women's Choir, Men's Glee Club, UTSA Orchestra, Wind Ensemble, Symphonic Band, and University Band. May be repeated for credit. Generally offered: Fall, Spring. Course Fees: LRLF \$10; MC01 \$75; STLF \$18.

MUS 4113. Counterpoint. (3-0) 3 Credit Hours.

Prerequisites: MUS 2112, MUS 2162, and one of the following: MUS 1552 or MUS 2521. Study of contrapuntal techniques of the 16th and 18th centuries. Topics include melodic line and motive, cadence, imitation, treatment of consonance and dissonance, species counterpoint, invention, canon, and fugue. Emphasis is placed on analysis and composition, with discussion of application to contemporary music. Generally offered: Fall of odd-numbered years. Course Fees: LRLF \$10; STLF \$18.

MUS 4142. Composition IV. (0-0) 2 Credit Hours.

Prerequisites: MUS 2112, MUS 2162, MUS 3162, and one of the following: MUS 1552 or MUS 2521. Composing in the larger forms for small and large ensembles and electronic media. Attendance at composition seminar is required. May be repeated for credit a maximum of two semesters. Generally offered: Fall, Spring. Course Fees: LRLF \$10; M001 \$300; STLF \$12.

MUS 4153. Audio Technology III. (3-0) 3 Credit Hours.

Prerequisite: MUS 3103. A seminar in advanced 'in the box' studio sound production techniques. Subjects covered include recording, editing, signal processing, mixing, mastering, MIDI and software sequencing, project planning and arrangement, and the role of the engineer and the producer. Generally offered: Fall, Spring. Course Fees: IUM1 \$90; LRLF \$10; STLF \$18.

MUS 4163. Topics in Music Theory. (3-0) 3 Credit Hours.

Prerequisites: MUS 2112, MUS 2162, and one of the following: MUS 1552 or MUS 2521. Specialized instruction in advanced music theory. Possible topics include rhythm and meter, Schenkerian analysis, advanced pitch-class set theory, pedagogy of music theory, analysis and performance, and genre, period and/or composer studies. May be repeated for credit when topics vary. Generally offered: Fall of even-numbered years. Course Fees: LRLF \$10; STLF \$18.

MUS 4183. Jazz Composition and Arranging. (0-0) 3 Credit Hours.

Prerequisite: MUS 2183. Private study in applied jazz composition and arranging, emphasizing writing for large jazz ensemble and studio orchestra. May be repeated for credit a maximum of two semesters. Generally offered: Fall, Spring. Course Fees: LRLF \$10; STLF \$18.

MUS 4263. Topics in Music History. (3-0) 3 Credit Hours.

Prerequisites: MUS 3213 and MUS 3223. A study of works and styles appropriate to the stylistic period of the topic. Possible topics include Middle Ages; Renaissance; Baroque Period; Classic Period; Romantic Period; Twentieth Century; and Music Practices and Styles. May be repeated for credit when topics vary. Course Fees: LRLF \$10; STLF \$18.

MUS 4433. Multimedia Production. (3-0) 3 Credit Hours.

An overview of theories, skills, and hardware and software components of current multimedia production. Topics include digital image editing, digital sound editing, vector graphics and animation, multimedia integration, and webpage development. Aspects of artistic design are also introduced. Emphasis is placed on hands-on development of useful, effective products for instructional and commercial applications. Students have the opportunity to gain a basic fluency with six programs within the Adobe Creative Cloud: Photoshop, Audition, Premiere, After Effects, Muse, and Dreamweaver. Generally offered: Fall. Course Fees: IUM1 \$90; LRLF \$10; STLF \$18.

MUS 4452. Marching Band Techniques. (2-1) 2 Credit Hours.

Prerequisites: MUS 2112, MUS 2162, and MUS 2521. A study of the repertoire, materials, instructional methods, administration, and maneuvers used by marching bands. Generally offered: Fall. Course Fees: LRLF \$10; STLF \$12.

MUS 4522. Music Pedagogy for Performance Majors. (0-0) 2 Credit Hours.

Prerequisites: MUS 2112, MUS 2162, and MUS 2521. Survey of techniques, practices, and materials related to the development and execution of music instruction. Review of materials for beginning, intermediate, and advanced students. Topics include Strings, Brass, Woodwinds, Percussion, Guitar, Piano, and Organ. (Credit cannot be earned for both MUS 4522 and MUS 4532.) Generally offered: Fall, Spring. Course Fees: LRLF \$10; STLF \$12.

MUS 4531. Vocal Pedagogy I. (1-1) 1 Credit Hour.

Prerequisites: MUS 2112, MUS 2162, and one of the following: MUS 1552 or MUS 2521. Survey of techniques, practices, and materials related to the development of teaching of voice, including anatomy, physiology, acoustics, and the development of the human voice. Generally offered: Fall. Course Fees: LRLF \$10; STLF \$6.

MUS 4532. Music Pedagogy. (2-1) 2 Credit Hours.

Prerequisites: MUS 2112, MUS 2162, and one of the following: MUS 1552 or MUS 2521. Survey of techniques, practices, and materials related to the development and execution of music instruction. Review of materials for beginning, intermediate, and advanced students. Topics include Strings, Winds and Percussion, Guitar, Piano, and Organ. Class can be repeated for credit when topics vary. (Credit cannot be earned for both MUS 4522 and MUS 4532.) Generally offered: Fall. Course Fees: LRLF \$10; STLF \$12.

MUS 4541. Vocal Pedagogy II. (1-1) 1 Credit Hour.

Prerequisites: MUS 2112, MUS 2162, and one of the following: MUS 1552 or MUS 2521. Practical application of techniques, practices, and materials related to the development and teaching of voice, including repertoire selection, supervised teaching, applying vocal pedagogy principles to group settings, and introducing students to voice technology. Generally offered: Spring. Course Fees: LRLF \$10; STLF \$6.

MUS 4543. Private Instruction. (0-0) 3 Credit Hours.

Prerequisites: MUS 2112, MUS 2162, successful completion of two semesters of MUS 3543 with grades of "C-" or better, and one of the following: MUS 1552 or MUS 2521. Private instruction at an advanced level for students whose principal instrument is: bassoon, clarinet, contrabass, cornet, electric bass, euphonium, flute, classical guitar, harp, harpsichord, horn, oboe, organ, percussion, piano, saxophone, trombone, trumpet, tuba, viola, violin, violoncello, or voice. Attendance at area performance seminar and concurrent enrollment in an assigned University ensemble are required. May be repeated for credit for a maximum of three semesters. (Formerly Music Performance-Private Instruction V.) Generally offered: Fall, Spring. Course Fees: LRLF \$10; M001 \$450; STLF \$18.

MUS 4561. Senior Recital. (0-0) 1 Credit Hour.

Prerequisites: MUS 2112, MUS 2162, MUS 2521, and consent of instructor. A public performance presented as a culmination of the student's private instruction. Concurrent enrollment in MUS 4543 is required of students in the Performance emphasis; concurrent enrollment in MUS 4142 is required of students in the Composition emphasis. Generally offered: Fall, Spring. Course Fees: LRLF \$10; STLF \$6.

MUS 4581. Chamber Music. (0-3) 1 Credit Hour.

Open to all students by audition. Designed to offer students the opportunity to gain knowledge of chamber music literature through performance of select repertoire. Possible ensembles are: Flute Ensemble, Percussion Ensemble, Chamber Orchestra, Chamber Singers, String Ensemble, Jazz Combo, New Music Lab, Trombone Ensemble, Tuba Ensemble, Saxophone Ensemble, Horn Ensemble, and Keyboard Ensemble. May be repeated for credit. Generally offered: Fall, Spring. Course Fees: LRLF \$10; MC01 \$25; STLF \$6.

MUS 4803. Seminar in Music Marketing. (3-0) 3 Credit Hours.

Prerequisite: MUS 2263. An intensive, project-based study of music marketing oriented toward students' specific career interests in the music business and/or arts management. Generally offered: Spring of even-numbered years. Course Fees: LRLF \$10; STLF \$18.

MUS 4911. Independent Study. (0-0) 1 Credit Hour.

Prerequisites: Permission in writing (form available) of the instructor, the student's advisor, the Department Chair, and the Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Course Fees: LRLF \$10; STLF \$6.

MUS 4912. Independent Study. (0-0) 2 Credit Hours.

Prerequisites: Permission in writing (form available) of the instructor, the student's advisor, the Department Chair, and the Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Course Fees: LRLF \$10; STLF \$12.

MUS 4913. Independent Study. (0-0) 3 Credit Hours.

Prerequisites: Permission in writing (form available) of the instructor, the student's advisor, the Department Chair, and the Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Course Fees: LRLF \$10; STLF \$18.

MUS 4931. Music Internship. (0-0) 1 Credit Hour.

Prerequisite: MUS 2542. The opportunity to gain knowledge through experience in the music field under the supervision of private music professionals. Opportunities will be developed in consultation with the faculty advisor and appropriate music professionals. May be repeated for credit. Generally offered: Fall and Spring semesters. Course Fees: LRLF \$10; STLF \$6.

MUS 4933. Music Marketing Internship. (0-0) 3 Credit Hours.

Prerequisites: MUS 3613 and MUS 4803. The opportunity to gain knowledge through experience in the music industry under the supervision of private business professionals. Opportunities will be developed in consultation with the faculty advisor and appropriate business professionals. Generally offered: Summer. Course Fees: LRLF \$10; STLF \$18.

MUS 4951. Special Studies in Music. (1-0) 1 Credit Hour.

Prerequisite: Consent of instructor. An organized course offering the opportunity for specialized study not normally or not often available as part of the regular course offerings. Special Studies may be repeated for credit when the topics vary, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. Course Fees: LRLF \$10; STLF \$6.

MUS 4952. Special Studies in Music. (2-0) 2 Credit Hours.

Prerequisite: Consent of instructor. An organized course offering the opportunity for specialized study not normally or not often available as part of the regular course offerings. Special Studies may be repeated for credit when the topics vary, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. Course Fees: LRLF \$10; STLF \$12.

MUS 4953. Special Studies in Music. (3-0) 3 Credit Hours.

Prerequisite: Consent of instructor. An organized course offering the opportunity for specialized study not normally or not often available as part of the regular course offerings. Special Studies may be repeated for credit when the topics vary, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. Generally offered: Fall. Course Fees: LRLF \$10; STLF \$18.

MUS 4961. Music Technology Project. (0-0) 1 Credit Hour.

Prerequisite: Consent of instructor. A guided project in audio or multimedia. Students will have the opportunity to create a product that brings together knowledge of their major discipline with their specific skills in music technology. Generally offered: Fall, Spring. Course Fees: IUM1 \$30; LRLF \$10; STLF \$16.

Non-course Based Instruction (NCB)

Non-course Based Instruction (NCB) Courses

NCB 0210. Intermediate Math for TSI. (2-0) 1.25 Credit Hour.

The objective of this course is to provide students with the knowledge and skills they need in preparation for college level math courses.

NCB 0502. Specialized Study for Math. (2-0) 2 Credit Hours.

This class requires co-enrollment in MAT 1023 for those students who have been designated as not college ready by the Texas Success Initiative (TSI), but who scored between 342 and 349 on the TSI Assessment. This course is intended to prepare students whose placement scores or experience demonstrates that they may need additional preparation for a college level mathematics course. The topics introduced in this course are designed to prepare students for successful completion of College Algebra with Applications, MAT 1023. Students should be in a degree plan that requires algebra intensive courses.

NCB 0542. Specialized Study for MAT 1043 Corequisite. (2-0) 2 Credit Hours.

This class requires co-enrollment in MAT 1043 for those students who have been designated as not college ready by the Texas Success Initiative (TSI), but who scored between 336 and 349 on the TSI Assessment. This course is intended to prepare students whose placement scores or experience demonstrates that they may need additional preparation for a college level mathematics course. The topics introduced in this course are designed to prepare students for successful completion of Introduction to Mathematics, MAT 1043. Students should be in a degree plan that requires or may use MAT 1043.

NCB 0552. Specialized Study for MAT 1053 Corequisite. (2-0) 2 Credit Hours.

This class requires co-enrollment in MAT 1053 for those students who have been designated as not college ready by the Texas Success Initiative (TSI), but who scored between 342 and 349 on the TSI Assessment. This course is intended to prepare students whose placement scores or experience demonstrates that they may need additional preparation for a college level mathematics course. The topics introduced in this course are designed to prepare students for successful completion of Mathematics for Business, MAT 1053. Students should be in a Business or Business-related degree plan.

NCB 0572. Specialized Study for MAT 1073 Corequisite. (2-0) 2 Credit Hours.

This class requires co-enrollment in MAT 1073 for those students who have been designated as not college ready by the Texas Success Initiative (TSI), but who scored between 342 and 349 on the TSI Assessment. This course is intended to prepare students whose placement scores or experience demonstrates that they may need additional preparation for a college level mathematics course. The topics introduced in this course are designed to prepare students for successful completion of Algebra for Scientists/Engineers, MAT 1073. Students should be in a degree plan that requires algebra intensive courses.

NCB 0602. Specialized Study for Writing and Reading. (2-0) 2 Credit Hours.

This course will review basic skills for college-level and professional-level writing and reading. The writing process as well as critical reading and study skills that can be applied to this course and throughout your college career are discussed and practiced in class. Appropriate tone, Standard English grammar, paragraph construction, essay development, citation formatting, and other topics will be taught and practiced throughout the semester. These subjects will be taught with the application toward use with main ideas, supporting details, and inferences, as well as learning to read critically and analyze texts.

Nutrition and Dietetics (NDT)

Nutrition and Dietetics (NDT) Courses

NDT 2043. Introduction to Nutritional Sciences. (3-0) 3 Credit Hours.

Prerequisite: BIO 1233 or BIO 1404. Basic concepts related to the classification and functions of nutrients; the process of digestion, absorption, transport, utilization, and storage of nutrients in humans and the interaction between diet and health. (Credit cannot be earned for both NDT 2043 and BIO 2043.) Generally offered: Fall, Spring. Course Fees: DL01 \$75; LRHC \$10; STHC \$18.

NDT 3191. Applied Food Science Practicum. (0-3) 1 Credit Hour.

Prerequisites: BIO 1053, CHE 1103, CHE 1113, and NDT 2043 or equivalent. Corequisite: Concurrent enrollment in NDT 3313 or permission of faculty advisor. The application of concepts related to the chemical, physical, sensory, and nutritional properties of food in menu planning, food preparation, and recipe modification. Generally offered: Fall. Course Fees: DNMF \$225; LRHC \$10; STHC \$6.

NDT 3203. Introduction to Nutrition and Dietetics Careers. (3-0) 3 Credit Hours.

Prerequisite: Nutrition and Dietetics majors only. General overview of nutrition and dietetics as a profession, including career opportunities, scope of practice, credentialing, code of ethics, and collaboration with other disciplines. Self-directed modules on medical terminology, word roots, prefixes and suffixes will be integrated into the course content. Generally offered: Fall. Course Fees: DL01 \$75; LRHC \$10; STHC \$18.

NDT 3292. Food Production Practicum. (0-6) 2 Credit Hours.

Prerequisite: Nutrition and Dietetics majors only. Corequisite: Concurrent enrollment in NDT 3353 or permission of faculty advisor. Practicum related to the procurement, preparation, and delivery of food in large foodservice operations. Generally offered: Spring. Course Fees: DNPF \$40; LRHC \$10; STHC \$12.

NDT 3313. Applied Food Science. (3-0) 3 Credit Hours.

Prerequisites: BIO 1053, CHE 1103, CHE 1113, and NDT 2043 or equivalent. Concurrent enrollment in NDT 3191 is recommended. Concepts related to the chemical, physical, sensory, and nutritional properties of food in menu planning, food preparation, and recipe modification. Generally offered: Fall. Course Fees: LRHC \$10; STHC \$18.

NDT 3323. Nutrition and Health Assessment. (3-0) 3 Credit Hours.

Prerequisites: Nutrition and Dietetics majors and minors only, and NDT 2043 or equivalent. Methods, tools, and interpretation of data in assessing the nutritional status of individuals including dietary, anthropometric, biochemical, and clinical assessment, as well as other measurements of health in individuals and the community. Generally offered: Spring. Course Fees: LRHC \$10; STHC \$18.

NDT 3333. Nutrition Counseling and Education. (3-0) 3 Credit Hours.

Prerequisites: Nutrition and Dietetics majors only, and NDT 2043 or equivalent. Discussion of theories of learning and behavior modification, models and techniques, communication skills, evaluation methods, and cultural competence in nutrition counseling and education; and application of concepts to facilitate behavioral change. Generally offered: Spring. Course Fees: LRHC \$10; STHC \$18.

NDT 3343. Nutrition in the Life Span. (3-0) 3 Credit Hours.

Prerequisites: Nutrition and Dietetics majors and minors only, and NDT 2043 or equivalent and Human Physiology. Nutritional needs during various stages of the lifecycle as influenced by physiologic, cultural, and environmental factors. Course Fees: LRHC \$10; STHC \$18.

NDT 3353. Production and Foodservice System Management I. (3-0) 3 Credit Hours.

Prerequisites: Nutrition and Dietetics majors only, and NDT 3313 or equivalent; concurrent enrollment in NDT 3292 is recommended. Principles related to the menu planning, food sanitation and safety, procurement, production, marketing, and materials management in foodservice operations. Generally offered: Spring. Course Fees: LRHC \$10; STHC \$18.

NDT 3413. Advanced Human Nutrition. (3-0) 3 Credit Hours.

Prerequisites: Nutrition and Dietetics majors and minors only, and NDT 2043 or equivalent and Biochemistry. Advanced discussion of nutrient structure, function and interaction, metabolic pathways, and regulation and integration of metabolism. Course Fees: LRHC \$10; STHC \$18.

NDT 4091. Community Service Practicum. (0-3) 1 Credit Hour.

Prerequisite: Nutrition and Dietetics majors only. Corequisite: NDT 4333 is recommended or with permission of faculty advisor. Application of learned strategies in meaningful community service through collaborative tasks performed at various community programs. Service learning activities are aimed at enriching the life experiences of students through civic responsibility and community outreach. Course Fees: DNPF \$20; LRHC \$10; STHC \$6.

NDT 4191. Nutrition Care Process Practicum. (0-3) 1 Credit Hour.

Prerequisite: Nutrition and Dietetics majors only. Corequisite: Concurrent enrollment in NDT 4353 is required. A problem-based approach to dietetics practice using case simulations and studies; application of basic nutritional assessment skills, nutritional diagnosis, intervention, and monitoring in different settings; practice skills in counseling and nutrition education. Course Fees: DNPF \$20; LRHC \$10; STHC \$6.

NDT 4313. Production and Food Service System Management II. (3-0) 3 Credit Hours.

Prerequisites: Nutrition and Dietetics majors only, and NDT 3353 and NDT 3292 or equivalent. Theories and principles related to the foodservice, systems management including leadership, decision-making, human resources, and financial management of operations. Course Fees: DL01 \$75; LRHC \$10; STHC \$18.

NDT 4323. Medical Nutrition Therapy I. (3-0) 3 Credit Hours.

Prerequisites: Nutrition and Dietetics majors only, and NDT 3323 and NDT 3333 or equivalent. Pathophysiology and the application of the nutritional care process in the treatment of simple human diseases and conditions, part 1. Course Fees: LRHC \$10; STHC \$18.

NDT 4333. Community Nutrition. (3-0) 3 Credit Hours.

Prerequisite: NDT 2043 or equivalent. Nutrition-related issues in public health, various community resources, agencies, and programs involved in health promotion and disease prevention. Course Fees: LRHC \$10; STHC \$18.

NDT 4343. Nutrition in Disease Prevention and Health Promotion. (3-0) 3 Credit Hours.

Prerequisites: NDT 2043 and NDT 4333. An evidence-based analysis as it relates to diet/nutrition in the prevention of chronic diseases; and fundamental concepts in the promotion of health among individuals and groups. Course Fees: LRHC \$10; STHC \$18.

NDT 4353. Medical Nutrition Therapy II. (3-0) 3 Credit Hours.

Prerequisites: Nutrition and Dietetics majors only, and NDT 4323. Continuation of Advanced Medical Nutrition I; and review of the pathophysiology and the application of the nutritional care process in the treatment of more complex human disease and conditions. Course Fees: LRHC \$10; STHC \$18.

NDT 4363. Current Issues in Nutrition. (3-0) 3 Credit Hours.

Prerequisites: NDT 2043 or equivalent; must have senior or graduate standing. In-depth discussion and analysis of emerging trends, concepts, and controversies in nutritional sciences, including application of evidence-based principles in the discussion. Course Fees: LRHC \$10; STHC \$18.

NDT 4943. Special Studies in Nutrition and Dietetics. (3-0) 3 Credit Hours.

Prerequisite: Consent of Instructor. Organized course offering the opportunity for specialized study in an area of nutrition and dietetics not available as part of the regular course offerings. Special Studies may be repeated for credit when topics vary, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. Course Fees: LRHC \$10; STHC \$18.

NDT 4951. Independent Study in Nutrition and Dietetics. (0-0) 1 Credit Hour.

Prerequisite: NDT 2043 or equivalent. An exploration of topics of interest to the student in Nutrition and Dietetics. Students work under the close supervision of a faculty member to conduct research, intense study, or a project related to the selected topic. May be repeated for credit, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. Course Fee: STHC \$6.

NDT 4952. Independent Study in Nutrition and Dietetics. (0-0) 2 Credit Hours.

Prerequisite: NDT 2043 or equivalent. An exploration of topics of interest to the student in Nutrition and Dietetics. Students work under the close supervision of a faculty member to conduct research, intense study, or a project related to the selected topic. May be repeated for credit, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. Course Fee: STSH \$10.

NDT 4953. Independent Study in Nutrition and Dietetics. (0-0) 3 Credit Hours.

Prerequisite: NDT 2043 or equivalent. An exploration of topics of interest to the student in Nutrition and Dietetics. Students work under the close supervision of a faculty member to conduct research, intense study, or a project related to the selected topic. May be repeated for credit, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. Course Fee: STHC \$18.

Philosophy (PHI)

Philosophy (PHI) Courses

PHI 1043. Critical Thinking. (3-0) 3 Credit Hours. (TCCN = PHIL 2303)

Introduces students to principles of informal reasoning, especially in practical contexts. Topics may include: forms of reasoning, decision making, organizing data, forming strategies, giving reasons, inductive reasoning, informal fallacies, and obstacles to sound thinking (perceptual, cultural, emotional, intellectual, and expressive) may also be addressed. May be applied toward the Core Curriculum requirement in Language, Philosophy and Culture. Course Fees: LRC1 \$12; LRLF \$10; STLF \$18.

PHI 2013. Basic Philosophical Problems. (3-0) 3 Credit Hours. (TCCN = PHIL 1301)

Introduction to philosophy through general problems in metaphysics, epistemology, ethics, political philosophy, and philosophy of religion; emphasis on the writings of philosophers of various historical periods, especially as these doctrines apply to contemporary problems. May be applied toward the Core Curriculum requirement in Language, Philosophy and Culture. Generally offered: Spring. Course Fees: LRC1 \$12; LRLF \$10; STLF \$18.

PHI 2023. Introduction to Ancient Philosophy. (3-0) 3 Credit Hours. (TCCN = PHIL 2316)

Introduction to ancient philosophy through the study of Plato, Aristotle, Epicurus, and others; emphasis on the Greek contribution to the moral and political ideas of the Western world. May be applied toward the Core Curriculum requirement in Language, Philosophy and Culture. Course Fees: LRC1 \$12; LRLF \$10; STLF \$18.

PHI 2033. Introduction to Early Modern Philosophy. (3-0) 3 Credit Hours.

Introduction to early modern philosophy from the Renaissance to the Enlightenment through the study of Descartes, Locke, Berkeley, Hume, Spinoza, Leibniz, Kant or others. May be applied toward the Core Curriculum requirement in Language, Philosophy and Culture. Generally offered: Spring. Course Fees: LRC1 \$12; LRLF \$10; STLF \$18.

PHI 2043. Introductory Logic. (3-0) 3 Credit Hours. (TCCN = PHIL 2303)

Introduces students to some of the modern formal systems used to distinguish between good and bad forms of reasoning in either or both of the deductive or inductive realms. Topics may include: translation from natural to formal languages, probability theory, scientific inductive reasoning, Bayesian reasoning, propositional calculus, predicate calculus, other kinds of formal deductive reasoning (e.g., modal, deontic or belief logics), natural deduction and/or other formal proof methods, problems in philosophical logic (denoting, elementary meta-logic, consistency and completeness of formal systems, elementary model theory etc.). May be applied toward the Core Curriculum requirement in the Component Area Option. Generally offered: Fall, Spring. Course Fees: LRC1 \$12; LRLF \$10; STLF \$18.

PHI 2073. Philosophy of Art. (3-0) 3 Credit Hours.

Examination of major philosophical theories of art, beauty, and aesthetic judgment, with emphasis on such problems as form and structure, communication in art, and meaning in aesthetic judgment. May be applied toward the Core Curriculum requirement in Creative Arts.

(Formerly PHI 3053. Credit cannot be earned for both PHI 2073 and PHI 3053.) Course Fees: LRC1 \$12; LRLF \$10; STLF \$18.

PHI 2123. Contemporary Moral Issues. (3-0) 3 Credit Hours.

Examination of major moral theories and how they afford a rational approach to specific moral issues and a rational basis for resolving moral conflict. Emphasis may be placed on medical, social, engineering and business ethics. May not be repeated for credit. May be applied toward the Core Curriculum requirement in Language, Philosophy and Culture. (Formerly titled "Moral Issues in Contemporary America.") Course Fees: DL01 \$75; LRC1 \$12; LRLF \$10; STLF \$18.

PHI 3013. Philosophy of Religion. (3-0) 3 Credit Hours.

Prerequisite: Completion of Core Curriculum requirement in Communication. Examination of traditional religious beliefs and such concepts as faith and knowledge, mysticism and theology, the existence and nature of God, and the relation of religion to experience and social life. Generally offered: Fall. Course Fees: DL01 \$75; LRLF \$10; STLF \$18.

PHI 3033. Philosophy of Science. (3-0) 3 Credit Hours.

Prerequisite: Completion of Core Curriculum requirement in Communication. Examination of major issues in the philosophical foundations of the natural and social sciences, including scientific explanation, laws and theories, probability and induction, and the relation of scientific inquiry to the Western philosophical tradition. Generally offered: Fall. Course Fees: LRLF \$10; STLF \$18.

PHI 3063. Philosophy of Law. (3-0) 3 Credit Hours.

Examination of the major issues in the philosophical foundations of law. Topics may include the nature of law, the interpretation of law, the limits of legal regulation, the nature of the obligation to obey the law, the justification of punishment, and a variety of ethical issues that arise in legal contexts. Recommended for pre-law students. (Formerly PHI 2063. Credit cannot be earned for both PHI 3063 and PHI 2063.) Course Fees: LRLF \$10; STLF \$18.

PHI 3073. Asian Philosophy. (3-0) 3 Credit Hours.

Prerequisite: Completion of Core Curriculum requirement in Communication. Examination of the philosophical and religious traditions of the East, with emphasis on various schools such as Vedanta, Buddhism, Confucianism, and Taoism. Course Fees: LRLF \$10; STLF \$18.

PHI 3083. Philosophy of Mind. (3-0) 3 Credit Hours.

This course examines the answers to the metaphysical question of how mind or consciousness fits into the physical world, also known as the mind body problem. Course Fees: LRLF \$10; STLF \$18.

PHI 3203. Biomedical Ethics. (3-0) 3 Credit Hours.

This course explores the theoretical commitments that underwrite contemporary biomedical ethics and considers how these theoretical commitments play out in the context of specific debates about the permissibility of various medical interventions. Course Fees: LRLF \$10; STLF \$18.

PHI 3213. Ethics. (3-0) 3 Credit Hours.

Prerequisite: Completion of Core Curriculum requirement in Communication. Examination of ethical theory and of the nature and scope of ethical discourse, with emphasis on the concepts of good, human happiness, self-realization, virtue, duty, responsibility, and the means-ends relationship. Reading will include selected classical and contemporary texts. Generally offered: Fall. Course Fees: DL01 \$75; LRLF \$10; STLF \$18.

PHI 3223. Approaches to Knowledge and Reality. (3-0) 3 Credit Hours.

Prerequisite: Completion of Core Curriculum requirement in Communication. Examination of the interrelations between the theory of knowledge and theory of reality, with emphasis on the nature and scope of human knowledge, sensation and understanding, truth and error, change and causality, possibility and actuality, and meaning and existence. Reading will include selected classical and contemporary texts. Generally offered: Spring. Course Fees: LRLF \$10; STLF \$18.

PHI 3303. Nineteenth-Century Philosophy. (3-0) 3 Credit Hours.

Prerequisite: Completion of Core Curriculum requirement in Communication. Examination of some of the major figures and topics in nineteenth-century philosophy and its intellectual background, including (but not limited to) these figures: Kant, Maimon, Bentham, Fichte, Schelling, Schopenhauer, Hegel, Kierkegaard, Marx, Mill, Nietzsche, Peirce, James, Dewey, Emerson, Thoreau; and these topics: philosophical aspects of German romanticism, idealism, utilitarianism, materialism, pragmatism, transcendentalism. Course Fees: LRLF \$10; STLF \$18.

PHI 3343. Issues and Movements in Contemporary Philosophy. (3-0) 3 Credit Hours.

Prerequisite: Completion of Core Curriculum requirement in Communication. Sustained study of one or more specific issues or movements from the end of the nineteenth century to the present day, such as philosophy of language, philosophy of mind, epistemology, political philosophy, theoretical or applied ethics, phenomenology, existentialism, hermeneutics, or postmodernism. May be repeated for credit when topics vary. (Formerly titled "Issues and Movements in Twentieth-Century Philosophy.") Course Fees: LRLF \$10; STLF \$18.

PHI 4113. Contemporary Analytic Philosophy. (3-0) 3 Credit Hours.

Prerequisite: Completion of Core Curriculum requirement in Communication. An in-depth examination of the major trends in the development of the Anglo-American philosophical tradition since its inception at the end of the nineteenth century up to the present day, including the early analysts, the development of logical positivism, and the emergence of nonformal linguistic analysis. Course Fees: LRLF \$10; STLF \$18.

PHI 4123. Contemporary Continental Philosophy. (3-0) 3 Credit Hours.

Prerequisite: Completion of Core Curriculum requirement in Communication. A sustained treatment of the major trends in Continental European philosophy since the end of the nineteenth century up to the present day, including movements such as phenomenology, existentialism, hermeneutics, and postmodernism; emphasis on historical development. Course Fees: LRLF \$10; STLF \$18.

PHI 4333. Philosophy of Language. (3-0) 3 Credit Hours.

Prerequisite: Completion of Core Curriculum requirement in Communication. A critical examination of traditional problems dealing with the nature and function of language. Representative issues include analyticity, reference, proper names, metaphorical meaning, and speech-act theory. Course Fees: LRLF \$10; STLF \$18.

PHI 4911. Independent Study. (0-0) 1 Credit Hour.

Prerequisites: Permission in writing (form available) of the instructor, the student's advisor, the Department Chair, and the Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Course Fees: LRLF \$10; STLF \$6.

PHI 4912. Independent Study. (0-0) 2 Credit Hours.

Prerequisites: Permission in writing (form available) of the instructor, the student's advisor, the Department Chair, and the Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Course Fees: LRLF \$10; STLF \$12.

PHI 4913. Independent Study. (0-0) 3 Credit Hours.

Prerequisites: Permission in writing (form available) of the instructor, the student's advisor, the Department Chair, and the Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Course Fees: LRLF \$10; STLF \$18.

PHI 4953. Special Studies in Philosophy. (3-0) 3 Credit Hours.

Prerequisite: Consent of instructor. Organized course offering the opportunity for specialized study not normally or not often available as part of the regular course offerings. Special Studies may be repeated for credit when topics vary, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. Generally offered: Fall. Course Fees: LRLF \$10; STLF \$18.

PHI 4973. Seminar for Philosophy Majors. (3-0) 3 Credit Hours.

Prerequisite: 12 upper-division semester credit hours in philosophy or consent of the instructor. An advanced investigation of a single author, text, issue, or problem. Primary emphasis on supervised research on various aspects of the topic. May be repeated once for credit when topics vary. Course Fees: LRLF \$10; STLF \$18.

PHI 4991. Honors Thesis. (0-0) 1 Credit Hour.

Prerequisites: Consent of instructor and Department Scholarship and Honors Committee. Supervised research and preparation of an Honors Thesis for the purpose of earning Philosophy Honors. May be repeated once with advisor approval. Course Fees: LRLF \$10; STLF \$6.

PHI 4992. Honors Thesis. (0-0) 2 Credit Hours.

Prerequisites: Consent of instructor and Department Scholarship and Honors Committee. Supervised research and preparation of an Honors Thesis for the purpose of earning Philosophy Honors. May be repeated once with advisor approval. Course Fees: LRLF \$10; STLF \$12.

PHI 4993. Honors Thesis. (0-0) 3 Credit Hours.

Prerequisites: Consent of instructor and Department Scholarship and Honors Committee. Supervised research and preparation of an Honors Thesis for the purpose of earning Philosophy Honors. May be repeated once with advisor approval. Course Fees: LRLF \$10; STLF \$18.

Physics (PHY)

NOTE: All prerequisites for Physics (PHY) courses must be completed with a grade of "C-" or better.

Physics (PHY) Courses

PHY 1013. Universes. (3-0) 3 Credit Hours. (TCCN = PHYS 1310)

Prerequisite: MAT 1023 or MAT 1073 or consent of instructor. This course is an introduction to contemporary physics and cosmology. The goal is to study some of the profound discoveries in fundamental physics made during the 20th century, and how they have shaped our modern conception of the universe and of our place in it. Topics discussed include Einstein's theories of special and general relativity, quantum physics, modern cosmology (including the very early universe), and the standard model of elementary particles and forces. May not be applied toward the B.S. degree in Physics without prior written approval of the department. Course Fees: LRC1 \$12; LRS1 \$45; MEPA \$18; STSI \$21.

PHY 1603. Algebra-based Physics I. (3-0) 3 Credit Hours. (TCCN = PHYS 1301)

Prerequisite: MAT 1023 or MAT 1073 completed with a grade of "C-" or better. Concurrent enrollment in PHY 1611 is recommended. The first of a two-part, algebra-based introduction to physics for biology and other majors that do not require calculus-based physics. Topics include mechanics, thermodynamics, vibrations and waves. Generally offered: Fall, Spring, Summer. Course Fees: LRS1 \$45; MEPA \$18; STSI \$21.

PHY 1611. Algebra-based Physics I Laboratory. (1-4) 1 Credit Hour. (TCCN = PHYS 1101)

Prerequisite: Completion of or concurrent enrollment in PHY 1603. Laboratory accompanies PHY 1603; uses modern data acquisition and analysis tools to study the classic physics experiments that underlie the concepts discussed in PHY 1603. Generally offered: Fall, Spring, Summer. Course Fees: IUP1 \$20; LRS1 \$5; STSI \$7.

PHY 1623. Algebra-based Physics II. (3-0) 3 Credit Hours. (TCCN = PHYS 1302)

Prerequisite: PHY 1603 completed with a grade of "C-" or better. Concurrent enrollment in PHY 1631 is recommended. The second of a two-part, algebra-based introduction to physics for biology and other majors that do not require calculus-based physics. Topics include electricity, magnetism, optics, relativity, and quantum physics. Generally offered: Fall, Spring, Summer. Course Fees: LRS1 \$45; MEPA \$18; STSI \$21.

PHY 1631. Algebra-based Physics II Laboratory. (1-4) 1 Credit Hour. (TCCN = PHYS 1102)

Prerequisites: PHY 1611 completed with a grade of "C-" or better and completion of or concurrent enrollment in PHY 1623. Laboratory accompanies PHY 1623; uses modern data acquisition and analysis tools to study the classic physics experiments that underlie the concepts discussed in PHY 1623. Generally offered: Fall, Spring, Summer. Course Fees: IUP1 \$20; LRS1 \$15; STSI \$7.

PHY 1943. Physics for Scientists and Engineers I. (3-1) 3 Credit Hours. (TCCN = PHYS 2325)

Prerequisites: MAT 1193 or MAT 1214 completed with a grade of "C-" or better; completion of or concurrent enrollment in MAT 1224 (if student took MAT 1214) or STA 1403 (if student took MAT 1193) is required. Concurrent enrollment in PHY 1951 is recommended. The first of a two-part, calculus-based introduction to classical physics, designed for physical sciences, mathematics, and engineering majors. Topics include mechanics and Newton's laws, conservation laws, gravitation, rotational motion and rigid bodies, oscillations and waves. Classes meet weekly for three hours of lecture and one hour of recitation. May apply toward the Core Curriculum requirement in Life and Physical Sciences. (Formerly PHY 1903 and PHY 1904. Credit cannot be earned for more than one of the following: PHY 1903, PHY 1904, or PHY 1943.) Generally offered: Fall, Spring. Course Fees: LRC1 \$12; LRS1 \$45; MEPA \$18; STSI \$21.

PHY 1951. Physics for Scientists and Engineers I Laboratory. (1-4) 1 Credit Hour.

Prerequisite: Completion of, with a grade of "C-" or better, or concurrent enrollment in PHY 1943. Laboratory to accompany PHY 1943; uses modern data acquisition and analysis tools to study the classic physics experiments that underlie the concepts discussed in PHY 1943. (Credit cannot be earned for both PHY 1951 and PHY 1911.) Generally offered: Fall, Spring. Course Fees: IUP1 \$20; LRS1 \$15; STSI \$7.

PHY 1963. Physics for Scientists and Engineers II. (3-1) 3 Credit Hours. (TCCN = PHYS 2326)

Prerequisites: PHY 1943 and MAT 1224 (or MAT 1193 and STA 1403) completed with grades of "C-" or better. Concurrent enrollment in PHY 1971 is recommended. The second of a two-part, calculus-based introduction to classical physics, designed for physical sciences, mathematics, and engineering majors. Topics include an introduction to thermal physics, electricity and magnetism, fundamentals of circuits, electromagnetic induction, AC circuits, electromagnetic waves, and Maxwell's equations. Classes meet weekly for three hours of lecture and one hour of recitation. May apply toward the Core Curriculum requirement in Life and Physical Sciences. (Formerly PHY 1923 and PHY 1924. Credit cannot be earned for more than one of the following: PHY 1923, PHY 1924, or PHY 1963.) Generally offered: Fall, Spring. Course Fees: LRC1 \$12; LRS1 \$45; MEPA \$18; STSI \$21.

PHY 1971. Physics for Scientists and Engineers II Laboratory. (1-4) 1 Credit Hour.

Prerequisites: PHY 1951 completed with a grade of "C-" or better and completion of or concurrent enrollment in PHY 1963. Laboratory to accompany PHY 1963; uses modern data acquisition and analysis tools to study the classic physics experiments that underlie the concepts discussed in PHY 1963. (Credit cannot be earned for both PHY 1971 and PHY 1931.) Generally offered: Fall, Spring. Course Fees: IUP1 \$20; LRS1 \$15; STSI \$7.

PHY 2103. Modern Physics. (3-0) 3 Credit Hours.

Prerequisites: PHY 1963, MAT 2214 (completed with a grade of "C-" or better), and completion of or concurrent enrollment in PHY 3203, or consent of instructor. Topics include special relativity, Planck's Radiation Law, elements of quantum mechanics, atomic and molecular structures, spectra, the atomic nucleus, nuclear reactions, and an introduction to elementary particles. (Formerly PHY 3103. Credit cannot be earned for both PHY 2103 and PHY 3103.) Generally offered: Fall, Spring. Course Fees: LRS1 \$45; STSI \$21.

PHY 2111. Modern Physics Laboratory. (1-4) 1 Credit Hour.

Prerequisites: PHY 1963, PHY 1971, and completion of, with a grade of "C-" or better, or concurrent enrollment in PHY 2103. Laboratory to accompany PHY 2103; Uses modern data acquisition and analysis tools to study the classic physics experiments that underlie the concepts discussed in PHY 2103. Generally offered: Fall, Spring. Course Fees: IUP1 \$20; LRS1 \$15; STSI \$7.

PHY 2823. Mathematical Physics I. (3-0) 3 Credit Hours.

Prerequisites: MAT 2214 and PHY 1963, or consent of instructor. Topics may include vector analysis, introduction to complex variables, Fourier series, ordinary differential equations, linear algebra, and selected application to problems in mechanics and electromagnetic theory. (Formerly PHY 3823. Credit cannot be earned for both PHY 2823 and PHY 3823.) Generally offered: Fall, Spring. Course Fees: LRS1 \$45; MEPA \$18; STSI \$21.

PHY 3203. Classical Mechanics I. (3-0) 3 Credit Hours.

Prerequisites: PHY 1963 and completion of, with a grade of "C-" or better, or concurrent enrollment in PHY 2823, or consent of instructor. Topics include Newtonian mechanics, oscillations, central-force motion, gravitation, Hamiltonian and Lagrangian dynamics. Generally offered: Fall, Spring. Differential Tuition: \$150.

PHY 3293. Thermal Physics. (3-0) 3 Credit Hours.

Prerequisites: PHY 1963 and PHY 2823, or consent of instructor. Topics include fundamentals of thermodynamics: entropy, free energy, phase transitions, and thermodynamic potentials; equilibrium, Maxwell-Boltzmann, Bose-Einstein, and Fermi-Dirac distribution functions; derivation of macroscopic equilibrium thermodynamics from statistical mechanics. Generally offered: Fall. Differential Tuition: \$150.

PHY 3313. Materials Physics. (3-0) 3 Credit Hours.

Prerequisite: PHY 2103 or consent of instructor. Topics covered include crystal structure and band theory, density functional theory, a survey of properties of metals and semiconductors, phonons, electron-phonon interaction and superconductivity. (Formerly titled "Solid State Physics.") Generally offered: Spring. Differential Tuition: \$150.

PHY 3343. Physics Research Laboratory. (0-6) 3 Credit Hours.

Prerequisites: PHY 1971, PHY 2103 and PHY 2111. This course provides students majoring in physics the opportunity to acquire knowledge in advanced experimental techniques gained through actual participation in real-world physics research labs. (Formerly titled "Advanced Physics Laboratory.") Differential Tuition: \$150.

PHY 3423. Electricity and Magnetism. (3-0) 3 Credit Hours.

Prerequisites: PHY 1963, PHY 2823, and completion of (with a grade of "C-" or better) or concurrent enrollment in MAT 3613, or consent of instructor. Topics include vector calculus, electrostatics, magnetostatics, Faraday's Law, and solutions to Laplace's equation. Generally offered: Spring. Differential Tuition: \$150.

PHY 3443. Modern Optics. (3-0) 3 Credit Hours.

Prerequisite: PHY 3423 or consent of instructor. Topics include reflection, refraction, absorption, polarization, and diffraction of light, filters, lasers, nonlinear properties, and Fourier optics. Generally offered: Fall. Differential Tuition: \$150.

PHY 3453. Lasers: Theory and Applications. (3-0) 3 Credit Hours.

Prerequisite: PHY 2103 or consent of instructor. Topics include basic principles and designs of lasers: Einstein A and B coefficients; semiclassical laser theory; the phase-coherent nature of the stimulated emission process; and laser efficiency. Various applications of lasers, such as laser-induced fluorescence, light wave communications, holography, surgery, and laser fusion. Differential Tuition: \$150.

PHY 3513. Electrodynamics. (3-0) 3 Credit Hours.

Prerequisites: PHY 2823 and PHY 3423, or consent of instructor. Continuation of the material started in PHY 3423. Topics include Maxwell's equations, electromagnetic waves, wave guides, and radiation from accelerated charges. Generally offered: Spring. Differential Tuition: \$150.

PHY 3583. Mathematical Physics II. (3-0) 3 Credit Hours.

Prerequisite: PHY 2823 or consent of instructor. Topics may include series solutions of differential equations, partial differential equations of physics, special functions, integral transforms and introduction to tensor calculus. Applications may include topics in classical and quantum mechanics, electrostatics and electrodynamics. (Formerly PHY 4823. Credit cannot be earned for both PHY 3583 and PHY 4823.) Generally offered: Spring. Differential Tuition: \$150. Course Fee: MEPA \$18.

PHY 3603. Cosmology. (3-0) 3 Credit Hours.

Prerequisites: PHY 1963 and PHY 2103, or consent of instructor. This course is an introduction to physical cosmology. Topics include large-scale structure, expansion and age of the universe; non-Euclidean spaces, big bang cosmology, baryogenesis, nucleosynthesis, and cosmic microwave background radiation; particle physics and inflationary cosmology. (Formerly PHY 4033. Credit cannot be earned for both PHY 3603 and PHY 4033.) Differential Tuition: \$150. Course Fee: MEPA \$18.

PHY 4013. Relativity: Special and General. (3-0) 3 Credit Hours.

Prerequisites: PHY 2823 and PHY 3203, or consent of instructor. Topics include special relativity: Lorentz transformations, four-vectors, geometry of flat space-time, relativistic dynamics. General relativity: Principle of equivalence, introduction to tensor calculus, Einstein's field equations, Schwarzschild's solution, black holes. Introduction to cosmology. Differential Tuition: \$150.

PHY 4263. Quantum Mechanics I. (3-0) 3 Credit Hours.

Prerequisites: PHY 2103, PHY 3203, MAT 2233, and completion of or concurrent enrollment in PHY 3583, or consent of instructor. Topics include the time-independent Schrodinger equation; operator methods, and the postulates of quantum mechanics; one-dimensional potentials; quantum harmonic oscillator; angular momentum and spin; entanglement and its applications; quantum mechanics in three dimensions and the hydrogen atom. Generally offered: Fall, Spring. Differential Tuition: \$150.

PHY 4423. Quantum Mechanics II. (3-0) 3 Credit Hours.

Prerequisite: PHY 3583 and PHY 4263, or consent of instructor. Topics include identical particles; time-independent perturbation theory; WKB approximation, time-dependent perturbation theory, the variational principle; the adiabatic approximation and Berry's phase; scattering. Generally offered: Spring. Differential Tuition: \$150.

PHY 4623. Nanotechnology. (3-0) 3 Credit Hours.

Prerequisite: PHY 2103 or consent of instructor. This course will describe the fundamentals of nanotechnology, including properties of matter at the nanometric size. Differential Tuition: \$150.

PHY 4833. Molecular Biophysics. (3-0) 3 Credit Hours.

Prerequisites: CHE 1113 and one of the following: PHY 2103, CHE 3804, or CHE 3854. Topics include interaction between molecules, principles of thermodynamics (enthalpy, entropy, free energy) applied to biomolecules, Brownian motion and diffusion of molecules, structure of proteins, and principles of quantum mechanics. Biophysical techniques: absorption spectroscopy, transient absorption, fluorescence spectroscopy, fluorescence lifetime, FTIR spectroscopy, linear and circular dichroism, x-ray crystallography, and atomic force microscopy. Generally offered: Spring. Differential Tuition: \$150.

PHY 4911. Independent Study. (0-0) 1 Credit Hour.

Prerequisite: Permission in writing (form available) of the instructor, the student's advisor, the Department Chair, and Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree in physics. Differential Tuition: \$50.

PHY 4913. Independent Study. (0-0) 3 Credit Hours.

Prerequisite: Permission in writing (form available) of the instructor, the student's advisor, the Department Chair, and Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree in physics. Generally offered: Spring. Differential Tuition: \$150.

PHY 4953. Special Studies in Physics. (3-0) 3 Credit Hours.

Prerequisite: Consent of instructor. An organized course offering the opportunity for specialized study not normally or not often available as part of the regular course offerings. Special Studies may be repeated for credit when the topics vary, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. Generally offered: Spring. Differential Tuition: \$150.

PHY 4983. Unifying Concepts in Physics. (3-0) 3 Credit Hours.

Prerequisites: PHY 3293, PHY 3513, PHY 4263, and completion with a grade of "C-" or better or concurrent enrollment in PHY 3583, or consent of instructor. This advanced course is designed to help the students develop a more mature and coherent understanding of the whole discipline through an in-depth exploration of the major branches of physics and their theoretical interconnections. Generally offered: Fall. Differential Tuition: \$150. Course Fee: MEPA \$18.

PHY 4993. Honors Research. (0-0) 3 Credit Hours.

Prerequisites: Enrollment limited to candidates for College Honors during their last two semesters; approval by the College Honors Committee. Supervised research and preparation of an honors thesis. May be repeated once with approval. Differential Tuition: \$150.

Political Science (POL)

Political Science (POL) Courses

POL 1013. Introduction to American Politics. (3-0) 3 Credit Hours. (TCCN = GOVT 2305)

This course provides an introduction to American politics. The course centers on the fundamental role played by the institutions of American government including Congress, the Presidency, Federal Judiciary, and the Bureaucracy in understanding political dynamics in the United States. The course also examines public opinion and participation as inputs to the institutions of American government, and the mediating role of organizations such as interest groups, the news media, and political parties. Considerable time is devoted to thinking about how these components fit together, and how they shape the nature and importance of citizenship and civic engagement. The course also makes connections between politics at the federal level of government and the political institutions and processes of the state of Texas. This course is required to fulfill the Core Curriculum requirement in Government-Political Science. Generally offered: Fall, Spring, Summer. Course Fees: DL01 \$75; LRC1 \$12; LRLF \$10; STLF \$18.

POL 1133. Texas Politics and Society. (3-0) 3 Credit Hours. (TCCN = GOVT 2306)

This course involves the analysis of Texas government institutions, political behavior, civic engagement and their political and philosophical foundations. Topics may include discussions of the Texas and U.S. Constitutions; the role of state in the federal system; the diverse demographic, economic, and cultural bases of state politics; elections, interest groups, and elites; and legislative, executive, judicial, urban, and county politics. Considerable time is devoted to thinking about how these components fit together, and how they shape the nature and importance of citizenship and civic engagement in Texas. May be applied toward the Core Curriculum requirement in Government-Political Science. Generally offered: Fall, Spring, Summer. Course Fees: DL01 \$75; LRC1 \$12; LRLF \$10; STLF \$18.

POL 1213. Civil Rights in Texas and America. (3-0) 3 Credit Hours. (TCCN = GOVT 2306)

This course presents the central elements of traditional introductory political science courses on Texas politics using an alternative, contextual method that teaches students to understand broader political and legal subjects through the lens of civil rights issues and struggles. May be applied toward the Core Curriculum requirement in Government-Political Science. (Formerly titled "Studies in Texas and American Politics.") Course Fees: DL01 \$75; LRC1 \$12; LRLF \$10; STLF \$18.

POL 2403. Mexican American Politics. (3-0) 3 Credit Hours.

The study of Mexican American and other Latino/a group participation in the American experience. Topics include Mexican American and Latinos/as in the electoral process, political and economic institutions, political behavior and opinion, civil rights, representation, social movements, and contemporary public policy debates. (Formerly POL 3093. Credit cannot be earned for both POL 2403 and POL 3093). Course Fees: LRLF \$10; STLF \$18.

POL 2503. Introduction to Political Theory. (3-0) 3 Credit Hours.

Prerequisite: POL 1013. An introduction to important works in the history of political thought. Topics examined may include justice, ethics, freedom, agency, leadership, political regimes, and the origins of political communities. Generally offered: Fall, Spring. Course Fees: LRLF \$10; STLF \$18.

POL 2513. Politics and the Administrative Process. (3-0) 3 Credit Hours.

Prerequisite: POL 1013. The role of bureaucratic agencies in the formulation and implementation of public policy. Organization theory and administration in the public sector. While the approach of the course is comparative, special emphasis is placed on bureaucracy in the United States. (Formerly titled "Public Administration and Public Policy.") Course Fees: LRLF \$10; STLF \$18.

POL 2533. Introduction to Political Science. (3-0) 3 Credit Hours. (TCCN = GOVT 2304)

Prerequisite: POL 1013. An introduction to the discipline of political science, with particular emphasis devoted to its development from 1880 to the present. Topics may include types of political institutions, uses of political science, participation by political scientists in public affairs or public policy, and career options available to political science majors. Generally offered: Spring. Course Fees: LRLF \$10; STLF \$18.

POL 2603. Introduction to Global Politics. (3-0) 3 Credit Hours.

Prerequisite: GLA 1013 or POL 1013. This course provides an overview of the intellectual development of the field of international relations and world affairs in the context of globalization. The course examines interactions among the actors of global politics - states, non-state actors, and institutions - in an interconnected world. It introduces students to basic theoretical frameworks and concepts including but not limited to discussions of levels of analysis, order, governance, and international organization. Specific topics may include conflict and security, war and peace, transnational terrorism, humanitarian intervention and peacekeeping operations, international human rights, globalization, climate change, international aid and trade, international finance, and democracy promotion. (Same as GLA 2603. Credit cannot be earned for both POL 2603 and GLA 2603.) Course Fees: DL01 \$75; LRLF \$10; STLF \$18.

POL 2623. Law and Society. (3-0) 3 Credit Hours.

Prerequisite: POL 1013. An examination of the nature of law, its role in sociopolitical systems, and the institutional components of legal systems. Theories and systems of law examined may include natural, constitutional, common, civil, customary, socialist, and theocratic law. May employ a comparative or historical framework for understanding the variety of institutional arrangements through which systems of law are implemented. (Same as PAL 2623. Credit cannot be earned for both PAL 2623 and POL 2623.) Generally offered: Fall. Course Fees: DL01 \$75; LRLF \$10; STLF \$18.

POL 2633. Comparative Politics. (3-0) 3 Credit Hours.

Prerequisite: GLA 1013 or POL 1013. A comparative examination of the diverse forms, goals, styles, and practices of government in democratic and authoritarian states. Several major polities will be studied in detail. Topics may include political development and modernization, dependency and development, conflict, civil wars, coups and terrorism. (Same as GLA 2633. Credit cannot be earned for both GLA 2633 and POL 2633.) Course Fees: LRLF \$10; STLF \$18.

POL 2693. Designing Research in Political Science. (3-0) 3 Credit Hours.

Prerequisite: POL 1013. A practical introduction to understanding, interpreting, assessing, and developing research designs in Political Science. Students will be introduced to the different elements of research design and inquiry, including the development of research questions, techniques of operationalization and measurement, and methods of analysis. Topics may also include major theoretical approaches and philosophical debates related to social science inquiry to make students aware of the diversity of research approaches that characterizes Political Science in order to utilize and apply this knowledge in their curriculum. Generally offered: Fall, Spring. Course Fees: LRLF \$10; STLF \$18.

POL 2703. Quantitative Methods in Political Science. (3-0) 3 Credit Hours.

Prerequisite: POL 1013. An introduction to fundamental quantitative analysis geared to provide the student knowledge and skills applicable for graduation and beyond. Emphasis will be placed on literacy and basic proficiency in statistical topics and techniques (e.g., classic hypothesis testing, univariate through multivariate analyses); and, data management (e.g., entry and manipulation) and graphical presentation of analysis. Standard statistical software packages will be used. Generally offered: Fall, Spring. Course Fees: LRLF \$10; STLF \$18.

POL 3013. The American Legal Process. (3-0) 3 Credit Hours.

Prerequisite: POL 1013. An introduction to how the United States legal system is organized and functions. A broad overview of the system and its actors is combined with a focus on particular areas of the law such as domestic relations, personal injury liability litigation, criminal procedure, and alternative dispute resolution. (Same as PAL 3013. Credit cannot be earned for both PAL 3013 and POL 3013.) Generally offered: Fall. Course Fees: LRLF \$10; STLF \$18.

POL 3033. Global Governance. (3-0) 3 Credit Hours.

Prerequisite: GLA 1013 or POL 1013. International law, organizations, regimes, hierarchies, and norms such as sovereignty govern the international system. These factors help create a world order that limits armed conflict, regulates the world economy, advances environmental protection, and sets human rights standards among a broad range of actors including nation states, civil society, the private sector and many more. This course explains theories of global governance and compares these perspectives to the analysis of political scientists on the past record and likely future of world order. (Formerly International Governance.) (Same as GLA 3033. Credit cannot be earned for both POL 3033 and GLA 3033.) Generally offered: Summer. Course Fees: LRLF \$10; STLF \$18.

POL 3043. International Human Rights. (3-0) 3 Credit Hours.

Prerequisite: POL 1013. This course explores the philosophical and political meaning of fundamental human rights; cases of human rights violations (such as genocide in the Holocaust, Rwanda, Kosovo, and Cambodia; the death penalty; female genital mutilation; violations of workers' rights; and torture); and the role that states, international organizations and individuals can play in ending human rights abuses. Course readings may include contemporary theories of human rights and case studies on the enforcement of rights around the world. (Same as GLA 3043. Credit cannot be earned for both POL 3043 and GLA 3043.) Course Fees: LRLF \$10; STLF \$18.

POL 3103. Contemporary Theories of Justice. (3-0) 3 Credit Hours.

Prerequisite: POL 1013. An exploration of competing contemporary accounts of the political, economic, and cultural components of a just society. Some of the following theories will be discussed: libertarianism, liberalism, socialism, Marxism, communitarianism, multiculturalism, feminism, critical race perspectives, and environmentalism. (Formerly titled "Political Ideology.") Course Fees: LRLF \$10; STLF \$18.

POL 3113. American Political Thought. (3-0) 3 Credit Hours.

Prerequisite: POL 1013. Consideration of American political thought with an emphasis on primary sources. Readings may include the works of Winthrop, Madison, Hamilton, Jefferson, Tocqueville, Calhoun, Lincoln, Melville, Twain, Douglass, DuBois, Addams, Croly, Wilson, Roosevelt, MLK, Malcolm X, and other diverse works of a political, philosophical, or literary nature. May be organized chronologically or topically. Generally offered: Spring. Course Fees: LRLF \$10; STLF \$18.

POL 3123. Political Psychology. (3-0) 3 Credit Hours.

Prerequisite: POL 1013. Political psychology seeks to explain the behavior of political leaders and mass publics by focusing on the psychological underpinnings of such behavior—their personalities, identities, values, attitudes, and feelings. Attention will be given to the interaction of these factors within different political environments. Topics may include political socialization; personality and political leadership; the psychology of small group decision making; the psychology of mass participation; and affect and cognition in political judgment. Generally offered: Spring. Course Fees: LRLF \$10; STLF \$18.

POL 3133. Political Philosophy: Ancient and Medieval. (3-0) 3 Credit Hours.

Prerequisite: POL 1013. The major works of Western political philosophy from ancient times to the Renaissance. Writers examined may include Plato, Aristotle, Thucydides, Augustine, and Machiavelli. Course Fees: LRLF \$10; STLF \$18.

POL 3143. Political Philosophy: Modern. (3-0) 3 Credit Hours.

Prerequisite: POL 1013. The major works of political philosophy from the Renaissance to the 19th century. Writers examined may include Hobbes, Locke, Rousseau, Hegel, Marx, and Mill. Course Fees: LRLF \$10; STLF \$18.

POL 3153. Political Philosophy: Contemporary. (3-0) 3 Credit Hours.

Prerequisite: POL 1013. Political thought from the late 19th century to the present. Topics examined may include contemporary Marxism and critical theory, analytic political theory, positivism and social science, phenomenological approaches, existentialism, and contemporary ethics. Course Fees: LRLF \$10; STLF \$18.

POL 3173. Justice and Social Policy. (3-0) 3 Credit Hours.

Prerequisite: POL 1013. This course examines social policies relating to the family, education, health care, old age, poverty, and other issues from a normative or social justice perspective. Questions that this course addresses may include: What role, if any, should the state play in the family? What should be the goals of a just education system? Should the United States support universal health care? What responsibility, if any, does society have toward the poor? Course Fees: LRLF \$10; STLF \$18.

POL 3183. Women in Politics. (3-0) 3 Credit Hours.

Prerequisite: POL 1013. An examination of the roles and forms of participation of women in contemporary American politics. Topics may include the fight for civil rights and equality; media portrayals of women in politics; women as candidates and as voters; women as elected officials, activists, and political professionals; and women in the military, including theories of gender and war. Course Fees: LRLF \$10; STLF \$18.

POL 3203. African American Political Thought. (3-0) 3 Credit Hours.

Prerequisite: POL 1013. This course examines the political thought of African Americans from the ante-bellum era to the present. May include the works of Frederick Douglass, Booker T. Washington, W.E.B. Dubois, Ida B. Wells, Marcus Garvey, Richard Wright, Ralph Ellison, Martin Luther King, Jr., Malcolm X, Angela Davis, Cornell West, Shelby Steele, Clarence Thomas, Lani Guinier, Eldridge Cleaver, Barack Obama, and others. Course Fees: LRLF \$10; STLF \$18.

POL 3223. Judicial Politics. (3-0) 3 Credit Hours.

Prerequisite: POL 1013. Topics may include political behavior of the major participants in the judicial process; the development of judicial institutions and processes; the political and administrative context of the judicial process; judicial-executive and judicial-legislative relations; and the impact of judicial decisions. (Same as PAL 3223. Credit cannot be earned for both PAL 3223 and POL 3223.) Generally offered: Spring. Course Fees: LRLF \$10; STLF \$18.

POL 3244. Mass Media and Public Opinion. (3-2) 4 Credit Hours.

Prerequisite: POL 1013. Explores the acquisition of political attitudes, the role of the mass media in society and politics, and the relationship between political attitudes and values, the mass media, and public policy. (Formerly POL 3243. Credit cannot be earned for both POL 3244 and POL 3243.) Generally offered: Fall. Course Fees: LRLF \$10; MST1 \$30; STLF \$18.

POL 3253. Participation and American National Elections. (3-0) 3 Credit Hours.

Prerequisite: POL 1013. An introduction to fundamentals of American electoral politics. Topics will include psychological, sociological and economic models of participation, the presidential primary process, the effectiveness of presidential and congressional campaigns on the vote, psychological/sociological and economic models of the presidential and congressional vote, the incumbency advantage in congressional elections, spending in congressional elections, candidate entry, and comparison of House and Senate elections. Course Fees: LRLF \$10; STLF \$18.

POL 3283. The American Presidency. (3-0) 3 Credit Hours.

Prerequisite: POL 1013. The U.S. president's role in the American political system. Topics may include the constitutional framework and historical development of presidential powers, presidential personality, and legislative, foreign policy, and war-making powers. Generally offered: Spring. Course Fees: LRLF \$10; STLF \$18.

POL 3293. Political Movements. (3-0) 3 Credit Hours.

Prerequisite: POL 1013. This course examines the origins, mobilizing tactics, and goals of political movements. Movements that may be investigated are the movements of labor, students, women, blacks, environmentalists, and others. Course Fees: LRLF \$10; STLF \$18.

POL 3303. Race and American Politics. (3-0) 3 Credit Hours.

Prerequisite: POL 1013. What is the role of racial and ethnic identities in American political life? Why is this so often a difficult topic for Americans to engage when discussing their political views and actions? Can the United States accurately be described as a democratic country in relation to ethnic and racial divisions? If not, what more is required before such a description is accurate? These are among the central questions that we will address in this course. The premise of the course is that racial and ethnic divisions are among the most important fault lines in American politics, and that we cannot fully understand the country's politics without a deeper understanding of the causes, effects, and meanings of these divisions and the roles they play in our politics. Course Fees: LRLF \$10; STLF \$18.

POL 3313. The Supreme Court. (3-0) 3 Credit Hours.

Prerequisite: POL 1013. This course examines the U.S. Supreme Court as a political and legal institution. Topics may include the colonial and English antecedents to the Supreme Court, its constitutional origins in the framing and ratification debates, major episodes in its development from the early republic to the present, its role within the federal judiciary, its impact on party politics and political culture, and its relationship to Congress, the executive branch, and the state courts. (Same as PAL 3313. Credit cannot be earned for both PAL 3313 and POL 3313.) Course Fees: LRLF \$10; STLF \$18.

POL 3323. Constitutional Law I. (3-0) 3 Credit Hours.

Prerequisite: POL 1013. An examination of constitutional questions arising from the institutional features of American government, including electoral processes, separation of powers, and federalism. Emphasizes judicial opinions and other primary sources. May be organized chronologically or topically. Generally offered: Fall. Course Fees: LRLF \$10; STLF \$18.

POL 3333. Constitutional Law II. (3-0) 3 Credit Hours.

Prerequisite: POL 1013. An examination of constitutional questions arising from the protection of rights and liberties in the American political system. Topics may include religious liberty, free speech, voting, property rights, due process, equal protection, and rights of the accused. Emphasizes judicial opinions and other primary sources. May be organized chronologically or topically. (Replaces POL 3023 Civil Liberties in American Law and Practice.) Course Fees: LRLF \$10; STLF \$18.

POL 3363. Political Parties and Interest Groups. (3-0) 3 Credit Hours.

Prerequisite: POL 1013. An examination of the purpose of political parties in the political process. Interest groups and their roles in government and public policy. Course Fees: LRLF \$10; STLF \$18.

POL 3373. The Legislative Process. (3-0) 3 Credit Hours.

Prerequisite: POL 1013. An examination of the functions, structures, and politics of legislatures and their relationships to their constituencies and other branches of government. Course Fees: LRLF \$10; STLF \$18.

POL 3383. East European Politics. (3-0) 3 Credit Hours.

Prerequisite: POL 1013. This course provides an overview of politics in Eastern Europe broadly understood as the region of East Central and Southeastern Europe, and the post-Soviet space. It traces the evolution of nation building since the interwar period and the system of communist rule, with a focus on key dimensions of the post-communist transformation of the region. Thematic coverage may include constitutions, political culture, party politics, and Euro-Atlantic integration. (Same as GLA 3383. Credit cannot be earned for POL 3383 and GLA 3383.) Course Fees: LRLF \$10; STLF \$18.

POL 3393. Latin American Politics. (3-0) 3 Credit Hours.

Prerequisite: POL 1013. This course examines trends and variations in political development in Latin America during the last century. The main focus is on the interaction between states and citizens, social relations, and economic development. This course examines issues affecting Latin America as a whole, but readings and lectures will also explore individual countries within the region. (Same as GLA 3393. Credit cannot be earned for both POL 3393 and GLA 3393.) Course Fees: LRLF \$10; STLF \$18.

POL 3403. European Governments. (3-0) 3 Credit Hours.

Prerequisite: POL 1013. The interplay of politics with the changing social and economic environment in the advanced industrial societies of Western Europe. Elites, participation, governmental structures, party systems, interest groups, and public policy will be examined in several selected polities and the European Union. (Same as GLA 3403. Credit cannot be earned for both POL 3403 and GLA 3403.) Course Fees: LRLF \$10; STLF \$18.

POL 3413. Urban Development: Politics Planning, and Power. (3-0) 3 Credit Hours.

The study of urbanization as a general process from multi-disciplinary perspectives - political, economic, geographic, and social. We will analyze urban change dynamics (both growth and stagnation) and study urban regimes with an emphasis on the history and current forms of spatial and social segregation of cities by race, class, ethnicity, culture, and gender. Case studies may be drawn from Texas urban areas, including San Antonio and Austin. (Formerly titled "The Politics of Urban Development.") (Same as GES 3563 and GES 3573. Credit can only be earned for one course: GES 3573, GES 3563, or POL 3413.) Course Fees: LRLF \$10; STLF \$18.

POL 3423. Geopolitics of Russia and Eurasia. (3-0) 3 Credit Hours.

Prerequisite: POL 1013. Multidisciplinary introduction and regional study of the Russian Federation and the Eurasian realm, including the Caucasus, Central Asian nations, Afghanistan, and Mongolia. Both the geography and the politics of this area will be analyzed. Historical and contemporary geopolitical topics include nation-building, regional civilizations, revolution, terrorism, the 19th-century Great Game, the rise of the USSR, and the current transition of the Russian Federation to an uncertain future. (Same as GLA 3423 and GES 3423. Credit cannot be earned for more than one of the following: GLA 3423, GES 3423, GRG 3423, or POL 3423.) Course Fees: LRLF \$10; STLF \$18.

POL 3433. Governments and Politics of Southeast Asia. (3-0) 3 Credit Hours.

Prerequisite: POL 1013. A comparative examination of the political systems of selected Southeast Asian countries and their efforts to deal with political, economic, and social change. Countries studied may include Indonesia, Malaysia, the Philippines, Singapore, Thailand, and Vietnam. (Same as GLA 3433. Credit cannot be earned for both POL 3433 and GLA 3433.) Generally offered: Spring. Course Fees: LRLF \$10; STLF \$18.

POL 3443. Governments and Politics of East Asia. (3-0) 3 Credit Hours.

Prerequisite: POL 1013. A comparative examination of the political systems of selected East Asian countries and their efforts to deal with problems of political, economic, and social change. Countries studied may include the People's Republic of China, the Republic of China, and South Korea. (Same as GLA 3443. Credit cannot be earned for both POL 3443 and GLA 3443.) Course Fees: LRLF \$10; STLF \$18.

POL 3453. Politics of Mexico. (3-0) 3 Credit Hours.

Prerequisite: POL 1013. This course is an introduction to contemporary Mexican politics. It begins with a review of Mexico's history since independence, and then moves on to study the key challenges in Mexican political development. The course focuses on identifying the key players and institutions involved in Mexican politics, and will evaluate the nature of Mexico's recent democratic transition/consolidation process. (Same as GLA 3453. Credit cannot be earned for both POL 3453 and GLA 3453.) Course Fees: LRLF \$10; STLF \$18.

POL 3463. Politics of the Developing World. (3-0) 3 Credit Hours.

Prerequisite: GLA 1013 or POL 1013. The class introduces the political and economic systems of various developing nations and relates them to those of developed nations. It provides students with the opportunity for inquiry into the political and economic problems of these countries, such as development, instability, and political change. (Formerly Politics of the Third World.) (Same as GLA 3463. Credit cannot be earned for both POL 3463 and GLA 3463.) Course Fees: LRLF \$10; STLF \$18.

POL 3473. Latin America in the World. (3-0) 3 Credit Hours.

Prerequisites: POL 1013 and one of the following: POL 3393, POL 3453, HIS 2533; or consent of instructor. Advanced survey of major theories and problems in Latin American political and economic development, theories of dependency, corporatism, bureaucratic authoritarianism, and transitions of democracy. Selected problems such as political stability, land reform, economic integration, multinational corporations, inflation, foreign debt, revolution and reform, and the military in politics. (Same as GLA 3473. Credit cannot be earned for both GLA 3473 and POL 3473. Formerly titled "Theories and Problems in Latin American Politics.") Course Fees: LRLF \$10; STLF \$18.

POL 3483. International Political Economy. (3-0) 3 Credit Hours.

Prerequisite: POL 1013. This course is an introduction to the theories, institutions and policies that govern international economic relations. Students will study the development of the international economic system as well as controversies over money, trade, and governance. Further topics may include globalization, development, regional and global institutions and multinational enterprises. (Same as GLA 3483. Credit cannot be earned for both POL 3483 and GLA 3483.) Course Fees: LRLF \$10; STLF \$18.

POL 3493. Politics of the Middle East. (3-0) 3 Credit Hours.

Prerequisite: POL 1013. An examination of the past, present, and future of Middle East politics, with an emphasis on culture, politics, religion, and conflicts in the area; the international relations of Middle Eastern countries as well as superpowers' involvement. (Same as GLA 3493. Credit cannot be earned for both POL 3493 and GLA 3493.) Course Fees: LRLF \$10; STLF \$18.

POL 3503. American Foreign Policy since World War II. (3-0) 3 Credit Hours.

Prerequisite: GLA 1013 or POL 1013. The class offers students to study theories and the history of US foreign policy. This may include an examination of major public institutions involved in foreign policy making as well as private interests influencing American foreign policy. Further topics may include public opinion and foreign involvement, specific policies toward international organizations and major world regions, as well as issue areas such as security, global economy, human rights and developments and the global environment. (Same as GLA 3503. Credit cannot be earned for both POL 3503 and GLA 3503.) Course Fees: DL01 \$75; LRLF \$10; STLF \$18.

POL 3513. International Organizations in World Politics. (3-0) 3 Credit Hours.

Prerequisite: GLA 1013 or POL 1013. The class provides students with the opportunity to study the role of international organizations in world politics. Special attention is given to the practice and theory of intergovernmental organizations in areas such as security, global economy, development and human rights and the global environment. Theories may include traditional IR and organizational theories. Organizations examined may include the United Nations system, regional organizations, development banks, security alliance systems, and common markets. (Same as GLA 3513. Credit cannot be earned for both POL 3513 and GLA 3513.) Generally offered: Fall. Course Fees: LRLF \$10; STLF \$18.

POL 3523. Force in International Politics. (3-0) 3 Credit Hours.

Prerequisite: POL 1013. This course engages with experiences of violence in international relations. It provides an examination of modern research into the use of coercion in international relations with a focus on economic sanctions, war, and terrorism. Special emphasis will be placed on the causes, trends, and consequences of interstate wars. Topics may include armed conflict, trauma and suffering, laws of war, representation of war in media, peace movements, and the technologies of peace making. (Same as GLA 3523. Credit cannot be earned for both POL 3523 and GLA 3523.) Course Fees: LRLF \$10; STLF \$18.

POL 3553. The Welfare State in Comparative Perspective. (3-0) 3 Credit Hours.

Prerequisite: POL 1013. History and development of social policies in modern societies. Policy areas covered may include pensions, health care, income maintenance, housing, education, training, and childcare. (Formerly titled "Social Policy in Modern Welfare States.") Generally offered: Spring. Course Fees: LRLF \$10; STLF \$18.

POL 3563. Current Issues in World Politics. (3-0) 3 Credit Hours.

Prerequisite: POL 1013. An examination of the issues that divide the people of the world. The structure of contemporary world problems will be studied and possible strategies for the reduction of international conflict will be assessed. Topics may include nuclear proliferation, world hunger, revolution and intervention, transnational enterprises, competing ideologies of international relations, and global ecology. (Same as GLA 3563. Credit cannot be earned for both POL 3563 and GLA 3563.) Course Fees: LRLF \$10; STLF \$18.

POL 3583. Jurisprudence. (3-0) 3 Credit Hours.

Prerequisite: POL 1013. An inquiry into the nature of law and legal obligation with emphasis on relevant works of political philosophy and those of important jurists. Works covered in the course may represent natural law, positivist, realist, theocratic, and critical perspectives on law. (Formerly POL 4153. Same as PAL 3583. Credit cannot be earned for both POL 3583 and POL 4153 or PAL 3583.) Course Fees: LRLF \$10; STLF \$18.

POL 3593. Topics in Latin American Security. (3-0) 3 Credit Hours.

Prerequisite: POL 1013 or GLA 1013. This seminar examines key questions for regional security in Latin America. Although drawing on scholarly and historical materials, this course focuses essentially on contemporary regional security and includes general topics, such as regional security, peace and war in Latin America, civil-military relations, drug trafficking, and public security. The cases are selected in part to provide geographical balance and contemporary relevance, but also to demonstrate the contrasts between traditional and emerging security questions in the region. (Same as GLA 3593. Credit cannot be earned for both GLA 3593 and POL 3593.) Course Fees: LRLF \$10; STLF \$18.

POL 3633. Political Economy. (3-0) 3 Credit Hours.

Prerequisite: POL 1013. The political, legal, and ethical context of modern commercial society is explored through the evolution of conceptions of the economy, the individual, and the state. Topics may include the institutional foundations of market societies, ethical and legal impact of business practices, comparisons of national economic policies, the interaction of modern government and economic activity, and the impact of markets on concepts of public and private life. (Same as GLA 3633. Credit cannot be earned for both POL 3633 and GLA 3633.) Generally offered: Fall. Course Fees: LRLF \$10; STLF \$18.

POL 3643. Justice among Nations. (3-0) 3 Credit Hours.

Prerequisite: POL 1013. An examination of different theories of justice between states and/or the citizens of different states. Topics may include just war theory; cosmopolitan and anti-cosmopolitan debates; theories of human rights and the challenges to them; multiculturalism; diverse religious or cultural views on justice in world affairs. May be repeated for credit when topics vary. Course Fees: LRLF \$10; STLF \$18.

POL 3743. Politics in Film. (3-0) 3 Credit Hours.

Prerequisite: POL 1013. This course examines the role of film in the political process and in the broader political development of the United States and other countries. Students will study how American and international films operate as information, propaganda, and entertainment. Course Fees: LRLF \$10; STLF \$18.

POL 3763. Globalization. (3-0) 3 Credit Hours.

Prerequisite: GLA 1013 or POL 1013. This course examines normative and empirical issues in globalization, such as the role of states and non-state actors, the emergence of global civil society, patterns of international development, the influence of international integration on security, health, violence, and the role of institutions for global politics. Further topics may include theories and debates on the scale and impact of globalization, backlash and resistance, as well as future trajectories. (Same as GLA 3763 and INS 3763. Credit cannot be earned for more than one of the following: POL 3763, GLA 3763, or INS 3763.) Generally offered: Summer. Course Fees: LRLF \$10; STLF \$18.

POL 3773. Experiments in Democratic Renewal. (3-0) 3 Credit Hours.

Prerequisite: POL 1013. This course examines experiments with popular participation around the world that use various techniques to solve public problems and deepen democracy. The setting of these experiments is the double movement of globalization of the economy and bureaucratic government. Experts and activists have turned to learning processes and direct action. The course examines reform experiments in the United States as well as other countries in Latin America, Europe, South Asia, and elsewhere. The course will examine debates about the political and ethical foundations of the experiments as well as the efficacy of new decision-making techniques. Policy cases may include schooling, environmental protection, policing, housing, drug rehabilitation, sweatshop labor, community finance, women's development, and public budgeting. Course Fees: LRLF \$10; STLF \$18.

POL 3783. Democracy and World Politics. (3-0) 3 Credit Hours.

Prerequisite: POL 1013. This course examines theories of democratic transition and focuses on the problematics of democratic change throughout the world. Case studies may include political change after the end of the Cold War in the former Communist states, democratic transitions in Latin America, patterns of change in sub-Saharan Africa, the Middle East, and south Asia. (Same as GLA 3783. Credit cannot be earned for both POL 3783 and GLA 3783.) (Formerly titled "Comparative Democratization.") Course Fees: LRLF \$10; STLF \$18.

POL 3813. Politics of Federal Justice Policy Making. (3-0) 3 Credit Hours.

Prerequisite: POL 1013. This course examines the intersections of politics and legal institutions of the federal government. Consideration will be given to major historical and political developments mainly associated with policy decisions of the federal executive and the federal judiciary in carrying out constitutional and statutory obligations in civil and criminal enforcement, adjudication, and punishment. Special emphasis will be given to how federal justice policies are formed, implemented, and evaluated by presidents, Congress, and the federal courts in policy areas such as civil rights, privacy and surveillance, interstate and international criminal organizations, investigative practices, prosecutorial effectiveness, and civil and criminal penalties/sanctions. (Same as PAL 3813. Credit cannot be earned for both PAL 3813 and POL 3813.) Course Fees: LRLF \$10; STLF \$18.

POL 3823. Politics of Congressional Elections. (3-0) 3 Credit Hours.

Prerequisite: POL 1013. An introduction to the politics of congressional elections. Topics include determinants of national election outcomes, campaigning for Congress, strategic behavior, primary elections, the incumbency advantage, money in congressional elections, Senate versus House comparisons, and representation. Course Fees: LRLF \$10; STLF \$18.

POL 3843. Campaign and Election Law. (3-0) 3 Credit Hours.

Prerequisite: POL 1013. This course examines the laws that govern elections in the United States. Topics include the constitutional and legal issues arising from campaign finance regulations, political party organization, election administration, and redistricting as well as the constitutional and statutory protection of voting rights. The course may also consider these issues in comparative perspective. (Same as PAL 3843. Credit cannot be earned for both PAL 3843 and POL 3843.) Course Fees: LRLF \$10; STLF \$18.

POL 3853. Immigration Law. (3-0) 3 Credit Hours.

Prerequisite: POL 1013. Examines the legal framework of immigration and citizenship in the United States. Topics include the history and development of immigration and citizenship policy, the constitutional and international law foundations of immigration regulation, the structure and operation of federal institutions that regulate immigration, the role of state and local governments in enforcing immigration policy, and the legal processes that adjudicate immigration cases. (Same as PAL 3853. Credit cannot be earned for both PAL 3853 and POL 3853.) Course Fees: LRLF \$10; STLF \$18.

POL 4023. Techniques in Global Analysis. (3-0) 3 Credit Hours.

Prerequisite: POL 1013. Examines various techniques for collecting, analyzing, and communicating information by government and private sector organizations engaged in global analysis. Stresses methodologies for analyzing informational inputs, including strengths and weaknesses of various analytical applications. Studies analytic cultures and pathologies associated with information collection and interpretation, legal and political oversight, accommodation of dissenting views in interpretation and policy debate, and economic, political, and cultural implications of analytical findings. Compares and contrasts analytical methods employed by public and private organizations. May be taught from different perspectives depending upon faculty expertise and interests. (Same as GLA 4123. Credit cannot be earned for both POL 4023 and GLA 4123.) Generally offered: Fall. Course Fees: LRLF \$10; STLF \$18.

POL 4133. Politics, Law, and Literature. (3-0) 3 Credit Hours.

Prerequisite: POL 1013. Examination of fundamental questions of political theory as treated in works of literature. Topics may include authority, law and discretion, the individual and the community, church and state, criminality, and the nature of freedom, especially as these issues emerge in different political orders. Potential works include Greek tragedy and comedy, Dante, Shakespeare, Dostoyevsky, Hawthorne, Melville, Twain, Richard Wright, Ralph Ellison, Flannery O'Connor, Robert Penn Warren, Walker Percy, Saul Bellow, and others. (Same as PAL 4153. Credit cannot be earned for both POL 4133 and PAL 4153.) Course Fees: LRLF \$10; STLF \$18.

POL 4163. Model UN. (3-0) 3 Credit Hours.

Prerequisite: POL 1013. The course introduces students to the United Nations and the world of Model UN. The class will discuss the organization's history, structure, operations, and role in the international system. Applying this knowledge in educational simulation, the class will engage students in modelling the UN. This will include hosting a Model UN as well as competing nationally as delegates. As such, the class will solidify substantial knowledge on the UN as well as provide logistical project management skills. Credit in GLA 3533 is not a prerequisite but priority will be given to students who have who have taken GLA 3533. (Same as GLA 4163. Credit cannot be earned for both POL 4163 and GLA 4163.) Course Fees: LRLF \$10; STLF \$18.

POL 4213. The Intelligence Community in World Affairs. (3-0) 3 Credit Hours.

Prerequisite: POL 1013. Advanced study of key historical developments of U.S. and other intelligence functions in national and international security. Examines a broad range of issues and case studies such as collection and analytical methods, measures of success and failure of intelligence operations, agency organizational problems, accuracy and accountability, counterintelligence and covert operations, threats to homeland security, constitutional and legislative roles, liaison relationships, and challenges in executive-legislative interactions in the policy making process. (Same as GLA 4213. Credit cannot be earned for both POL 4213 and GLA 4213. Formerly GLA 4013 and POL 4013.) Generally offered: Spring. Course Fees: LRLF \$10; STLF \$18.

POL 4323. Administrative Law and Politics. (3-0) 3 Credit Hours.

Prerequisite: POL 1013. A survey of those aspects of public law of particular relevance to public administration, analyzing such problem areas as the delegation of authority; formal accountability; open records and confidentiality; and responsiveness to democratic value in decision making. (Same as PAL 4323. Credit cannot be earned for both PAL 4323 and POL 4323.) Generally offered: Spring. Course Fees: LRLF \$10; STLF \$18.

POL 4853. Study Abroad: Political Science. (3-0) 3 Credit Hours.

Prerequisite: Permission of instructor. A lecture course associated with a study abroad program. Involves international travel and field trips. May be repeated for credit when the destination country varies. Course Fees: LRLF \$10; STLF \$18.

POL 4911. Independent Study. (0-0) 1 Credit Hour.

Prerequisites: Independent Study Course Form signed by the instructor, the student's advisor, the Department Chair, and the Dean of the College of Liberal and Fine Arts. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Course Fees: LRLF \$10; STLF \$6.

POL 4912. Independent Study. (0-0) 2 Credit Hours.

Prerequisites: Independent Study Course Form signed by the instructor, the student's advisor, the Department Chair, and the Dean of the College of Liberal and Fine Arts. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Course Fees: LRLF \$10; STLF \$12.

POL 4913. Independent Study. (0-0) 3 Credit Hours.

Prerequisites: Independent Study Course Form signed by the instructor, the student's advisor, the Department Chair, and the Dean of the College of Liberal and Fine Arts. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Course Fees: LRLF \$10; STLF \$18.

POL 4933. Internship in Political Science. (0-0) 3 Credit Hours.

Prerequisites: Consent of internship coordinator and Department Chair. Supervised experience relevant to political science within selected community organizations. A maximum of 6 semester credit hours may be earned through the internship. Course Fees: LRLF \$10; STLF \$18.

POL 4936. Internship in Political Science. (0-0) 6 Credit Hours.

Prerequisites: Consent of internship coordinator and Department Chair. Supervised experience relevant to political science within selected community organizations. A maximum of 6 semester credit hours may be earned through the internship. Course Fees: LRLF \$10; STLF \$36.

POL 4953. Special Studies in Political Science. (3-0) 3 Credit Hours.

Prerequisite: POL 1013. An organized course offering the opportunity for specialized study not normally or not often available as part of the regular course offerings. Special Studies may be repeated for credit when topics vary, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. Course Fees: DL01 \$75; LRLF \$10; STLF \$18.

POL 4973. Seminar in Political Science. (3-0) 3 Credit Hours.

Prerequisites: POL 1013, POL 2693, POL 2703, and 15 semester credit hours in POL, or consent of instructor. The opportunity for an intensive study of a selected topic. Primary emphasis on supervised research on various aspects of the topic. May be repeated for credit when topics vary. Enrollment limited to juniors and seniors majoring in political science. Generally offered: Fall, Spring. Course Fees: LRLF \$10; STLF \$18.

POL 4983. Research Practicum. (0-0) 3 Credit Hours.

Prerequisites: Permission in writing (form available) of the instructor, the student's advisor, and the Department Chair. The practicum provides students with the opportunity to focus on a specific research issue having practical applications in geography, governance, politics, or policy. Students participate in a hands-on research experience on the issue in a collective research environment. Course Fees: LRLF \$10; STLF \$18.

POL 4993. Honors Thesis. (0-0) 3 Credit Hours.

Prerequisites: A minimum grade point average of 3.0 at UTSA, a 3.5 grade point average in the major, and recommendation by a member of the Political Science and Geography faculty. Supervised research and preparation of an honors thesis. May be repeated once with advisor's approval. Students who are approved will enroll in the appropriate honors thesis courses during their final two semesters at UTSA. To earn honors, the thesis must be passed by an Honors Committee that will be formed with the recommending faculty and another faculty member. Students interested in enrolling should contact the Department Undergraduate Advisor of Record for additional information. Course Fees: LRLF \$10; STLF \$18.

Politics and Law (PAL)

Politics and Law (PAL) Courses

PAL 2013. Introduction to Legal Studies. (3-0) 3 Credit Hours.

Prerequisite: POL 1013. An introduction to legal studies from an interdisciplinary perspective, exploring historical and contemporary aspects of the content, operations, and effects of law in societies. (Formerly LGS 2013. Credit cannot be earned for both PAL 2013 and LGS 2013.) Generally offered: Fall, Spring. Course Fees: LRLF \$10; STLF \$18.

PAL 2623. Law and Society. (3-0) 3 Credit Hours.

Prerequisite: POL 1013. An examination of the nature of law, its role in sociopolitical systems, and the institutional components of legal systems. Theories and systems of law examined may include natural, constitutional, common, civil, customary, socialist, and theocratic law. May employ a comparative or historical framework for understanding the variety of institutional arrangements through which systems of law are implemented. (Same as POL 2623. Credit cannot be earned for both PAL 2623 and POL 2623.) Generally offered: Fall. Course Fees: DL01 \$75; LRLF \$10; STLF \$18.

PAL 3013. The American Legal Process. (3-0) 3 Credit Hours.

Prerequisite: POL 1013. An introduction to how the United States legal system is organized and functions. A broad overview of the system and its actors is combined with a focus on particular areas of the law such as domestic relations, personal injury liability litigation, criminal procedure, and alternative dispute resolution. (Same as POL 3013. Credit cannot be earned for PAL 3013 and POL 3013.) Generally offered: Fall. Course Fees: LRLF \$10; STLF \$18.

PAL 3023. Legal Research and Writing. (3-0) 3 Credit Hours.

Prerequisite: POL 1013. Provides students with the opportunity to explore the modes and sources of legal research, both traditional and electronic. (Formerly LGS 3013. Credit cannot be earned for both LGS 3013 and PAL 3023.) Generally offered: Fall, Spring, Summer. Course Fees: LRLF \$10; STLF \$18.

PAL 3113. Minorities and the Law. (3-0) 3 Credit Hours.

Prerequisite: POL 1013. This course examines the litigation, case law, legislation, and legal literature associated with African Americans and Mexican Americans in the United States. (Formerly LGS 3113. Credit cannot be earned for both PAL 3113 and LGS 3113.) Generally offered: Fall. Course Fees: LRLF \$10; STLF \$18.

PAL 3213. Law School Studies. (3-0) 3 Credit Hours.

Prerequisite: POL 1013. Basic introduction to the primary subject areas covered in American law schools. Topics generally include Property, Civil Procedure, Contracts, Torts, Criminal Law, Family Law, Constitutional Law, and Professional Ethics. Topic coverage may extend to corporations, oil and gas, tax, or other more specialized topics. The course will better prepare students for the anticipated coursework and subject matter for the transition to law school. (Formerly LGS 3213. Credit cannot be earned for both PAL 3213 and LGS 3213.) Generally offered: Summer. Course Fees: LRLF \$10; STLF \$18.

PAL 3223. Judicial Politics. (3-0) 3 Credit Hours.

Prerequisite: POL 1013. Topics may include political behavior of the major participants in the judicial process; the development of judicial institutions and processes; the political and administrative context of the judicial process; judicial-executive and judicial-legislative relations; and the impact of judicial decisions. (Same as POL 3223. Credit cannot be earned for both PAL 3223 and POL 3223.) Generally offered: Spring. Course Fees: LRLF \$10; STLF \$18.

PAL 3313. The Supreme Court. (3-0) 3 Credit Hours.

Prerequisite: POL 1013. This course examines the U.S. Supreme Court as a political and legal institution. Topics may include the colonial and English antecedents to the Supreme Court, its constitutional origins in the framing and ratification debates, major episodes in its development from the early republic to the present, its role within the federal judiciary, its impact on party politics and political culture, and its relationship to Congress, the executive branch, and the state courts. (Same as POL 3313. Credit cannot be earned for both PAL 3313 and POL 3313.) Course Fees: LRLF \$10; STLF \$18.

PAL 3343. Constitutional Analysis. (3-0) 3 Credit Hours.

Prerequisite: POL 1013. An analysis of constitutional cases with close attention to alternative modes of interpretation and the role of precedent in judicial decision-making. Students will learn how to brief cases and will be expected to answer questions about assigned cases in class. (Formerly LGS 3323 and PAL 3323. Credit can only be earned for one course: PAL 3343, PAL 3323 or LGS 3323.) Generally offered: Summer. Course Fees: LRLF \$10; STLF \$18.

PAL 3413. Regulatory Law and Enterprise. (3-0) 3 Credit Hours.

Prerequisite: POL 1013. This course examines federal, state, and local administrative and regulatory engagement with Texan, American, and international enterprise. Students have the opportunity to explore law and policies affecting economic development, property, oil and gas, international trade, the Internet, and the environment. (Formerly LGS 3413. Credit cannot be earned for both PAL 3413 and LGS 3413.) Course Fees: LRLF \$10; STLF \$18.

PAL 3513. Trial and Appellate Advocacy. (3-0) 3 Credit Hours.

Prerequisite: POL 1013. Cultivates the practice of deliberative rhetoric with particular emphasis on its use in legal argumentation. Primary activity will be preparation for and participation in moot court, a simulation that involves arguing constitutional cases before the Supreme Court. Entails intensive study of case law. Course may be repeated for credit when the topic varies. Course Fees: LRLF \$10; STLF \$18.

PAL 3533. State Courts: Judicial Decision-Making Practice and Procedure. (3-0) 3 Credit Hours.

Prerequisite: POL 1013. This course will examine American trial courts and specifically the role of the Judge in dispensing and insuring justice in both civil and criminal matters. A constitutional analysis of judicial authority will be studied, including the court's powers and limitations. A review of the role of the various instrumental components in the administration of justice will be studied from legal counsel, prosecutors, and probation officers and the impact each has in the outcome of cases before the court. Additionally, constitutional protections will be surveyed to provide an in-depth understanding of due process and equal protection under the law and the procedure of litigants and defendants during the trial process. Course Fees: LRLF \$10; STLF \$18.

PAL 3583. Jurisprudence. (3-0) 3 Credit Hours.

Prerequisite: POL 1013. An inquiry into the nature of law and legal obligation with emphasis on relevant works of political philosophy and those of important jurists. Works covered in the course may represent natural law, positivist, realist, theocratic, and critical perspectives on law. (Same as POL 3583. Credit cannot be earned for both PAL 3583 and POL 3583.) Course Fees: LRLF \$10; STLF \$18.

PAL 3813. Politics of Federal Justice Policy. (3-0) 3 Credit Hours.

Prerequisite: POL 1013. This course examines the intersections of politics and legal institutions of the federal government. Consideration will be given to major historical and political developments mainly associated with policy decisions of the federal executive and the federal judiciary in carrying out constitutional and statutory obligations in civil and criminal enforcement, adjudication, and punishment. Special emphasis will be given to how federal justice policies are formed, implemented, and evaluated by presidents, Congress, and the federal courts in policy areas such as civil rights, privacy and surveillance, interstate and international criminal organizations, investigative practices, prosecutorial effectiveness, and civil and criminal penalties/sanctions. (Same as POL 3813. Credit cannot be earned for both PAL 3813 and POL 3813.) Course Fees: LRLF \$10; STLF \$18.

PAL 3843. Campaign and Election Law. (3-0) 3 Credit Hours.

Prerequisite: POL 1013. This course examines the laws that govern elections in the United States. Topics include the constitutional and legal issues arising from campaign finance regulations, political party organization, election administration, and redistricting as well as the constitutional and statutory protection of voting rights. The course may also consider these issues in comparative perspective. (Same as POL 3843. Credit cannot be earned for both PAL 3843 and POL 3843.) Course Fees: LRLF \$10; STLF \$18.

PAL 3853. Immigration Law. (3-0) 3 Credit Hours.

Prerequisite: POL 1013. Examines the legal framework of immigration and citizenship in the United States. Topics include the history and development of immigration and citizenship policy, the constitutional and international law foundations of immigration regulation, the structure and operation of federal institutions that regulate immigration, the role of state and local governments in enforcing immigration policy, and the legal processes that adjudicate immigration cases. (Same as POL 3853. Credit cannot be earned for both PAL 3853 and POL 3853.) Course Fees: LRLF \$10; STLF \$18.

PAL 3863. Contracts. (3-0) 3 Credit Hours.

Prerequisite: POL 1013. An introduction to contract law, including topics such as offer and acceptance, consideration, contracts enforceable without consideration, defenses to enforcement of contracts, terms of contracts and their interpretation, performance and breach of contracts, remedies for breach, third-party beneficiaries, and assignments. (Formerly LGS 3868. Credit cannot be earned for both LGS 3863 and PAL 3863.) Course Fees: LRLF \$10; STLF \$18.

PAL 4013. Issues in Law and Society. (3-0) 3 Credit Hours.

Prerequisite: PAL 2013 or POL 1013. Provides students with the opportunity to conduct research on selected issues associated with the law and society. May be repeated for credit when topics vary, with permission of the Director of the Institute for Law and Public Affairs. (Formerly LGS 4013. Credit cannot be earned for both PAL 4013 and LGS 4013.) Generally offered: Spring. Course Fees: LRLF \$10; STLF \$18.

PAL 4123. Legal and Philosophical Reasoning. (3-0) 3 Credit Hours.

Prerequisite: POL 1013. An intensive analysis of selected philosophical texts focusing on law and justice. Students are challenged to develop critical reading and thinking skills by studying the texts of philosophers such as Plato, Aristotle, Dworkin, Hart, and/or others who outline difficult arguments and unfamiliar ideas. Emphasis is placed on drawing reasoned conclusions, advocating positions, and expressing oneself in oral and written forms. (Formerly LGS 4123. Same as POL 4123. Credit cannot be earned for both PAL 4123 and POL 4123 or LGS 4123.) Course Fees: LRLF \$10; STLF \$18.

PAL 4133. Legal Analysis and Argumentation. (3-0) 3 Credit Hours.

Prerequisite: POL 1013. This course provides students with the opportunity to develop and master techniques of focused reading, analytical reasoning, logic, argumentation, and the drawing of reasoned conclusions, placed in the context and modes of questioning appropriate to law school admission and education. Skills learned are relevant not only to law school, but also to developing and accessing arguments throughout college, career, and life. (Formerly LGS 4133. Credit cannot be earned for both PAL 4133 and LGS 4133). Course Fees: LRLF \$10; STLF \$18.

PAL 4153. Politics Law and Literature. (3-0) 3 Credit Hours.

Prerequisite: POL 1013. Examination of fundamental questions of political theory as treated in works of literature. Topics may include authority, law and discretion, the individual and the community, church and state, criminality, and the nature of freedom, especially as these issues emerge in different political orders. Potential works include Greek tragedy and comedy. Dante, Shakespeare, Dostoyevsky, Hawthorne, Melville, Twain, Richard Wright, Ralph Ellison, Flannery O'Connor, Robert Penn Warren, Walker Percy, Saul Bellow, and others. (Formerly Law and Literature.) (Same as POL 4133. Credit cannot be earned for both PAL 4153 and POL 4133.) Course Fees: LRLF \$10; STLF \$18.

PAL 4213. Great Controversies in Politics and Law. (3-0) 3 Credit Hours.

Prerequisites: POL 1013 and PAL 2623. This course will examine a legal and political controversy of great importance, either current or historical. Topics vary and are chosen by the instructor. Examples may include Slavery, Abolition, and Reconstruction; Framing and Ratification of the Constitution; Religious Free Exercise; Civil Rights and Civil Disobedience; Presidential War Powers and Congress. Course Fees: LRLF \$10; STLF \$18.

PAL 4223. Torts through the Case Method. (3-0) 3 Credit Hours.

Prerequisite: POL 1013. This course provides students with the opportunity to analyze American tort law. Topics may include negligence, intentional torts, affirmative defenses, and legal damages, as well as vicarious products and strict liability. Students should be prepared to read, brief, and discuss case law. (Formerly LGS 4223. Credit cannot be earned for both PAL 4223 and LGS 4223.) Generally offered: Spring, Summer. Course Fees: LRLF \$10; STLF \$18.

PAL 4233. Federal Courts. (3-0) 3 Credit Hours.

Prerequisite: POL 1013. Legal principles and rules are taught in law school through "casebooks" that include court opinions and explanatory or supplemental case notes. Students are expected to learn about "the law" in a particular subject area through the study of cases. This course uses a law school textbook on Torts. The method of study is useful for students aiming to attend law school or for students interested legal system practices apart from attending law school. (Formerly Federal Courts.) (Formerly LGS 4233. Credit cannot be earned for both PAL 4233 and LGS 4233.) Course Fees: LRLF \$10; STLF \$18.

PAL 4323. Administrative Law and Politics. (3-0) 3 Credit Hours.

Prerequisite: POL 1013. A survey of those aspects of public law of particular relevance to public administration, analyzing such problem areas as the delegation of authority; formal accountability; open records and confidentiality; and responsiveness to democratic value in decision making. (Same as POL 4323. Credit cannot be earned for both PAL 4323 and POL 4323.) Generally offered: Spring. Course Fees: LRLF \$10; STLF \$18.

PAL 4911. Independent Study. (0-0) 1 Credit Hour.

Prerequisites: Permission in writing (form available) of the instructor, the student's advisor, the Department Chair, and the Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Course Fees: LRLF \$10; STLF \$6.

PAL 4912. Independent Study. (0-0) 2 Credit Hours.

Prerequisites: Permission in writing (form available) of the instructor, the student's advisor, the Department Chair, and the Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Course Fees: LRLF \$10; STLF \$12.

PAL 4913. Independent Study. (0-0) 3 Credit Hours.

Prerequisites: Permission in writing (form available) of the instructor, the student's advisor, the Department Chair, and the Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. (Formerly LGS 4913.) Course Fees: LRLF \$10; STLF \$18.

PAL 4933. Internship in Politics and Law. (0-0) 3 Credit Hours.

Prerequisites: POL 1013 and consent of internship coordinator. Supervised experience relevant to legal studies within selected community organizations. A maximum of 6 semester credit hours may be earned through the internship. A maximum of 3 semester credit hours may be applied to the minor. (Formerly LGS 4933.) Course Fees: LRLF \$10; STLF \$18.

PAL 4953. Special Studies in Politics and Law. (3-0) 3 Credit Hours.

Prerequisite: POL 1013. An organized course offering the opportunity for specialized study not normally or not often available as part of the regular course offerings. Special Studies may be repeated for credit when topics vary, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. Course Fees: LRLF \$10; STLF \$18.

PAL 4973. Senior Seminar in Politics and Law. (3-0) 3 Credit Hours.

Prerequisites: POL 1013, POL 2693, and 15 semester credit hours in PAL or POL coursework, or consent of instructor. Course involves guided, intensive study of a selected topic. Primary emphasis is on supervised research on various aspects of the topic. May be repeated for credit when topics vary. Enrollment is limited to juniors and seniors majoring in Politics and Law or Political Science. Course Fees: LRLF \$10; STLF \$18.

PAL 4993. Honors Thesis. (3-0) 3 Credit Hours.

Prerequisites: A minimum grade point average of 3.0 at UTSA, a 3.5 grade point average in the major, and recommendation by a member of the Political Science and Geography faculty. Supervised research and preparation of an honors thesis. Enrollment limited to candidates during the last two semesters. To enroll, contact the Department Undergraduate Advisor of Record for additional information. May be repeated once with advisor's approval. Course Fees: LRLF \$10; STLF \$18.

Psychology (PSY)

Psychology (PSY) Courses

PSY 1013. Introduction to Psychology. (3-0) 3 Credit Hours. (TCCN = PSYC 2301)

Introduction to the study of the mind and behavior in humans and other species with attention to awareness, sensation, perception, emotion, motivation, learning, memory, problem solving, personality, mental and behavioral development, abnormal behavior, and social behavior in group settings. Psychological, social, cultural, institutional, and biological determinants of behavior are considered, together with applications of basic principles based on individuals within a variety of cultural, civic, and public policy contexts. Scientific approaches to the explanation of psychological phenomena are examined critically, with emphasis on empirical research involving the application of the scientific method and quantitative research skills and results to everyday life situations and areas of social responsibility. Communication of empirical results to an appropriate audience is required, as is participation in illustrative research. May be applied toward the Core Curriculum requirement in Social and Behavioral Sciences. (Credit cannot be earned for both PSY 1013 and PSY 2013.) Generally offered: Fall, Spring, Summer. Course Fees: DL01 \$75; LRC1 \$12; LRHC \$10.

PSY 2073. Statistics for Psychology. (3-0) 3 Credit Hours.

Prerequisites: MAT 1023, MAT 1073, or STA 1053; and one psychology course. The use of statistics in psychological research includes: elementary probability theory; descriptive statistics, including histograms, graphing, and measures of central tendency and dispersion; correlational techniques; binomial and normal distributions; and inferential statistics, including hypothesis testing, effect size estimates, and analysis of variance. (Formerly STA 2073. Credit cannot be earned for both PSY 2073 and STA 2073.) Generally offered: Fall, Spring, Summer. Course Fees: DL01 \$75; LRHC \$10; STHC \$18.

PSY 2503. Developmental Psychology. (3-0) 3 Credit Hours. (TCCN = PSYC 2314)

Prerequisite: PSY 1013. Problems, methods, major theories, and results in the study of the psychological development of the individual from the prenatal period to old age. Generally offered: Fall, Spring, Summer. Course Fees: DL01 \$75; LRHC \$10; STHC \$18.

PSY 2513. Abnormal Psychology. (3-0) 3 Credit Hours.

Prerequisite: PSY 1013. Topics may include the dynamics of abnormal behavior with attention to description, causes, and treatment of major psychological disorders, including neuroses, psychoses, personality disorders, and psychosomatic disorders. Generally offered: Fall, Spring. Course Fees: DL01 \$75; LRHC \$10; STHC \$18.

PSY 2533. Social Psychology. (3-0) 3 Credit Hours. (TCCN = PSYC 2319)

Prerequisite: PSY 1013. Problems, methods, major theories, and results in the study of social interaction and interpersonal influence; self-identity, attitudes, role behavior, social perception, social influence, and behavior within groups. Generally offered: Fall, Spring. Course Fees: DL01 \$75; LRHC \$10; STHC \$18.

PSY 2543. Theories of Learning. (3-0) 3 Credit Hours.

Prerequisites: PSY 1013 or equivalent; and MAT 1023 or equivalent. An examination of major theories about the nature of the learning process. Discussion will focus on the construction and evaluation of models of learning. The practical and theoretical implications of research results for the acquisition, maintenance, modification, and elimination of behavior will be considered. Related memory phenomena and theories may be discussed. Generally offered: Fall, Spring. Course Fees: LRHC \$10; STHC \$18.

PSY 2563. Cognitive Psychology. (3-0) 3 Credit Hours.

Prerequisite: PSY 1013. A survey of scientific theories and research in cognitive psychology. Topics include attention, memory, and problem-solving. (Credit cannot be earned for both PSY 2563 and PSY 3103.) Course Fees: DL01 \$75; LRHC \$10; STHC \$18.

PSY 2583. Biological Psychology. (3-0) 3 Credit Hours.

Prerequisite: PSY 1013. An introduction to the biological bases of behavior. Topics include evolution, genetics, research methods in behavioral neuroscience, motivation and emotion, sensation and perception, learning and memory, lifespan development, cognition, psychological disorders, and other complex behaviors. Course Fees: LRHC \$10; STHC \$18.

PSY 3023. Social Psychology of Small Groups. (3-0) 3 Credit Hours.

Prerequisites: PSY 2533 and PSY 3413; or consent of instructor. Theory and modern research in the social psychology of small groups. Particular attention will be given to group formation, the nature of small group processes, and the influence of groups on behavior. Course Fees: LRHC \$10; STHC \$18.

PSY 3053. Cross-Cultural Psychology. (3-0) 3 Credit Hours.

Prerequisites: ANT 1013, ANT 2053, or PSY 1013; and PSY 3413 or the equivalent; or consent of instructor. An examination of the role of culture in the development and validation of psychological theories. Critical discussion of the application of theories of human behavior developed in the United States and Western Europe to other cultural groups, including ethnic minority subgroups. Topics may include identity formation, cognitive and personality development, social and organizational behavior, intergroup relations, psychological assessment, and mental health. Course Fees: LRHC \$10; STHC \$18.

PSY 3073. Personality and Behavior. (3-0) 3 Credit Hours.

Prerequisite: PSY 3403 completed with a minimum grade of "C-". Examination of the relationship of personality to behavior, behavioral tendencies, including thoughts and feelings. Topics include the theoretical foundation of personality psychology, an examination of research regarding personality's influence on behavior, and the application of what psychologists know about personality. Course Fees: LRHC \$10; STHC \$18.

PSY 3103. Cognition. (3-0) 3 Credit Hours.

Prerequisites: PSY 2543 or PSY 2573; and PSY 3403 completed with a minimum grade of "C-". Examination of current information-processing models of human cognition. Emphasis will be placed on the processes by which stimuli are identified, by which past information is retrieved and used, and by which one's knowledge is modified. (Credit cannot be earned for both PSY 3103 and PSY 2563.) Generally offered: Fall, Spring, Summer. Course Fees: LRHC \$10; STHC \$18.

PSY 3113. Motivation and Emotion. (3-0) 3 Credit Hours.

Prerequisite: PSY 3403 completed with a minimum grade of "C-", or the equivalent. Topics may include examination of biological, physiological, learning, psychodynamic, cognitive, and purposive factors in the motivation of human behavior. Includes an examination of the nature and roles of emotion in explaining motivational processes. Generally offered: Fall. Course Fees: LRHC \$10; STHC \$18.

PSY 3153. Sensation and Perception. (3-0) 3 Credit Hours.

Prerequisite: PSY 3403 completed with a minimum grade of "C-". Survey of the processes by which the information available in the physical world is encoded and transformed to produce our perception of the world. Emphasis on the interaction between data-driven and conceptually-driven processes. Topics may include elementary sensory physiology, pattern recognition, illusions, physiological bases of perceptual dysfunction, and perceptual development. (Formerly PSY 2553. Credit cannot be earned for both PSY 3153 and PSY 2553.) Generally offered: Fall, Spring. Course Fees: DL01 \$75; LRHC \$10; STHC \$18.

PSY 3203. Industrial and Organizational Psychology. (3-0) 3 Credit Hours.

Prerequisite: PSY 3413 or the equivalent, or consent of instructor. The role of psychology in industry. Applications of psychological knowledge to industrial problems such as personnel selection, employee motivation and satisfaction, and the influence of organizations on behavior. Course Fees: LRHC \$10; STHC \$18.

PSY 3303. Psychological Perspectives on Gender. (3-0) 3 Credit Hours.

Prerequisite: PSY 1013. Consideration of physiological and social-learning origins of sex differences and psychological theories of sex-stereotyped and sexual behavior. Topics may include gender differences and similarities in aggression, sexual behavior, personality, intellectual activity, psychopathology, the development of gender and gender roles, sexism and discrimination, gender stereotypes, sexual orientation and sexuality, and intersex conditions. Generally offered: Fall, Spring. Course Fees: LRHC \$10; STHC \$18.

PSY 3403. Experimental Psychology. (3-0) 3 Credit Hours.

Prerequisites: Two courses from PSY 2503, PSY 2513, PSY 2533, or PSY 2563; and PSY 2073 completed with a minimum grade of "C-" or consent of instructor. This course is designed to offer students the opportunity to familiarize themselves with representative experimental designs employed in psychological research, to provide instruction in the choice of appropriate designs, to provide the opportunity to develop skills in the analysis of published research, and to offer an introduction to techniques for collecting and analyzing data. Generally offered: Fall, Spring, Summer. Course Fees: LRHC \$10; STHC \$18.

PSY 3413. Experimental Projects and Laboratory. (2-2) 3 Credit Hours.

Prerequisite: Completion of or concurrent enrollment in PSY 3403 (completed with a minimum grade of "C-"). Application of observational and experimental procedures to selected problems in the collection of psychological data and the evaluation of psychological theories. (Formerly titled "Experimental Psychology Laboratory.") Generally offered: Fall, Spring, Summer. Course Fees: LRHC \$10; STHC \$18.

PSY 3523. Psychology of Adulthood and Aging. (3-0) 3 Credit Hours.

Prerequisite: PSY 2503 or consent of instructor. Descriptive and theoretical accounts of psychological developments from emerging adulthood through old age. Relevant research is reviewed in the areas of memory, intellect, mental and physical health, social development, personality, meaning, stress and coping, bereavement, and dying. Course Fees: DL01 \$75; LRHC \$10; STHC \$18.

PSY 3543. Introduction to Clinical Psychology. (3-0) 3 Credit Hours.

Prerequisites: PSY 2513 and PSY 3403 completed with a minimum grade of "C-"; or consent of instructor. An introduction to the scientist-practitioner viewpoint of clinical psychology. The basic tools of psychological assessment, psychodiagnosis, and psychotherapy will be addressed. Generally offered: Fall, Spring, Summer. Course Fees: LRHC \$10; STHC \$18.

PSY 3553. Behavior Analysis and Learning. (3-0) 3 Credit Hours.

Prerequisites: PSY 1013 or equivalent; and PSY 3403 completed with a minimum grade of "C-" or equivalent. An introduction to and survey of the principles, methods, theories and applications of the experimental analysis of behavior. Emphasis on the implications of behavior theory and the experimental analysis of behavior in contemporary society. Course Fees: LRHC \$10; STHC \$18.

PSY 3563. Couple and Family Psychology. (3-0) 3 Credit Hours.

Prerequisites: PSY 1013 and PSY 3403 completed with a minimum grade of "C-". This course will focus on psychological research on relationships, processes and factors within couples and families. Demographic status and changes in American couples and families and how these changes relate to changes in racial/ethnic changes and diversity are considered. Psychological models of couples and families will be discussed. Understanding family structure, relationship processes and factors that are related to health and well-being of individual couple and family members that are related to successful and healthy couples and family relationships are discussed. Course Fees: LRHC \$10; STHC \$18.

PSY 4003. History of Psychology. (3-0) 3 Credit Hours.

Prerequisite: PSY 3403 completed with a minimum grade of "C-" or consent of instructor. The development of major theoretical positions and research strategies in psychology from the ancient Greeks to the present, with emphasis on the development of scientific psychology since the late 19th century. Course Fees: LRHC \$10; STHC \$18.

PSY 4013. Social Psychology of the Self. (3-0) 3 Credit Hours.

Prerequisites: PSY 2533 and PSY 3403 completed with a minimum grade of "C-"; and completion of or concurrent enrollment in PSY 3413; or consent of instructor. A social psychological examination of current research on the self in social interaction. Topics may include the structure of the self-concept and strategies for the preservation of self-esteem; the evaluation of the self through social comparison; the search for meaning and processes involved in understanding the self; and individual differences in self-knowledge and self-presentational styles. Course Fees: LRHC \$10; STHC \$18.

PSY 4103. Social Psychology of Prejudice. (3-0) 3 Credit Hours.

Prerequisites: PSY 2533 and PSY 3403 completed with a minimum grade of "C-". Consideration of social, psychological, and personality factors in prejudice and stereotyping, and their interaction with cultural factors in producing racism and other prejudices. Course Fees: LRHC \$10; STHC \$18.

PSY 4133. Social and Personality Development. (3-0) 3 Credit Hours.

Prerequisites: PSY 2503 or PSY 2533; and PSY 3403 completed with a minimum grade of "C-", or the equivalent; or consent of instructor. Social and personality development across the life span. Topics may include sex-role development, child rearing, achievement, and the influence of peers. Socialization into different social roles may also be considered. Course Fees: LRHC \$10; STHC \$18.

PSY 4143. Memory. (3-0) 3 Credit Hours.

Prerequisites: PSY 2563, PSY 3403 completed with a minimum grade of "C-", and PSY 3413 or the equivalent; or consent of instructor. Models for the coding, storage, and retrieval of information in memory. Organization and structure of short-term, long-term, and semantic memory, and the role of verbalization and images in memory. Generally offered: Fall, Spring. Course Fees: LRHC \$10; STHC \$18.

PSY 4183. Physiological Psychology. (3-0) 3 Credit Hours.

Prerequisites: BIO 1404 or PSY 2583; and PSY 3403 completed with a minimum grade of "C-". Topics may include the biological and particularly neurophysiological bases of human behavior and cognition, the structure and organization of the nervous system, and the effect of the latter on perception, memory, learning, motivation, and emotion. (Credit cannot be earned for both BIO 4183 and PSY 4183.) Generally offered: Fall, Spring, Summer. Course Fees: LRHC \$10; STHC \$18.

PSY 4193. Relationships. (3-0) 3 Credit Hours.

Prerequisites: PSY 2533 and PSY 3403 completed with a minimum grade of "C-". A consideration of the psychological processes that underlie the development and maintenance of social relationships. Emphasis on motivational and cognitive factors that mediate social interaction and communication. Special attention may be given to friendships, romantic relationships, successful marriages, and distressed relationships. Course Fees: LRHC \$10; STHC \$18.

PSY 4213. Social Cognition. (3-0) 3 Credit Hours.

Prerequisites: PSY 2533 or PSY 2563; and PSY 3403 completed with a minimum grade of "C-", or the equivalent; or consent of instructor. The study of how people perceive and construe social events, social situations, and the behavior of other people. Some emphasis is also placed on how social and cultural forces affect personal perception processes. Course Fees: LRHC \$10; STHC \$18.

PSY 4253. Psychology of Health. (3-0) 3 Credit Hours.

Prerequisite: PSY 3403 completed with a minimum grade of "C-" or consent of instructor. An examination of the interaction of psychological, social, and biological factors in physical illness. The symptoms/conditions covered may include stress, pain, diabetes, cardiovascular disease, HIV/AIDS, and obesity. The course is research-based but also likely to include prevention and/or treatment strategies for health promotion. Generally offered: Fall, Spring, Summer. Course Fees: LRHC \$10; STHC \$18.

PSY 4343. Cognitive Neuroscience. (3-0) 3 Credit Hours.

Prerequisite: PSY 2563. Examines issues in cognitive psychology, neuroscience, and the relations between cognitive psychology and neuroscience. Topics include the neural basis of perception, attention, memory, language, and executive function skills. Students will also study how these processes change during normal development and in various neurological disorders. Critical thinking, problem solving skills, and use of the scientific method will be emphasized. Course Fees: LRHC \$10; STHC \$18.

PSY 4911. Independent Study. (0-0) 1 Credit Hour.

Prerequisites: Permission in writing (form available) of the instructor, the Department Chair, and Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Does not count toward upper-division course requirements for the major but may be taken as an elective. Recommended for students planning to pursue a research focused graduate degree. Course Fees: LRHC \$10; STHC \$6.

PSY 4913. Independent Study. (0-0) 3 Credit Hours.

Prerequisites: Permission in writing (form available) of the instructor, the Department Chair, and Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Does not count toward upper-division course requirements for the major but may be taken as an elective. Recommended for students planning to pursue a research focused graduate degree. Course Fees: LRHC \$10; STHC \$18.

PSY 4933. Internship in Psychology. (0-0) 3 Credit Hours.

Prerequisite: Consent of internship coordinator before registration. Supervised experience relevant to psychology within selected community organizations. A maximum of 6 semester credit hours may be earned through Internship in Psychology. Does not count toward course requirements for the major but may be taken as an elective. Recommended for students who wish to gain experience in applied settings. Must be taken on a credit/no-credit basis. Generally offered: Fall, Spring. Course Fees: LRHC \$10; STHC \$18.

PSY 4936. Internship in Psychology. (0-0) 6 Credit Hours.

Prerequisite: Consent of internship coordinator before registration. Supervised experience relevant to psychology within selected community organizations. A maximum of 6 semester credit hours may be earned through Internship in Psychology. Does not count toward course requirements for the major but may be taken as an elective. Recommended for students who wish to gain experience in applied settings. Must be taken on a credit/no-credit basis. Course Fees: LRHC \$10; STHC \$36.

PSY 4953. Special Studies in Psychology. (3-0) 3 Credit Hours.

Prerequisite: Consent of instructor. An organized course offering the opportunity for specialized study not normally or not often available as part of the regular course offerings. Special Studies may be repeated for credit when the topics vary, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. Course Fees: LRHC \$10; STHC \$18.

PSY 4993. Honors Thesis. (0-0) 3 Credit Hours.

Prerequisite: Enrollment limited to candidates for Honors in Psychology. Requirements for candidacy include the sponsorship of a faculty member and Psychology faculty approval of the student's project proposal. Supervised research and preparation of an honors thesis. May be repeated once for credit with advisor's approval. Does not count toward upper-division course requirements for the major but may be taken as an elective. Recommended for students planning to pursue a research focused graduate degree. Generally offered: Fall, Spring. Course Fees: LRHC \$10; STHC \$18.

Public Administration (PAD)

Public Administration (PAD) Courses

PAD 1113. Public Administration and Policy in American Society. (3-0) 3 Credit Hours.

This functions as the general introductory course in public administration. The management of government bureaucracies including organization, human resources, career systems, and financing is discussed. There is a discussion of the role of bureaucracies in modern society in the formulation and implementation of public policy. May be applied toward Core Curriculum requirement in the Component Area Option. (Formerly Public Administration in American Society.) Generally offered: Fall, Spring. Course Fees: LRC1 \$12; STHC \$18.

PAD 2013. Introduction to Public Policy. (3-0) 3 Credit Hours.

The course introduces students to the different aspects of public policy in the U.S. political context. Topics may include agenda setting, policy formulation, implementation, analysis, and evaluation. (Formerly PAD 3013. Credit cannot be earned for both PAD 3013 and PAD 2013.) Generally offered: Fall, Spring. Course Fee: STHC \$18.

PAD 2073. Foundations of Civic Engagement. (3-0) 3 Credit Hours.

This foundational course provides students with an understanding of civic participation, civic literacy and the necessary skill set for completion of the minor. It is designed to guide students in making links between their major area of study and the communities in which they work and live in order to help prepare students for a lifetime of responsible citizenship and civic engagement. Course Fee: STHC \$18.

PAD 3003. Fundraising in Nonprofit Agencies. (3-0) 3 Credit Hours.

Examines methods, techniques, and directed experience in fundraising for nonprofit agencies. Explores relationships with umbrella organizations, government funding, grantsmanship, budget control, and accountability. (Formerly NPO 3003. Credit cannot be earned for both PAD 3003 and NPO 3003.) Course Fee: STHC \$18.

PAD 3023. Introduction to Urban Management and Policy. (3-0) 3 Credit Hours.

This course will introduce students to the basic concepts of the management of urban municipalities. Topics to be covered may include leadership in urban settings; organizational structure and change; delivery of urban services, particularly in a diverse urban environment; and policy issues in urban settings. Generally offered: Fall, Spring. Course Fee: STHC \$18.

PAD 3033. Introduction to Nonprofit Agencies. (3-0) 3 Credit Hours.

This survey course introduces the nonprofit sector and core competencies required by nonprofit leaders. The role of nonprofit organizations in civil society frames the course, in particular, how the nonprofit sector is different from the public and private sectors. The state of the sector, and fundamental principles and practices required by nonprofit managers are explored, including creating a nonprofit, basics of fundraising, marketing, volunteer management, program development, and evaluation. Group and individual projects, service learning, research conducted for specific nonprofit agencies, oral presentations, networking, and construction of a portfolio of nonprofit work experiences and deliverables may be utilized. (Same as NPO 3013. Credit cannot be earned for both PAD 3033 and NPO 3013.) Generally offered: Fall, Spring. Course Fee: STHC \$18.

PAD 3043. Public and Nonprofit Financial Management. (3-0) 3 Credit Hours.

This course introduces students to the principles of financial management for public and nonprofit organizations. The public financial management component of the course will cover issues at the federal, state, and local levels of government. Topics will include budgeting, financial reporting, revenue streams, tax equity, stakeholder relations, and accountability. Generally offered: Spring. Course Fee: STHC \$18.

PAD 3053. Urban Economic Development. (3-0) 3 Credit Hours.

This course examines the factors contributing to the economic growth or decline of U.S. cities or regions and the role of local government in shaping economic development policies and economic change. It reviews the impact of public sector incentives and the outcomes of public-private partnerships through case studies of a variety of urban areas. Course Fee: STHC \$18.

PAD 3073. Civic Leadership Integrative Seminar. (3-0) 3 Credit Hours.

Prerequisite: PAD 2073. This course is the capstone course for the Minor in Civic Engagement. It will engage students, actively in the San Antonio community through a service-learning experience. Course Fee: STHC \$18.

PAD 3113. Managing Nonprofit Organizations. (3-0) 3 Credit Hours.

This course focuses on understanding the nature and role of nonprofit organizations. The course explores strategies for preserving and maximizing the public value of nonprofit organizations through the analysis of ethics, human behavior and motivation, organizational diagnosis, and management decision making. The structure, processes, environments, and purpose of the nonprofit sector, and how to maximize organizational performance, are emphasized. Course Fee: STHC \$18.

PAD 3123. Strategic Planning in the Public and Nonprofit Sectors. (3-0) 3 Credit Hours.

This course introduces the basic concepts of strategic planning and management in public and nonprofit organizations. The course covers a variety of topics such as formulation of mission and vision statements, identification of organizational goals, analysis of external environment and organizational context, strategic issue analysis, strategy development, implementation, and control. Students learn some analytical tools such as SWOT. Case studies are utilized to help students develop critical skills in analyzing and solving strategic problems. Generally offered: Fall. Course Fees: STHC \$18.

PAD 3133. Politics and Policies of San Antonio and South Texas. (3-0) 3 Credit Hours.

The San Antonio area has been shaped and built by an array of decisions, public and private. This course will examine the history and development of the area and the political, social, and economic forces that have defined the local policymaking process by city, county, and special purpose governments. Topics may include fiscal policy, public investment policies, urban revitalization, and transportation. Course Fee: STHC \$18.

PAD 3143. Urban and Regional Planning. (3-0) 3 Credit Hours.

This course will explore the fundamental concepts of urban and regional planning, including various planning tools and social and political issues related to planning. A wide variety of topics will be covered, including physical planning, transportation, housing, land use, urban redevelopment, and historic preservation. The course will tackle planning both as a community process and a professional activity. The evolution of planning concepts within the framework of the American political structure will be addressed. Generally offered: Spring. Course Fee: STHC \$18.

PAD 3153. Administrative Law and Policy. (3-0) 3 Credit Hours.

This course covers the legal framework for creating and implementing public policy, at all governmental levels. It includes an overview of the authority of legislative bodies to formulate laws and policies, as well as the rules that govern the implementation of these laws and policies by administrative bodies. The course will also cover the authority of courts to review and/or overturn laws and policies. (Formerly titled Introduction to Public Law.) Course Fee: STHC \$18.

PAD 3163. Analysis and Assessment for Public Administration. (3-0) 3 Credit Hours.

Prerequisite: Any 3-semester-credit-hour Mathematics core course. This course will introduce students to the nature and practice of evaluation in the public and nonprofit sectors, and to the basic skills necessary to understand and conduct such evaluations. This course covers collecting, organizing, analyzing, and presenting information. (Formerly PAD 2153. Credit cannot be earned for both PAD 3163 and PAD 2153.) Generally offered: Spring. Course Fee: STHC \$18.

PAD 4843. Study Abroad: International Public Administration. (3-0) 3 Credit Hours.

Prerequisite: Permission of instructor. A lecture/seminar course associated with a study abroad program related to the study and practice of comparative governance. Involves international travel and field trips. May be repeated for credit when the destination country varies. Course Fee: STHC \$18.

PAD 4853. Contemporary Issues in Public Administration and Policy. (3-0) 3 Credit Hours.

Prerequisite: Should be taken in the senior year or with consent of instructor. This is the capstone course for the Bachelor of Arts in Public Administration and Policy degree and will involve a major writing assignment and/or presentation. Specific topics to be covered will vary by semester. (Formerly Contemporary Issues in Public Administration.) Generally offered: Fall, Spring. Course Fee: STHC \$18.

PAD 4911. Independent Study. (0-0) 1 Credit Hour.

Prerequisite: Prior approval required. Independent Study Course Form (available in the department or college advising center) signed by the instructor, the student's undergraduate advisor, Department Chair, and Dean of the College of Public Policy. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated once for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Course Fee: STHC \$6.

PAD 4913. Independent Study. (0-0) 3 Credit Hours.

Prerequisite: Prior approval required. Independent Study Course Form (available in the department or college advising center) signed by the instructor, the student's undergraduate advisor, Department Chair, and Dean of the College of Public Policy. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated once for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Course Fee: STHC \$18.

PAD 4933. Internship in Public Administration. (0-0) 3 Credit Hours.

Prerequisites: PAD 1113, PAD 3163, and either PAD 3023 or PAD 3033; Prior approval of Public Administration Internship Coordinator is required. Supervised experience in an administrative setting that provides the opportunity to integrate theory and practice in public or nonprofit-related agencies. May be repeated for credit in a subsequent semester when agency setting varies, but not more than 6 semester credit hours will apply to a bachelor's degree. Generally offered: Fall, Spring, Summer. Course Fee: STHC \$18.

PAD 4936. Internship in Public Administration. (0-0) 6 Credit Hours.

Prerequisites: PAD 1113, PAD 3163, and either PAD 3023 or PAD 3033; Prior approval of Public Administration Internship Coordinator is required. Supervised experience in an administrative setting that provides the opportunity to integrate theory and practice in public or nonprofit-related agencies. May be repeated for credit in a subsequent semester when agency setting varies, but not more than 6 semester credit hours will apply to a bachelor's degree. Course Fee: STHC \$36.

PAD 4963. Special Topics in Public Administration. (3-0) 3 Credit Hours.

An organized course offering the opportunity for specialized study not normally or not often available as part of regular course offerings. Special Topics may be repeated for credit when topics vary, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. (Formerly titled "Special Topics in Urban Management Policy.") Course Fee: STHC \$18.

PAD 4993. Honors Thesis. (0-0) 3 Credit Hours.

Prerequisite: Enrollment limited to candidates for Honors in Public Administration during the last two semesters; completion of honors examination and approval by the honors program coordinator. Supervised research and preparation of an honors thesis. May be repeated once with advisor's approval. Course Fee: STHC \$18.

Public Health (PUB)

Public Health (PUB) Courses

PUB 1113. Introduction to Public Health. (3-0) 3 Credit Hours.

Introduces students to the discipline of public health. It will cover a variety of disciplines to the basic tenets of public health. The course will provide a history of public health, an introduction to the five core disciplines (Epidemiology, Biostatistics, Environmental Health, Social and Behavioral Health, and Health Policy & Management). The course will also cover the role of public health in a global society. (Same as SOC 1043. Credit cannot be earned for both PUB 1113 and SOC 1043.) Course Fees: LRHC \$10; STHC \$18.

PUB 2113. Data Management in Public Health. (3-0) 3 Credit Hours.

Study of the skills required to design, organize and implement a data management system in public health applications. It will cover an introduction to data preparation for statistical analysis, development of organizational tools, methods of data acquisition, data collection form design, principles of database development, quality control of data, and data security. Application of Microsoft® Access and SAS® software packages in data management will be presented. (Same as SOC 3543. Credit cannot be earned for both PUB 2113 and SOC 3543.) Course Fees: LRHC \$10; STHC \$18.

PUB 3413. Behavioral Epidemiology. (3-0) 3 Credit Hours.

Provides the student with basic knowledge about epidemiological applications in a behavioral area. It covers behavioral and social environmental issues related to disease etiology, premature morbidity and mortality patterns. Provides an overview of the epidemiology of specific health-related behaviors, the relationships between these behaviors and health outcomes, and available evidence for the effectiveness and appropriateness of various approaches to modification of these behaviors. (Same as SOC 4083. Credit cannot be earned for both PUB 3413 and SOC 4083.) Course Fees: LRHC \$10; STHC \$18.

PUB 3613. Etiology 1: Epidemiologic Methods to Investigate Outbreaks and New Epidemics. (3-0) 3 Credit Hours.

Utilizes case discussion seminars to appraise the investigative methods and research designs for studying disease outbreaks and new epidemics. Historical and current cases will include examples of disease outbreaks (e.g., food borne illness, hospital infections), emergence of new diseases, or epidemics related to specific exposures (e.g., natural disasters). Each case will evaluate the background of the problem, the investigative methods employed, the results, and the interventions taken to resolve the problem. Course Fees: LRHC \$10; STHC \$18.

PUB 4043. Global Health. (3-0) 3 Credit Hours.

Covers the field of global health, particularly the serious health problems facing developing world populations. The course begins with an introduction to the global burden of disease and then examines the complex social, economic, political, environmental, and biological factors that structure the origins, consequences and possible treatments of disease. Provides an introductory survey of the basic issues and initiatives in contemporary international public health, and develops student awareness of the socioeconomic and cultural complexity of health problems in developing nations. (Same as SOC 4043. Credit cannot be earned for both PUB 4043 and SOC 4043.) Generally offered: Fall. Course Fees: LRHC \$10; STHC \$18.

PUB 4053. Health Care System. (3-0) 3 Credit Hours.

Covers the complexities of health care organization and finance and presents a general overview of how the U.S. health care systems work and how the major components within the system fit together. Covers basic structures and operations of the U.S. health system - from its historical origins and resources, to its individual services, cost, and quality. Compares and contrasts the U.S. health care system with other health care systems around the world. (Same as SOC 4053. Credit cannot be earned for both PUB 4053 and SOC 4053.) Generally offered: Fall. Course Fees: LRHC \$10; STHC \$18.

PUB 4613. Etiology 2: Epidemiologic Methods to Investigate Chronic Disease, Exposure, and Risk. (3-0) 3 Credit Hours.

Utilizes case discussion seminars to appraise the investigative methods and research designs for studying chronic disease, disease exposure, and ascertainment of risk. Cases will include current examples of chronic diseases or conditions affecting population health (e.g., cardiovascular disease, diabetes, and obesity), methods for ascertaining outcomes (e.g., death certificates), and measures of risk association (e.g., standardized mortality ratios and relative risk). Each case will evaluate the background of the problem, the investigative methods employed, the results, and the public policy and practice implications from the research. Course Fees: LRHC \$10; STHC \$18.

PUB 4913. Independent Study. (0-0) 3 Credit Hours.

Prerequisites: Permission in writing (form available) from the instructor, the student's advisor, the Department Chair, and Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Course Fees: LRHC \$10; STHC \$18.

PUB 4933. Public Health Internship. (0-0) 3 Credit Hours.

Prerequisites: Senior standing and completion of HTH 2413, HTH 2623, and HTH 3503. Provides the opportunity for work experience in a private or public health-related agency. Opportunities are developed in consultation with faculty advisor and on-site coordinator. Internship must be approved in advance by the Internship Coordinator and the student's internship faculty advisor. Supervised full-or part-time off-campus work experience and training in health care management. A minimum of 150 hours of work experience is required. Individual conferences and written reports required. May be repeated for credit but not more than 6 hours of internship will apply to a bachelor's degree. Course Fees: LRHC \$10; STHC \$18.

PUB 4936. Public Health Internship. (0-0) 6 Credit Hours.

Prerequisites: Senior standing and completion of HTH 2413, HTH 2623, and HTH 3503. Provides the opportunity for work experience in a private or public health-related agency. Opportunities are developed in consultation with faculty advisor and on-site coordinator. Internship must be approved in advance by the Internship Coordinator and the student's internship faculty advisor. Supervised full-or part-time off-campus work experience and training in health care management. A minimum of 300 hours of work experience is required. Individual conferences and written reports required. Not more than 6 hours of internship will apply to a bachelor's degree. Course Fees: LRHC \$10; STHC \$36.

PUB 4953. Special Studies in Public Health. (3-0) 3 Credit Hours.

Prerequisite: Consent of instructor. Organized course offering the opportunity for specialized study in an area of health not available as part of the regular course offerings. Special Studies may be repeated for credit when topics vary, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. Course Fees: LRHC \$10; STHC \$18.

Race, Ethnicity, Gender, and Sexuality Studies (REGS)

Race, Ethnicity, Gender, and Sexuality Studies (REGS) Courses

REGS 2003. Teaching to Power: Critical and Liberating Pedagogies. (3-0) 3 Credit Hours.

This course will introduce students to concepts and race-based and gender-based theories that frame critical and liberatory pedagogies. Historical, social, political, philosophical, cultural, and economic forces that shape United States public school system will be explored. Students in the course will engage in an intensive study around systemic injustices as they relate to hegemonic logics of schooling, such as coloniality, heteronormativity, white supremacy, and anti-blackness. This course also seeks to recover community-rooted ways of knowing that facilitate culturally sustaining pedagogies, liberatory identities and critical consciousness. Topics addressing economic, political, and status hierarchies as well as how struggles for equality have varied across race, ethnicity, religion, sexual identity, and class within these systems vary from semester to semester. The course includes a capstone project in which students plan a program of study appropriate to the academic fields of African American Studies, Mexican American Studies and Women's and Gender Studies. Course Fees: LRH1 \$20; STSH \$30.

Real Estate (RFD)

Real Estate (RFD) Courses

RFD 3523. Real Estate Law. (3-0) 3 Credit Hours.

Topics may include the legal environment of real property ownership and transfer and legal brokerage; estates in land; sales contracts; mortgage transactions; title conveyances; landlord and tenant; restrictions and zoning; eminent domain; and negotiations. (Same as BLW 3523. Credit cannot be earned for both RFD 3523 and BLW 3523.) Generally offered: Fall. Differential Tuition: \$126. Course Fee: DL01 \$75.

RFD 3533. Principles of Construction for Real Estate Professionals. (3-0) 3 Credit Hours.

The principles of construction methods and management with application to sustainable real estate development and adaptive reuse, facility and property management, real estate brokerage and real estate lending. Topics include building code requirements, AIA forms, assembling and interpreting construction documents, construction materials and methods, LEED construction requirements, tenant improvements, construction cost estimating and project cost tracking, and construction project management. Differential Tuition: \$126.

RFD 3571. Real Estate Seminar. (1-0) 1 Credit Hour.

Prerequisites: Declared Real Estate Finance and Development major or minor. Weekly presentations of current topics in real estate. This seminar may be repeated one time for a total of two semester credit hours. Differential Tuition: \$42.

RFD 4303. Facility and Property Management Policies and Procedures. (3-0) 3 Credit Hours.

Prerequisite: MGT 3013. The implementation of professional policies, standards, practices, and procedures for the leasing, operation and maintenance of facilities. Topics include the facility management profession, leasing, and the acquisition, installation, operation, maintenance and disposition of building systems, furniture and fixtures, and grounds and exterior elements. (Formerly FM 4303 and MGT 4303. Credit cannot be earned for more than one of the following: FM 4303, MGT 4303, or RFD 4303.) Differential Tuition: \$126.

RFD 4313. Facility and Property Management Practices. (3-0) 3 Credit Hours.

Prerequisite: MGT 3013. The application of management practices to the operation of facilities. Topics include the study of human and environmental factors, building safety, building audits, building technology, emergency preparedness, the use and changing uses of facilities, and continuous quality improvement. (Formerly FM 4313 and MGT 4313. Credit cannot be earned for more than one of the following: FM 4313, MGT 4313, or RFD 4313.) Differential Tuition: \$126.

RFD 4733. Principles of Sustainable Real Estate Development. (3-0) 3 Credit Hours.

Prerequisites: FIN 3013, FIN 3433, and FIN 4713 or FIN 4723. The examination of the principles involved in creating value through the real estate development process. Economic, regulatory, planning, sustainability, financing, management and disposition issues are considered in the marketing and financial analyses of development prospects. (Same as FIN 4733. Credit cannot be earned for both RFD 4733 and FIN 4733. Real Estate Finance and Development majors cannot take FIN 4733 to meet degree requirements.) Generally offered: Fall, Spring. Differential Tuition: \$126.

RFD 4743. Real Estate Decision Making. (3-0) 3 Credit Hours.

Prerequisite: FIN 3433. This course introduces students to real estate market and investments analysis. Topics may include real estate market analysis, commercial research resources and processes, Excel modeling, and Argus Enterprise. Differential Tuition: \$126.

RFD 4753. Real Estate Contracts. (3-0) 3 Credit Hours.

Prerequisite: FIN 3433. This course introduces students to real estate contracts. Topics may include common law contract and statutory contract law elements, types and forms of common law contracts and leases, residential and commercial contract/lease review, understanding contract terms and clauses, negotiation, and any other legal or regulatory issues related to contracts or leases. Differential Tuition: \$126.

RFD 4763. Real Estate Marketing. (3-0) 3 Credit Hours.

Prerequisite: MKT 3013. Focuses on the processes involved in professionally marketing and selling real estate. Emphasis is on integrating the four elements of a marketing mix—promotion, place, product, and price—and showing how they are used within the real estate industry to create marketing strategies. (Same as MKT 4763. Credit cannot be earned for both RFD 4763 and MKT 4763. Real Estate Finance and Development majors cannot take MKT 4763 to meet degree requirements.) Differential Tuition: \$126.

RFD 4773. Real Estate Data Analysis. (3-0) 3 Credit Hours.

Prerequisite: Declared Real Estate Finance and Development major or minor. Study of applications and quantitative real estate market data to support business decision making. Differential Tuition: \$126.

RFD 4853. Real Estate Appraisal. (3-0) 3 Credit Hours.

Prerequisites: FIN 3013 and FIN 3433. Functions and methods of property valuation, including comparable sales analysis, cost depreciation analysis, and income capitalization; residential and income property appraisal techniques and reporting. (Same as FIN 4853. Credit cannot be earned for both RFD 4853 and FIN 4853. Real Estate Finance and Development majors cannot take FIN 4853 to meet degree requirements.) Differential Tuition: \$126.

RFD 4911. Independent Study. (0-0) 1 Credit Hour.

Prerequisites: A 3.0 College of Business grade point average. See academic advisor for required forms. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Differential Tuition: \$42.

RFD 4912. Independent Study. (0-0) 2 Credit Hours.

Prerequisites: A 3.0 College of Business grade point average. See academic advisor for required forms. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Differential Tuition: \$84.

RFD 4913. Independent Study. (0-0) 3 Credit Hours.

Prerequisites: A 3.0 College of Business grade point average. See academic advisor for required forms. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Differential Tuition: \$126.

RFD 4923. Internship in Real Estate. (0-0) 3 Credit Hours.

Prerequisites: Declared major in Real Estate Finance and Development and 6 semester credit hours of upper-division real estate or finance courses, a 2.5 UTSA grade point average, and approval in writing from the instructor, the Department Chair, and the Associate/Assistant Dean of Undergraduate Studies in the College of Business. Directed internship of at least 200 hours of work under the supervision of a real estate professional providing students with opportunities to apply concepts, principles, and techniques learned in the classroom. Written report required. A proposal form must be completed and approved prior to registration. Internship may be repeated once for a total of 6 semester credit hours. (Formerly FIN 4923.) Generally offered Fall, spring, and summer. Differential Tuition: \$126.

RFD 4951. Special Studies in Real Estate. (1-0) 1 Credit Hour.

Prerequisites: Declared Real Estate Finance and Development major or minor. An organized course offering the opportunity for specialized study not normally or not often available as part of the regular course offerings. Special Studies may be repeated for credit when the topics vary, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. Differential Tuition: \$42.

RFD 4952. Special Studies in Real Estate. (2-0) 2 Credit Hours.

Prerequisites: Declared Real Estate Finance and Development major or minor. An organized course offering the opportunity for specialized study not normally or not often available as part of the regular course offerings. Special Studies may be repeated for credit when the topics vary, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. Differential Tuition: \$84.

RFD 4953. Special Studies in Real Estate. (3-0) 3 Credit Hours.

Prerequisites: Declared Real Estate Finance and Development major or minor. An organized course offering the opportunity for specialized study not normally or not often available as part of the regular course offerings. Special Studies may be repeated for credit when the topics vary, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. Differential Tuition: \$126.

Russian (RUS)

Russian (RUS) Courses

RUS 1014. Elementary Russian I. (3-2) 4 Credit Hours. (TCCN = RUSS 1411)

Fundamentals of Russian offering the opportunity to develop speaking, listening, reading, and writing skills. Introduction to Russian culture. May be applied toward the Core Curriculum requirement in Language, Philosophy and Culture. Generally offered: Fall. Course Fees: LRC1 \$16; LRLF \$10; MM01 \$7; STLF \$24.

RUS 1024. Elementary Russian II. (3-2) 4 Credit Hours. (TCCN = RUSS 1412)

Prerequisite: RUS 1014, the equivalent, an appropriate placement test score, or consent of instructor. Fundamentals of Russian offering the opportunity to further develop speaking, listening, reading, and writing skills. Further exposure to Russian culture. Generally offered: Spring. Course FeeS: LRLF \$10; MM01 \$7; STLF \$24.

RUS 2013. Intermediate Russian I. (3-1) 3 Credit Hours. (TCCN = RUSS 2311)

Prerequisite: RUS 1024, the equivalent, an appropriate placement test score, or consent of instructor. Continued opportunity to develop listening, speaking, reading, and writing skills. Continued exposure to Russian culture. Generally offered: Fall. Course Fees: LRLF \$10; MM01 \$7; STLF \$18.

RUS 2023. Intermediate Russian II. (3-1) 3 Credit Hours. (TCCN = RUSS 2312)

Prerequisite: RUS 2013, the equivalent, an appropriate placement test score, or consent of instructor. Continued opportunity to develop listening, speaking, reading, and writing skills. Continued exposure to Russian culture. Generally offered: Spring. Course Fee: LRLF \$10; MM01 \$7; STLF \$18.

RUS 2333. Russian Literature in English Translation. (3-0) 3 Credit Hours.

Major works of Russian literature across time, genres, and movements. May be applied toward the Core Curriculum requirement in Language, Philosophy and Culture. (Formerly RUS 3333. Credit cannot be earned for both RUS 2333 and RUS 3333.) Course Fees: LRC1 \$12; LRLF \$10; MM01 \$7; STLF \$18.

RUS 3033. Oral Communication Skills. (3-0) 3 Credit Hours.

Prerequisite: RUS 2013 or the equivalent. Further development of speaking skills in a variety of contexts. May be repeated once for credit when topics vary. Course Fees: LRLF \$10; MM01 \$7; STLF \$18.

RUS 3143. Structure of Russian Language. (3-0) 3 Credit Hours.

Prerequisite: RUS 2013 or the equivalent. Extensive grammar review. Further development of speaking and writing skills through activities directed at the intermediate-high and advanced levels. Considerations of differences between written and spoken language. May be repeated once for credit when topics vary. Course Fees: LRLF \$10; MM01 \$7; STLF \$18.

RUS 3213. Advanced Russian. (3-0) 3 Credit Hours.

Prerequisite: RUS 2023 or the equivalent. Opportunity to develop advanced-level oral and written communication skills in the Russian language, along with enhanced comprehension skills in listening and reading. May be repeated for credit when topics vary. Course Fee: LRLF \$10; MM01 \$7; STLF \$18.

RUS 4213. Topics in Russian Culture. (3-0) 3 Credit Hours.

Prerequisite: RUS 2013 or the equivalent. Further development of proficiency by content-based instruction. Topics may include geopolitics, traditions, history, music, literature, art, or film. May be repeated for credit when topics vary. (Formerly RUS 3633). Generally offered: Spring. Course Fee: DL01 \$75; LRLF \$10; MM01 \$7; STLF \$18.

Sociology (SOC)

Sociology (SOC) Courses

SOC 1013. Introduction to Sociology. (3-0) 3 Credit Hours. (TCCN = SOCI 1301)

Introduces the study of human groups, the relations of individuals to groups, and the process of becoming a group member and functioning in a group setting. May be applied toward the Core Curriculum requirement in Social and Behavioral Sciences. (Formerly titled "Introduction to the Study of Society.") Generally offered: Fall, Spring, Summer. Course Fees: DL01 \$75; LRC1 \$12; LRHC \$10; STHC \$18.

SOC 2013. Social Problems. (3-0) 3 Credit Hours. (TCCN = SOCI 1306)

Examines major contemporary social problems and their causes and consequences. Topics may include poverty, racism, sexism, deviance and crime, drug and alcohol dependence, the urban crisis, overpopulation, and war. May be applied toward the Core Curriculum requirement in Social and Behavioral Sciences. Generally offered: Fall, Spring, Summer. Course Fees: DL01 \$75; LRC1 \$12; LRHC \$10; STHC \$18.

SOC 2023. Social Context of Drug Use. (3-0) 3 Credit Hours. (TCCN = SOCI 2340)

Explores the use and abuse of mind-altering substances within society. Topics of study may include historical treatments of drug use, drug treatment and recovery interventions, the global magnitude of contemporary drug problems, and the problematic nature and consequences of drug legislation and enforcement. May be applied toward the Core Curriculum requirement in Social and Behavioral Sciences. (Formerly titled "Drugs in Society.") Generally offered: Fall, Spring. Course Fees: DL01 \$75; LRC1 \$12; LRHC \$10; STHC \$18.

SOC 2063. Special Topics in Sociology. (3-0) 3 Credit Hours.

An organized course offering the opportunity for a specialized topic at the lower division level that is available through the regular course offerings. Special Topics may be repeated for credit when topics vary, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. Course Fees: LRHC \$10; STHC \$18.

SOC 3013. Social Stratification. (3-0) 3 Credit Hours.

Examines theory and research pertaining to inequalities of power, prestige, and economic privilege. Major emphasis upon inequality and social mobility in the United States. Generally offered: Fall, Spring. Course Fees: DL01 \$75; LRHC \$10; STHC \$18.

SOC 3043. Race and Ethnic Relations. (3-0) 3 Credit Hours.

Examines the dominant-subordinate relations in world societies, with major emphasis on the United States. Models of assimilation, colonial and class society, and consequences for minority and majority populations may be examined. Generally offered: Fall, Spring. Course Fees: DL01 \$75; LRHC \$10; STHC \$18.

SOC 3053. Deviance and Difference. (3-0) 3 Credit Hours.

Analyzes the forms of deviance and consideration of social/political trends toward difference. An examination of theories may include: biological, analytic, labeling, functionalist, culture conflict, radical, and poststructuralist. Course Fees: LRHC \$10; STHC \$18.

SOC 3063. Collective Behavior. (3-0) 3 Credit Hours.

Prerequisite: SOC 1013, or consent of instructor. Focuses on case studies and associated theory dealing with various forms of collective behavior ranging from spontaneous events to organized mass movements. Course Fees: LRHC \$10; STHC \$18.

SOC 3083. Social Change and Development. (3-0) 3 Credit Hours.

Presents principal models and theories of social transformation applied to examples of societal change. Topics may include consideration of master trends such as rationalization, industrialization, and bureaucratization, and the expansion and contraction of global interconnectedness. Course Fees: LRHC \$10; STHC \$18.

SOC 3093. Religion and Society. (3-0) 3 Credit Hours.

Focuses on religious institutions and movements in the United States with comparative data from other countries. Topics may include the relationship of religious institutions to social stratification, economic institutions, and political and social change. Generally offered: Fall, Spring. Course Fees: DL01 \$75; LRHC \$10; STHC \$18.

SOC 3113. Criminology. (3-0) 3 Credit Hours.

Examines the nature, prevalence, and impact of different types of legal violations, including street crime, organized crime, political crime, and white-collar crime. Includes treatment of social and legal responses to crime. Generally offered: Fall, Spring, Summer. Course Fees: DL01 \$75; LRHC \$10; STHC \$18.

SOC 3163. Families in Society. (3-0) 3 Credit Hours.

Examines the modern family, structures and functions, variant patterns and the influence of the broader society in producing family change. Contemporary and continuing issues are covered in the context of theory and research. Topics may include variability in childhood socialization, family violence, changing gender roles, marriage, divorce and remarriage, alternative family structures, and the aging family. (Formerly SOC 2053. Credit cannot be earned for both SOC 3163 and SOC 2053.) (Formerly titled "Marriage and Family.") Generally offered: Fall. Course Fees: LRHC \$10; STHC \$18.

SOC 3193. The Sociology of Work and Occupations. (3-0) 3 Credit Hours.

Prerequisite: SOC 1013, or consent of instructor. Explores occupational structures in selected societies; the relationship between occupations and economic rewards, lifestyles, and worldview; and determinants of work satisfaction. Generally offered: Fall, Spring. Course Fees: DL01 \$75; LRHC \$10; STHC \$18.

SOC 3203. Gerontology. (3-0) 3 Credit Hours.

Examines the historical and cross-cultural differences in the status of the elderly in society. Includes interaction of the elderly with social institutions, and policy implications of the demographic shift toward an aging population in the United States. Course Fees: LRHC \$10; STHC \$18.

SOC 3213. Medical Sociology. (3-0) 3 Credit Hours.

Examines social factors in the cause and distribution of disease; relationships between patients and medical professionals; the contribution of lay belief to health, illness, treatment, and recovery; the organization of health-care delivery; and the disparities in the distribution of medical resources. Generally offered: Spring. Course Fees: LRHC \$10; STHC \$18.

SOC 3223. Population Dynamics and Demographic Techniques. (3-0) 3 Credit Hours.

Introduces the common methods, techniques, and models employed by demographers. Topics may include demographic data sources, introduction to life table techniques; construction, standardization, and decomposition of rates; measures of concentration and diversity; and population growth projections. Students will become familiar with microcomputer programs for demographic analysis. (Formerly titled "Demographic Techniques.") Generally offered: Fall, Spring. Course Fees: LRHC \$10; STHC \$18.

SOC 3253. The Individual and Society. (3-0) 3 Credit Hours.

Examines the major theories dealing with the effects of culture and social structure on the development and functioning of the personality and the self. Course Fees: LRHC \$10; STHC \$18.

SOC 3263. Latinas in U.S. Society. (3-0) 3 Credit Hours.

Focuses on women of Latino descent in the United States with a comparative emphasis on the experiences of Texas Latinas relative to those residing elsewhere in the Southwest. Topics may include: historical presence in the Southwest; patriarchy and familialism; labor and employment issues; immigration and border issues; political involvement and feminist vision; artistic, cultural and intellectual expression. (Same as WS 3953. Credit cannot be earned for both SOC 3263 and WS 3953 when topic is the same.) Generally offered: Spring. Course Fees: LRHC \$10; STHC \$18.

SOC 3283. Poverty. (3-0) 3 Credit Hours.

Examines the causes and consequences of poverty in the United States and selected other societies. An examination of social programs designed to combat poverty. Generally offered: Fall, Spring, Summer. Course Fees: LRHC \$10; STHC \$18.

SOC 3293. Sociology of Gender. (3-0) 3 Credit Hours.

Explores the nature of gender roles in our own and other societies. Consideration of how people learn gender roles and the outcomes of this learning for individuals, families, and societies. Alternatives to conventional gender roles. (Formerly titled "Gender Roles.") Course Fees: LRHC \$10; STHC \$18.

SOC 3323. Introduction to Social Research. (3-0) 3 Credit Hours.

Prerequisite: SOC 1013. Introduction to the philosophy of science and the logic of research design. Examines a variety of social research designs including experiments, survey research, content analysis, and historical analysis. Course emphasizes techniques related to information gathering, basic data analysis, and reporting findings. (Formerly titled "Research Methods in Sociology.") Generally offered: Fall, Spring. Course Fees: LRHC \$10; STHC \$18.

SOC 3353. Sociological Theory. (3-0) 3 Credit Hours.

Prerequisite: SOC 1013. Begins with an examination of the foundational writings in classical sociological theory with special emphasis on the work of Karl Marx, Emile Durkheim and Max Weber. Contemporary paradigms in sociological theory (e.g., functionalism, neo-Marxism, phenomenology, and feminism), and current debates over the state of theory are then addressed. Attention is also given to the linkages between theory and research. (Formerly SOC 3183. Credit cannot be earned for both SOC 3353 and SOC 3183.) Generally offered: Fall, Spring, Summer. Course Fees: DL01 \$75; LRHC \$10; STHC \$18.

SOC 3373. Qualitative Research Methods. (3-0) 3 Credit Hours.

Prerequisite: SOC 3323. Introduces the philosophy of science and research design, including participant observation, in-depth interviews, oral history, and focus groups through field research. The course provides opportunities for developing qualitative research skills while gaining familiarity with issues and problems common to these methods. Generally offered: Fall, Spring. Course Fees: DL01 \$75; LRHC \$10; STHC \$18.

SOC 3393. Quantitative Research Methods. (3-0) 3 Credit Hours.

Prerequisites: Completion of the Core Curriculum requirement in mathematics, SOC 1013, and SOC 3323. Application of conceptualization and operationalization in the quantitative analysis of a variety of sociological subjects. Use of elementary measures of central tendency and dispersion, cross tabulations, and linear model procedures to evaluate relationships among variables; problems of descriptions and inference. Includes the use of standard computer packages and secondary analysis of data. (Formerly SOC 3313. Credit cannot be earned for both SOC 3313 and SOC 3393.) Generally offered: Fall, Spring. Course Fees: LRHC \$10; STHC \$18.

SOC 3413. Sociology of the Mexican American Community. (3-0) 3 Credit Hours.

Focuses on contemporary issues regarding Mexican American communities. Topics of discussion include family structure, gender roles, border issues and political power. Comparison with other minorities and the majority group will allow discussion of variant community patterns. (Same as MAS 3413. Credit cannot be earned for both MAS 3413 and SOC 3413.) (Formerly titled "Mexican American Family.") Generally offered: Summer. Course Fees: LRHC \$10; STHC \$18.

SOC 3423. Mass Media in Society. (3-0) 3 Credit Hours.

Examines media production and its role in the economy; the construction of media meaning, signification, and ideology; and the role of the audience in making sense of messages. Larger issues of societal power will be treated, along with an examination of alternative media. Course Fees: LRHC \$10; STHC \$18.

SOC 3463. Sociology of Sport and Leisure. (3-0) 3 Credit Hours.

Examines the social meanings of play and leisure in advanced industrial societies. Emphasis will be on the origins, structure, and function of these phenomena in the United States, with major emphasis on sport as an institution. Course Fees: LRHC \$10; STHC \$18.

SOC 4023. Violence and Society. (3-0) 3 Credit Hours.

Examines and assesses the major social science perspectives and theories that attempt to explain why violence occurs in society. (Formerly SSC 3203. Credit cannot be earned both for SOC 4023 and SSC 3203.) Generally offered: Spring. Course Fees: DL01 \$75; LRHC \$10; STHC \$18.

SOC 4213. Behavioral Profiling. (3-0) 3 Credit Hours.

Prerequisite: SOC 1013 or PSY 1013. This course is designed to expose students to the process of criminal behavioral profiling, an investigative tool used by law enforcement, criminologists, and forensic scientists to predict the characteristics of unknown subjects through crime scene analysis. This is a unique course and is arranged around the deductive profiling method developed by a few of the more published criminal profilers in the United States. Topics include case assessment, crime scene reconstruction methods, evidence dynamics, victimology, criminal motivation, and ethics. Course Fees: DL01 \$75; LRHC \$10; STHC \$18.

SOC 4433. Culture and Society. (3-0) 3 Credit Hours.

Explores the social significance of cultural production, including the relationships between art, consciousness, the economy, and history. Themes examined may include the social production of art, art and ideology, the problem of artistic reception, and art movements and cultural resistance. Topics include art and culture in minority social movements, the relation between high and low culture, and cultural conflict over art. Course Fees: LRHC \$10; STHC \$18.

SOC 4683. Health Disparities. (3-0) 3 Credit Hours.

The main purpose of this course is to provide students with an understanding of how racial/ethnic, social, economic, demographic and gender factors contribute to disparities in health and health care in the United States. Generally offered: Spring. Course Fees: LRHC \$10; STHC \$18.

SOC 4853. Topics in Sociology. (3-0) 3 Credit Hours.

An organized course offering the opportunity for specialized study not normally or not often available as part of the regular course offerings. Special Studies may be repeated for credit when topics vary, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. (Formerly SOC 4953. Credit may be earned for both SOC 4853 and SOC 4953 but may not exceed 6 semester credit hours combined). Course Fees: DL01 \$75; LRHC \$10; STHC \$18.

SOC 4863. Topics in Sociology. (3-0) 3 Credit Hours.

An organized course offering the opportunity for a specialized topic not normally or not often available as part of the regular course offerings. Special Topics may be repeated for credit when topics vary, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. Course Fees: LRHC \$10; STHC \$18.

SOC 4911. Independent Study. (0-0) 1 Credit Hour.

Prerequisites: Permission in writing (form available) from the instructor, the student's advisor, the Department Chair, and the Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Course Fees: LRHC \$10; STHC \$6.

SOC 4913. Independent Study. (0-0) 3 Credit Hours.

Prerequisites: Permission in writing (form available) from the instructor, the student's advisor, the Department Chair, and the Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Course Fees: LRHC \$10; STHC \$18.

SOC 4923. Public Health Study Abroad. (0-0) 3 Credit Hours.

The purpose of this course is to provide students greater understanding of global health issues. The study abroad program focuses on health care and public health in different international settings and provides students with a unique opportunity to integrate direct academic learning and field experience in public health. The program involves attending class room lectures in public health and interacting with local public health officials in understanding how health care system is responding to the health needs of its population. This course will satisfy 3 hours of the Public Health Internship requirement under the Sociology degree. Course Fees: LRHC \$10; STHC \$18.

SOC 4926. Public Health Study Abroad. (0-0) 6 Credit Hours.

The purpose of this course is to provide students greater understanding of global health issues. The study abroad program focuses on health care and public health in different international settings and provides students with a unique opportunity to integrate direct academic learning and field experience in public health. The program involves attending classroom lectures in public health and interacting with local public health officials in understanding how health care system is responding to the health needs of its population. This course will satisfy 6 hours of the Public Health Internship requirement under the Sociology degree. Course Fees: LRHC \$10; STHC \$36.

SOC 4933. Internship in Sociology. (0-0) 3 Credit Hours.

Prerequisites: Completion of SOC 3353 and either SOC 3373 or SOC 3393, and consent of internship coordinator. Provided as part of the COLFA Signature Experience and offers supervised work experience relevant to sociology within selected organizations and agencies. Internships selected should be relevant to previous coursework. A maximum of 6 semester credit hours may be earned through this internship. Generally offered: Fall, Spring, Summer. Course Fees: LRHC \$10; STHC \$18.

SOC 4936. Internship in Sociology. (0-0) 6 Credit Hours.

Prerequisites: Completion of SOC 3353 and either SOC 3373 or SOC 3393, and consent of internship coordinator. Provided as part of the COLFA Signature Experience and offers supervised work experience relevant to sociology within selected organizations and agencies. Internships selected should be relevant to previous coursework. A maximum of 6 semester credit hours may be earned through this internship. Generally offered: Fall, Spring, Summer. Course Fees: LRHC \$10; STHC \$36.

SOC 4993. Honors Thesis. (0-0) 3 Credit Hours.

Prerequisite: Enrollment limited to candidates for Honors in Sociology during the last two semesters. Supervised research and preparation of an honors thesis. May be repeated once with advisor's approval. Generally offered: Fall, Spring. Course Fees: LRHC \$10; STHC \$18.

Spanish (SPN)

Spanish (SPN) Courses

SPN 1014. Elementary Spanish I. (3-2) 4 Credit Hours. (TCCN = SPAN 1411)

Fundamentals of Spanish, offering the opportunity to develop listening, speaking, reading, and writing skills. Emphasis on listening and speaking. Introduction to Hispanic culture. May be applied toward the Core Curriculum requirement in Language, Philosophy and Culture. Generally offered: Fall, Spring, Summer. Course Fees: DL01 \$100; LRC1 \$16; LRLF \$10; MM01 \$7; STLF \$24.

SPN 1024. Elementary Spanish II. (3-2) 4 Credit Hours. (TCCN = SPAN 1412)

Prerequisite: SPN 1014, the equivalent, or an appropriate placement test score. Fundamentals of Spanish offering the opportunity to develop listening, speaking, reading, and writing skills. Emphasis on listening and speaking. Further study of Hispanic culture. Generally offered: Fall, Spring, Summer. Course Fee: DL01 \$100; LRLF \$10; MM01 \$7; STLF \$24.

SPN 2013. Intermediate Spanish I. (3-1) 3 Credit Hours. (TCCN = SPAN 2311)

Prerequisite: SPN 1024, the equivalent, or an appropriate placement test score. Continued opportunity to develop listening, speaking, reading, and writing skills. Grammar and further study of Hispanic culture. Generally offered: Fall, Spring, Summer. Course Fees: LRLF \$10; MM01 \$7; STLF \$18.

SPN 2023. Intermediate Spanish II. (3-1) 3 Credit Hours. (TCCN = SPAN 2312)

Prerequisite: SPN 2013, the equivalent, or an appropriate placement test score. Continued opportunity to develop listening, speaking, reading, and writing skills. Grammar review and further study of Hispanic culture. Generally offered: Fall, Spring, Summer. Course Fees: LRLF \$10; MM01 \$7; STLF \$18.

SPN 2033. Spanish for Heritage Learners II. (3-1) 3 Credit Hours.

This course is a continuation of Spanish for Heritage Learners I. It expands on the students' verbal (aural and oral) skills, with additional opportunities for reading texts rich in formal and informal culture, and writing compositions on related topics. Course Fees: LRLF \$10; MM01 \$7; STLF \$18.

SPN 2333. Hispanic Literature in English Translation. (3-0) 3 Credit Hours.

Prerequisite: WRC 1013 or the equivalent. Major works in Hispanic literatures: themes, genres, and movements. May be applied toward the Core Curriculum requirement in Language, Philosophy and Culture. (Formerly SPN 3333. Credit cannot be earned for both SPN 2333 and SPN 3333.) Generally offered: Fall. Course Fees: DL01 \$75; LRC1 \$12; LRLF \$10; MM01 \$7; STLF \$18.

SPN 3003. Oral and Written Expression. (3-1) 3 Credit Hours.

Prerequisite: SPN 2023, the equivalent, or an appropriate placement test score. If placement is at a higher level, a Spanish elective may be substituted for the minor. Conversation, reading, and grammar review toward building literacy skills. Opportunities for composition and oral communication for a variety of situations and topics. (Formerly SPN 2103. Credit cannot be earned for both SPN 3003 and SPN 2103.) Generally offered: Fall, Spring. Course Fees: LRLF \$10; MM01 \$7; STLF \$18.

SPN 3013. Spanish Phonetics and Phonology. (3-0) 3 Credit Hours.

Prerequisite: SPN 2023 or SPN 3003, the equivalent, or consent of instructor. Offers the opportunity for study of the sound system of Latin-American Spanish. Activities may include pronunciation exercises, exercises in sound discrimination and transcription, and articulatory description of various dialects of Spanish. Generally offered: Fall. Course Fees: LRLF \$10; MM01 \$7; STLF \$18.

SPN 3033. Oral Communication Skills. (3-0) 3 Credit Hours.

Prerequisite: SPN 2023 or SPN 3003, the equivalent, or consent of instructor. Opportunity for development of speaking skills in a formal register through activities directed at vocabulary building, grammatical accuracy, and aural/written comprehension. Generally offered: Fall, Spring, Summer. Course Fees: LRLF \$10; MM01 \$7; STLF \$18.

SPN 3043. Introduction to Literature. (3-0) 3 Credit Hours.

Prerequisite: SPN 3063, the equivalent, or consent of instructor. Approaches to reading, comprehension and analysis of literary and other advanced texts. Use of analytical terminology, advanced vocabulary building, and further development of formal writing skills. (Formerly titled "Advanced Reading.") Generally offered: Fall, Spring, Summer. Course Fees: LRLF \$10; MM01 \$7; STLF \$18.

SPN 3053. Spanish for Healthcare Professionals. (3-0) 3 Credit Hours.

Prerequisite: SPN 2023 or SPN 3003, the equivalent, or consent of instructor. This course will empower students to interact with Spanish-speaking patients in clinical settings. Students will learn to navigate patient histories and interviews, examinations, diagnostic procedures, patient education, common diagnoses, informed consent, treatment plans, etc. Course Fees: LRLF \$10; MM01 \$7; STLF \$18.

SPN 3063. Grammar and Composition. (3-0) 3 Credit Hours.

Prerequisite: SPN 2023 or SPN 3003, or the equivalent. Extensive review of fundamental grammar with vocabulary building. Development of writing skills and style through activities directed at the Advanced level on the ACTFL-ETS proficiency scale. Consideration of usage and differences between written and spoken language. Generally offered: Fall, Spring, Summer. Course Fees: DL01 \$75; LRLF \$10; MM01 \$7; STLF \$18.

SPN 3113. Linguistic Structures of Spanish. (3-0) 3 Credit Hours.

Prerequisite: SPN 3063, the equivalent, or consent of instructor. Offers the opportunity for the application of the basic principles of analysis and description of language structure to Spanish. Attention given to structural regularities at the levels of word formation, syntax, and semantics of formal Spanish, recognizing variability in spoken registers. Generally offered: Spring. Course Fees: LRLF \$10; MM01 \$7; STLF \$18.

SPN 3413. The Literature of Spain from the Middle Ages to 1700. (3-0) 3 Credit Hours.

Prerequisite: SPN 3043 or consent of instructor. Spanish literature from the Middle Ages to 1700. Readings of selections and complete works. Practice in critical analysis through papers and examinations. Generally offered: Spring. Course Fees: LRLF \$10; MM01 \$7; STLF \$18.

SPN 3423. The Literature of Spain from 1700 to the Present. (3-0) 3 Credit Hours.

Prerequisite: SPN 3043 or consent of instructor. Spanish literature from 1700 to the present. Readings of selections and complete works. Practice in critical analysis through papers and examinations. Course Fees: LRLF \$10; MM01 \$7; STLF \$18.

SPN 3463. Latin American Literature to Modernism. (3-0) 3 Credit Hours.

Prerequisite: SPN 3043 or consent of instructor. Latin American literature from pre-Columbian times to Modernism. Practice in critical analysis through papers and examinations. Course Fees: LRLF \$10; MM01 \$7; STLF \$18.

SPN 3473. Latin American Literature since Modernism. (3-0) 3 Credit Hours.

Prerequisite: SPN 3043 or consent of instructor. Latin American literature from Modernism to the present. Practice in critical analysis through papers and examinations. Course Fees: LRLF \$10; MM01 \$7; STLF \$18.

SPN 3613. Spanish Culture and Civilization. (3-0) 3 Credit Hours.

Prerequisite: SPN 3043. Emergence of the Spanish peoples from pre-Roman times to the present: history, cultural expression, myths, values, and worldview. Course Fees: LRLF \$10; MM01 \$7; STLF \$18.

SPN 3623. Latin American Culture and Civilization. (3-0) 3 Credit Hours.

Prerequisite: SPN 3043. A study of social, political, and cultural history of the Latin American countries from pre-Columbian civilizations through the Conquest, Colonial period, and Independence to the present, as reflected in its literature and arts. Course Fees: LRLF \$10; MM01 \$7; STLF \$18.

SPN 4003. Advanced Language Skills. (3-0) 3 Credit Hours.

Prerequisite: SPN 3043, or SPN 3063 as appropriate, or consent of instructor. Development of advanced skills in formal Spanish, including such areas as grammar, composition, oratory, creative writing, Spanish/English translation, and other practical applications of language study. May be repeated for credit when topics vary. Generally offered: Fall, Spring, Summer. Course Fees: LRLF \$10; MM01 \$7; STLF \$18.

SPN 4113. Topics in Spanish Linguistics. (3-0) 3 Credit Hours.

Prerequisite: SPN 3113 or consent of instructor. Advanced study and applications of topics in Spanish linguistics. May include one or more of the following: phonology, morphology, syntax, semantics, dialectology, language variability, and history of Spanish. May be repeated for credit when topics vary. This course fulfills the College of Liberal and Fine Arts Signature Experience. Generally offered: Fall, Spring. Course Fees: LRLF \$10; MM01 \$7; STLF \$18.

SPN 4123. The Spanish of the United States. (3-0) 3 Credit Hours.

Prerequisite: SPN 3013, SPN 3113, or consent of instructor. The analysis of the Spanish language as used by native or heritage speakers in the United States, from a linguistic, pragmatic and sociolinguistic perspective. Particular attention given to the Spanish spoken in Texas. Course Fees: LRLF \$10; MM01 \$7; STLF \$18.

SPN 4203. Topics in Hispanic Literatures. (3-0) 3 Credit Hours.

Prerequisite: SPN 3043, an upper-division course in literature taught in Spanish or consent of instructor. An intensive study of an area of Spanish or Spanish American literatures. May be repeated for credit when topics vary. This course fulfills the College of Liberal and Fine Arts Signature Experience. Generally offered: Fall, Spring. Course Fees: LRLF \$10; MM01 \$7; STLF \$18.

SPN 4303. Topics in Hispanic Cultures. (3-0) 3 Credit Hours.

Prerequisite: SPN 3043, an upper-division course in literature or culture taught in Spanish, or consent of instructor. An intensive study of an area of Hispanic cultures. May be repeated for credit when topics vary. This course fulfills the College of Liberal and Fine Arts Signature Experience. Generally offered: Fall, Spring, Summer. Course Fees: DL01 \$75; LRLF \$10; MM01 \$7; STLF \$18.

SPN 4913. Independent Study. (0-0) 3 Credit Hours.

Prerequisites: Permission in writing (form available) of the instructor, the student's advisor, the Department Chair, and Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. No more than 6 semester credit hours of SPN 4913 and/or SPN 4993 may be applied to the major in Spanish. Course Fees: LRLF \$10; MM01 \$7; STLF \$18.

SPN 4933. Internship in Spanish. (0-0) 3 Credit Hours.

Prerequisite: Permission of Department Chair. Supervised experience in a setting that provides the opportunity to integrate theory and practice in language usage. May be repeated once for credit. Course Fees: LRLF \$10; MM01 \$7; STLF \$18.

SPN 4953. Special Studies in Spanish. (3-0) 3 Credit Hours.

Prerequisite: Consent of instructor. An organized course offering the opportunity for specialized study not normally or not often available as part of the regular course offerings. Special Studies may be repeated for credit when the topics vary, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. Course Fees: LRLF \$10; MM01 \$7; STLF \$18.

SPN 4993. Honors Research. (0-0) 3 Credit Hours.

Prerequisite: Consent of the undergraduate advisor. Supervised research and preparation of an honors thesis. May be repeated once for credit, with approval. No more than 6 semester credit hours of SPN 4993 and/or SPN 4913 may be applied to the major in Spanish. Course Fees: LRLF \$10; MM01 \$7; STLF \$18.

Special Education (SPE)

Special Education (SPE) Courses

SPE 3303. Introduction to Applied Behavior Analysis. (3-0) 3 Credit Hours.

This course provides a basic introduction to applied behavior analysis and the highly beneficial role that it can play in early childhood intervention for both typically developing children and those with special needs. The objective of this course is to master the fundamental principles of behavior in preparation for learning to apply these principles in school- and community-based settings that focus on early childhood education and intervention. This course is a recommended prerequisite for SPE 3633, SPE 3673, SPE 4673, SPE 4681, and SPE 4683. Generally offered: Fall, Spring. Course Fees: LRH1 \$20; STSH \$30.

SPE 3603. Introduction to Special Education. (3-0) 3 Credit Hours.

A study of individuals, groups, and populations with disabilities or exceptionalities. Content covered includes special education and disability law, critical issues in special education, special education processes and procedures, etiology, characteristics, prevalence, and placement options. Knowledge and competencies necessary for providing research-based, empirically derived best practices in curriculum and instruction to preschool and school-aged children and youth with exceptionalities in inclusive settings will also be presented. (Formerly titled "Introduction to Exceptionality.") Generally offered: Fall, Spring, Summer. Course Fees: DL01 \$75; LRH1 \$20; STSH \$30.

SPE 3623. Assessment of Students with Mild/Moderate Disabilities. (3-0) 3 Credit Hours.

Prerequisites: SPE 3603, SPE 3633, SPE 3683, SPE 3693, and SPE 4623. Concurrent enrollment in SPE 3653, SPE 4643, and SPE 4683 is required. Restricted course; advisor code required for registration. An introduction to assessment of students with mild/moderate disabilities. Informal and formal assessment instruments, procedures, and systems for assessment of aptitude, achievement, adaptive behavior, and language abilities will be studied. This course must be completed with a grade of "B" or better for it to serve as a prerequisite for CI 4716 Clinical Teaching: All level EC-12. Generally offered: Spring. Course Fees: LEA1 \$15; LRH1 \$20; STSH \$30.

SPE 3633. Classroom and Behavior Management. (3-0) 3 Credit Hours.

Prerequisite: SPE 3603. An in-depth introduction to behavior management for K-12 classrooms and other settings using applied behavior analysis. Objectives of this course include mastering evidence-based practices in applied behavior analysis within a Response to Intervention (RTI) framework, such as functional behavior assessment and function-based treatment of challenging behavior in students or clients. Behavioral approaches to classroom management at the class-wide and school-wide level are also addressed. Strategies also include the use of single-subject experimental design methodology, preference assessments, reinforcer assessments, differential reinforcement, and avoiding the use of punishment. Generally offered: Fall, Spring. Course Fees: DL01 \$75; LRH1 \$20; STSH \$30.

SPE 3653. Practicum in Special Education (Mild/Moderate Disabilities). (3-0) 3 Credit Hours.

Prerequisites: SPE 3603, SPE 3633, SPE 3683, SPE 3693, and SPE 4623. Concurrent enrollment in SPE 3623, SPE 4643 and SPE 4683 is required. Restricted course; advisor code required for registration. Instructional practices for students with disabilities will be studied including instructional design and creation of individual education plans. Application of course content in the field with students with disabilities will be required. Students enrolled in this course will be required to spend 6-8 hours a week in field-based placements, for a total of 60 to 80 hours, dependent upon the field placement program needs and requirements and on instructor requirements. This course must be completed with a grade of "B" or better for it to serve as a prerequisite for CI 4716 Clinical Teaching: All Level EC-12. Restricted course; advisor code required for registration. May be repeated for credit. (Same as SPE 5893.) Generally offered: Spring. Course Fees: LRH1 \$20; STF1 \$75; STSH \$30.

SPE 3673. Behavioral Assessment of Students with Autism and Developmental Disorders. (3-0) 3 Credit Hours.

Prerequisites: SPE 3603, SPE 3633, SPE 3683, SPE 3693, and SPE 4623. Concurrent enrollment in SPE 4653, SPE 4673 and SPE 4693 is required. Restricted course; advisor code required for registration. An in-depth introduction to comprehensive curriculum development and behavioral assessment of academic and nonacademic behavior, with a focus on students or clients with autism and other developmental disorders and intellectual disability. Objectives in this course include mastering basic information about autism spectrum disorders and using the evidence-based practice of applied behavior analysis in a Response to Intervention (RTI) framework to conduct assessments and treatment evaluations which inform curriculum development, implementation, and refinement. Strategies include advanced applications of single-subject design methodology, advanced functional analysis, brief experimental analysis of academic behavior, and assessments for literacy, verbal behavior, social, and life skills. This course must be completed with a grade of "B" or better for it to serve as a prerequisite for CI 4716 Clinical Teaching: All Level EC-12. Generally offered: Fall. Course Fees: LEA1 \$15; LRH1 \$20; STSH \$30.

SPE 3683. Special Education Across the Lifespan. (3-0) 3 Credit Hours.

Prerequisite: SPE 3603. The study of programs and services in special education, including early childhood intervention and transition, that impact students with disabilities throughout the lifespan. The course will focus on supports, procedures, and resources for facilitating transitions and communication of transition activities involving the student and families. Generally offered: Fall, Spring. Course Fees: LRH1 \$20; STSH \$30.

SPE 3693. Special Education Law. (3-0) 3 Credit Hours.

A study of the local, federal and state laws, regulations, rules, and ethics that govern special education. Course topics will include due process, confidentiality, monitoring and evaluation requirements, and the provision of related services. Emphasis on terminology, definitions, classification systems, and current issues and trends. Generally offered: Fall, Spring. Course Fees: DL01 \$75; LRH1 \$20; STSH \$30.

SPE 4623. Mathematics Instruction for Students with Disabilities. (3-0) 3 Credit Hours.

Prerequisite: SPE 3603. The study of the learning and development of mathematical concepts, procedures, and skills for students with disabilities. Concepts, methods, and appropriate use of technology related to numbers, patterns, operations, problem solving, geometry, and algebraic reasoning will be included. Research-based methods and strategies will be applied in the field. This course must be completed with a grade of "B" or better for it to serve as a prerequisite for CI 4716 Clinical Teaching: All Level EC-12. Generally offered: Fall, Spring. Course Fees: LRH1 \$20; STSH \$30.

SPE 4643. Instruction for Students with Mild/Moderate Disabilities. (3-0) 3 Credit Hours.

Prerequisites: SPE 3603, SPE 3633, SPE 3683, SPE 3693, and SPE 4623. Concurrent enrollment in SPE 3623, SPE 3653, and SPE 4683 is required. Restricted course; advisor code required for registration. This course is a study of the development and implementation of research-validated instructional strategies. Students will learn how to select learning strategies to meet the individual needs of students with disabilities. Specific learning strategies will be evaluated and implemented in classroom settings. Strategies will address the acquisition, storage, and expression of knowledge. Class sessions will involve direct development in learning strategies and specific problem solving associated with strategies instruction. This course must be completed with a grade of "B" or better for it to serve as a prerequisite for CI 4716 Clinical Teaching: All Level EC-12. Generally offered: Spring. Course Fees: LRH1 \$20; STSH \$30.

SPE 4653. Practicum in Special Education (Moderate/Severe Disabilities). (3-0) 3 Credit Hours.

Prerequisites: SPE 3603, SPE 3633, SPE 3683, SPE 3693, and SPE 4623. Concurrent enrollment in SPE 3673, SPE 4673 and SPE 4693 is required. Restricted course; advisor code required for registration. The study of the planning, application, and evaluation of Individual Educational Plans (IEPs) and the specialized educational and related services provided under the law to students with disabilities. Students enrolled in this course will be required to spend 6 to 8 hours a week in field-based placements for a total of 60 to 80 hours, dependent upon field placement program needs and requirements and on instructor requirements. This course must be completed with a grade of "B" or better for it to serve as a prerequisite for CI 4716 Clinical Teaching: All Level EC-12. Restricted course; advisor code required for registration. May be repeated for credit. (Same as SPE 5793.) Generally offered: Fall. Course Fees: LRH1 \$20; STF1 \$75; STSH \$30.

SPE 4673. Behavioral Instruction of Students with Autism and Developmental Disabilities. (3-0) 3 Credit Hours.

Prerequisites: SPE 3603, SPE 3633, SPE 3683, SPE 3693, and SPE 4623. Concurrent enrollment in SPE 3673, SPE 4653 and SPE 4693 is required. Restricted course; advisor code required for registration. An in-depth introduction to behavioral interventions and teaching practices for teaching academic and nonacademic skills based on the results of behavioral assessments. The content includes a focus on the use of Tier 2 and Tier 3 interventions for students with autism and other developmental disorders and intellectual disability. Objectives in this course include mastery of the use of evidence-based practice in applied behavior analysis to help students or clients meet their goals across all domains of functioning (e.g., academic, social, leisure, self-care). Course topics include how to use teaching technology such as discrete trial training, incidental teaching, chaining, contingency contracts, group-contingencies, token economies, precision teaching, and augmentative alternative communication systems. This course must be completed with a grade of "B" or better for it to serve as a prerequisite for CI 4716 Clinical Teaching: All Level EC-12. Generally offered: Fall. Course Fees: LRH1 \$20; STSH \$30.

SPE 4681. Ethics in Applied Behavior Analysis Research and Practice. (1-0) 1 Credit Hour.

Prerequisites: SPE 3303 and SPE 3633. Concurrent enrollment or prior completion of SPE 3673 or SPE 4673, and SPE 4683 is required. Prior completion of SPE 4683 is recommended because the current course will provide coverage of content from SPE 4683. This course provides students with 15 hours of instruction addressing the Behavior Analyst Certification Board's Professional and Ethical Compliance Code (The CODE). Students will learn how to engage in ethical applied behavior analysis (ABA) research and practice through advanced coverage of The CODE. The objective of this course is to demonstrate sound ethical decision making in response to examples of scenarios commonly encountered in ABA research and practice in clinical and educational settings. May be repeated once for credit. Course Fees: LRH1 \$20; STSH \$10.

SPE 4683. Ethics and Professionalism in Special Education and Applied Behavior Analysis. (3-0) 3 Credit Hours.

Prerequisites: SPE 3603, SPE 3633, SPE 3683, SPE 3693, and SPE 4623. Concurrent enrollment in SPE 3623, SPE 3653 and SPE 4643 is required. Restricted course; advisor code required for registration. This course includes content pertaining to (a) the Behavior Analyst Certification Board's (BACB) Professional Ethical Compliance Code, (b) the Code of Ethics and Standard Practices for Texas Educators, and (c) the Council for Exceptional Children's Professional Ethical Principles, Practice Standards, and Professional Policies. Course content includes a focus on professionalism and the collaborative roles and responsibilities of applied behavioral analysis service delivery professionals, teachers, school district personnel, and parents/families in providing individualized programs to students with disabilities in school and community settings. Additional course topics include consultation and collaborating with general education teachers, and behavioral approaches to supervision, training, and management of paraprofessionals. Generally offered: Spring. Course Fees: LRH1 \$20; STSH \$30.

SPE 4693. Assistive Technology. (3-0) 3 Credit Hours.

Prerequisites: SPE 3603, SPE 3633, SPE 3683, SPE 3693, and SPE 4623. Concurrent enrollment in SPE 3673, SPE 4653, and SPE 4673 is required. Restricted course; advisor code required for registration. This course is a study of the use of technology in facilitating the teaching and learning of students with disabilities. Course will emphasize the selection and use of assistive technology devices and services for students, including those used for communication and mobility and those that facilitate performance in academic environments. Generally offered: Fall. Course Fees: LRH1 \$20; STSH \$30.

SPE 4913. Independent Study. (0-0) 3 Credit Hours.

Prerequisites: Permission in writing (form available) from the instructor, the student's advisor, the Department Chair, and Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. Course Fee: STSH \$30.

Sport, Event, and Tourism Management (SET)

Sport, Event, and Tourism Management (SET) Courses

SET 2123. Survey of Tourism. (3-0) 3 Credit Hours.

Historical development and organizational structure of the tourism industry. Emphasis is placed on the inter-relationship between tourist, resident, business, and government. (Formerly MKT 2123 and MKT 3123. Credit cannot be earned for more than one of the following: SET 2123, MKT 2123, or MKT 3123.) Generally offered: Fall, Spring. Course Fees: BISP \$10; BTSI \$15; LRB1 \$15.

SET 3043. Attractions Management. (3-0) 3 Credit Hours.

Prerequisite: SET 2123 or SET 4543. Explores all aspects of managing visitor attractions such as amusement parks, theme parks, museums, national parks, and heritage sites. Differential Tuition: \$126.

SET 3233. Sport Management. (3-0) 3 Credit Hours.

Focuses on allocating resources and managing sport and recreation operations. Students will receive an in-depth look at the human resources function as it pertains to sport organizations, including recruitment, selection, compensation, hiring/firing, employee training and motivation, compliance with state and federal regulations, risk management, and community relations. Generally offered: Fall. Differential Tuition: \$126.

SET 3283. Sport and Event Media Relations. (3-0) 3 Credit Hours.

Examines the media relations function in sport organizations with a special emphasis on the relationships between journalists and sport organizations, and the role of information specialists. Media relations responsibilities include organizing and managing game/event coverage, promoting events, and developing publicity campaigns. Differential Tuition: \$126.

SET 3313. Sport Tourism and Events. (3-0) 3 Credit Hours.

Prerequisite: SET 2123 or SET 4543. Comprehensive study of the sport travel and tourism industry. The industry includes both participatory sport tourism (e.g., skiing, golf, and adventure trips) and event-based sport tourism (e.g., the Olympics, professional and amateur sports, and World Cup soccer). Covers all aspects of sport tourism including economics, finance, and marketing. Differential Tuition: \$126.

SET 3333. Event Management. (3-0) 3 Credit Hours.

Prerequisite: SET 2123 or SET 4543. This course presents the event planning process from the inception of an event idea through the development stage, planning, and implementation. The model presented in this class pertains to all types of events including meetings, festivals, fairs, expos, recreation and sport events, fundraisers, etc. with a particular focus on project planning, budgeting, and marketing the event. Generally offered: Spring. Differential Tuition: \$126.

SET 3413. Resort and Club Management. (3-0) 3 Credit Hours.

Prerequisite: SET 2123 or SET 4543. The management, marketing, and operations of resort and private club properties including hotel resorts, timeshares, casinos, private country clubs, golf and tennis clubs, fitness clubs, and entertainment facilities. Students will get an overview of all aspects of the business and are provided the opportunity to gain an understanding of the differences between profit and nonprofit organizations. Differential Tuition: \$126.

SET 3433. Meetings and Conventions. (3-0) 3 Credit Hours.

Prerequisite: SET 2123 or SET 4543. An overview of the meetings and conventions industry. The course introduces students to the basics of association and corporate meetings, including program planning, budgeting, marketing, public relations, food and beverage and hospitality planning, audio visual and transportation coordination, exhibit sales and management, contract and lease negotiations, and human resources. Differential Tuition: \$126.

SET 3543. Sports Economics. (3-0) 3 Credit Hours.

Prerequisite: ECO 2023. This course provides an application of economic theories and principles to the area of sport management. The focus of the course is on the business of professional sports, including competitive balance, player salaries, and the financing of sport facilities. In addition, the course will cover economic issues related to collegiate athletics. (Formerly titled "Economics of Tourism and Leisure.") Differential Tuition: \$126.

SET 4233. Sport Facility and Event Management. (3-0) 3 Credit Hours.

Prerequisite: SET 3233. Overview of managing a facility used for sports, conventions, and entertainment events. Topics may include conducting feasibility studies, market research, facility design and layout, event bidding, quality assurance, risk management, and event staffing. (Credit cannot be earned for both SET 4233 and FM 4233.) Generally offered: Spring. Differential Tuition: \$126.

SET 4543. Destination Marketing. (3-0) 3 Credit Hours.

Prerequisites: MKT 3013. Emphasizes a strategic approach to marketing for tourism destinations: communities, regions, attractions, and resorts. Focus is on the optimal planning, development, and positioning in the context of the overall marketing plan. Includes consideration of environmental and resource requirements, as well as tourism's social and cultural ramifications. (Formerly MKT 4543. Credit cannot be earned for both SET 4543 and MKT 4543.) Generally offered: Fall, Spring. Differential Tuition: \$126.

SET 4811. Special Topics in Sport, Event and Tourism Management. (1-0) 1 Credit Hour.

Analysis and discussion of events, issues, and trends affecting management and marketing in the sport, event or tourism industries. May be repeated for credit when topics vary. Differential Tuition: \$42.

SET 4813. Special Topics in Sport, Event and Tourism Management. (3-0) 3 Credit Hours.

Analysis and discussion of events, issues, and trends affecting management and marketing in the sport, event or tourism industries. May be repeated for credit when topics vary. Generally offered: Fall. Differential Tuition: \$126.

SET 4921. Independent Study in Sport, Event and Tourism Management. (0-0) 1 Credit Hour.

Prerequisites: Student must have a 3.0 College of Business grade point average and permission in writing from the Tourism instructor, the Department Chair, and the Dean of the College of Business. See the College of Business Undergraduate Advising Center for required forms. The course may require independent research, reading, planning, discussion, and/or writing under the direction of a sponsoring faculty instructor. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a Bachelor of Business Administration degree. Differential Tuition: \$42.

SET 4923. Independent Study in Sport, Event and Tourism Management. (0-0) 3 Credit Hours.

Prerequisites: Student must have a 3.0 College of Business grade point average and permission in writing from the Tourism instructor, the Department Chair, and the Dean of the College of Business. See the College of Business Undergraduate Advising Center for required forms. The course may require independent research, reading, planning, discussion, and/or writing under the direction of a sponsoring faculty instructor. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, will apply to a Bachelor of Business Administration degree. Differential Tuition: \$126.

SET 4941. Internship in Sport, Event and Tourism Management. (0-0) 1 Credit Hour.

Prerequisites: MGT 3003, and permission in writing from the sponsoring Tourism instructor, the Department Chair, and the Dean of the College of Business. The course is designed for students seeking supervised full- or part-time work experience in the sport, event or tourism industries. A written report is required. Opportunities and output requirements are developed in consultation with a faculty advisor and the Department Chair, and require the approval of both. May be repeated for credit, but not more than 6 semester credit hours of Internship in Tourism will apply to a Bachelor in Business Administration degree. Differential Tuition: \$42.

SET 4943. Internship in Sport, Event and Tourism Management. (0-0) 3 Credit Hours.

Prerequisites: MGT 3003, and permission in writing from the sponsoring Tourism instructor, the Department Chair, and the Dean of the College of Business. The course is designed for students seeking supervised full- or part-time work experience in the sport, event or tourism industries. A written report is required. Opportunities and output requirements are developed in consultation with a faculty advisor and the Department Chair, and require the approval of both. May be repeated for credit, but not more than 6 semester credit hours of Internship in Tourism will apply to a Bachelor in Business Administration degree. Generally offered: Fall, Spring, Summer. Differential Tuition: \$126.

Statistics (STA)

Statistics (STA) Courses

STA 1053. Basic Statistics. (3-0) 3 Credit Hours. (TCCN = MATH 1342)

Prerequisite: Satisfactory performance on placement examination. Descriptive statistics; histograms; measures of location and dispersion; elementary probability theory; random variables; discrete and continuous distributions; interval estimation and hypothesis testing; simple linear regression and correlation; one-way analysis of variance, and applications of the chi-square distribution. May be applied toward the core curriculum requirement in Mathematics. Generally offered: Fall, Spring, Summer. Course Fees: BISP \$10; BTSI \$15; DL01 \$75; LRB1 \$15; LRC1 \$12.

STA 1403. Probability and Statistics for the Biosciences. (3-0) 3 Credit Hours.

Prerequisite: A grade of "C-" or better in MAT 1193 or an equivalent. Probability and statistics from a dynamical perspective, using discrete-time dynamical systems and differential equations to model fundamental stochastic processes such as Markov chains and the Poisson processes important in biomedical applications. Specific topics to be covered include probability theory, conditional probability, Markov chains, Poisson processes, random variables, descriptive statistics, covariance and correlations, the binomial distribution, parameter estimation, hypothesis testing and regression. (Formerly STA 1404. Credit cannot be earned for both STA 1403 and STA 1404.) Generally offered: Fall, Spring, Summer. Course Fees: BISP \$10; BTSI \$15; LRB1 \$15.

STA 2303. Applied Probability and Statistics for Engineers. (3-0) 3 Credit Hours.

Prerequisite: MAT 1224. Fundamental concepts of probability and statistics with practical applications to engineering problems. Emphasis on statistical distribution models used in reliability and risk analysis of engineering design; probabilistic reasoning; Bayes' theorem; bivariate and multivariate distributions and their applications. Generally offered: Fall, Spring. Course Fees: BISP \$10; BTSI \$15; LRB1 \$15.

STA 3003. Applied Statistics. (3-0) 3 Credit Hours.

Prerequisite: Completion of or concurrent enrollment in MAT 1093, MAT 1133, MAT 1214, or an equivalent. Introduction to the Scientific Method; principles of sampling and experimentation; scales of measurement, exploratory data analysis; introduction to basic probability; models for discrete and continuous data; simple simulations and inferences based on resampling; fundamentals of hypothesis testing and confidence intervals; introduction to analysis of variance and linear regression model. The course will emphasize data analysis and interpretation and effective communication of results through reports or presentations. Generally offered: Fall, Spring, Summer. Differential Tuition: \$126.

STA 3013. Multivariate Analysis for the Life and Social Sciences. (3-0) 3 Credit Hours.

Prerequisite: STA 3003, STA 3513, or an equivalent. This course emphasizes application of statistics in organizations. Topics include, but are not limited to the multivariate normal distribution, tests on means, discriminant analysis, cluster analysis, principal components, and factor analysis. Use of software packages will be emphasized. Open to students of all disciplines. Generally offered: Spring. Differential Tuition: \$126.

STA 3023. Mathematics for Statistics. (3-0) 3 Credit Hours.

Prerequisite: MAT 1224 or an equivalent. This course discusses and reviews the classic mathematical methods and techniques to comprehend the advanced statistical concepts. Concepts include sequences, series, convergence, limit, continuity, derivative, optimization, the fundamental theorem of calculus, methods of integration, Taylor expansions, function of several variables, partial derivatives, and multivariate transformations. Other topics include vector and matrix algebra, determinants, inverse matrix, solving linear equations, orthogonality (projections, least-squares, Gram-Schmidt), eigenvalues and eigenvectors (diagonalization, symmetric/positive definite matrices), and singular value decomposition. (Formerly titled Statistical Mathematics.) Differential Tuition: \$126.

STA 3313. Experiments and Sampling. (3-0) 3 Credit Hours.

Prerequisite: One of the following: MS 1023, STA 1053, STA 2303, STA 3003, or an equivalent. Research techniques for collecting quantitative data: sample surveys, designed experiments, simulations, and observational studies; development of survey and experimental protocols; measuring and controlling sources of measurement error. Generally offered: Fall. Differential Tuition: \$126.

STA 3333. Introduction to Data Science and Analytics. (3-0) 3 Credit Hours.

Prerequisite: One of the following: MS 1023, STA 1053, STA 1403, STA 2303, or an equivalent. Data science and analytics aim to harness the power of data and statistics for new insights. This course introduces the concepts and principles of data science and analytics through software-aided applications of common statistics-based methods, tools and techniques in various practical case studies. This course also provides students an opportunity to understand the data-driven decision making process, an overview of the data science lifecycle, and the Big Data ecosystem. Topics include popular statistical techniques and algorithms under the current paradigm of analytics (descriptive/diagnostic, predictive/prognostic, and prescriptive/optimization) and machine learning (supervised and unsupervised), applied in a wide variety of fields as demonstrated through case studies. With the application-oriented focus, students will gain hands-on experiences and develop essential skills in discovering, analyzing, visualizing, interpreting data, presenting and communicating results. Differential Tuition: \$126.

STA 3513. Probability and Statistics. (3-0) 3 Credit Hours.

Prerequisites: STA 3003, and either MAT 1224 or STA 3023. Axiomatic probability; random variables; discrete and continuous distributions; bivariate and multivariate distributions and their applications; mixture distributions; moments and generating functions, bivariate transformations. Generally offered: Fall, Spring, Summer. Differential Tuition: \$126.

STA 3523. Mathematical Statistics. (3-0) 3 Credit Hours.

Prerequisite: STA 3513 or an equivalent. Sampling distributions and the Central Limit Theorem; order statistics; estimation including method of moments and maximum likelihood; properties of estimators; hypothesis testing including likelihood ratio tests; introduction to ANOVA and regression. Generally offered: Fall, Spring. Differential Tuition: \$126.

STA 4133. Introduction to Programming and Data Management in SAS. (3-0) 3 Credit Hours.

This course introduces essential programming concepts using the statistical software package SAS (Enterprise Guide and Base SAS) with a focus on data management and the preparation of data for statistical analyses. Topics include reading raw data, creating temporary and permanent datasets, manipulating datasets, data prompts, summarizing data, displaying data using tables, charts, and plots. Conducting basic statistical analyses using the SAS Enterprise Guide and the Base SAS procedures are also discussed with the examples selected from regression analysis, analysis of variance, and categorical analysis. This course also demonstrates how to write, generate, and modify SAS code and procedures within the SAS Enterprise Guide and the Base SAS environments. Differential Tuition: \$126.

STA 4143. Data Mining. (3-0) 3 Credit Hours.

Prerequisite: STA 4133 or equivalent. Acquisition, organization, exploration, and interpretation of large data collections. Data cleaning, representation and dimensionality, multivariate visualization, clustering, classification, and association rule development. A variety of commercial and research software packages will be used. Differential Tuition: \$126.

STA 4233. Introduction to Programming and Data Management in R. (3-0) 3 Credit Hours.

This course introduces statistical computing and programming using the R language. Topics include preprocessing/manipulating datasets, summarizing/visualizing data, and conducting basic statistical analyses using R. Other topics include writing R functions, object oriented programming, statistical simulation and resampling, interfacing R with other programming language environments such as SQL, Python, C++, and Hadoop. Techniques for efficient programming will be stressed. The concept of high-performance computing (multi-core/parallel-processing) is also demonstrated. (Formerly titled Statistical Applications Using SAS Software.) Generally offered: Spring. Differential Tuition: \$126.

STA 4643. Introduction to Stochastic Processes. (3-0) 3 Credit Hours.

Prerequisite: STA 3513. Probability models, Poisson processes, finite Markov chains, including transition probabilities, classification of states, limit theorems, queuing theory, and birth and death processes. Generally offered: Summer. Differential Tuition: \$126.

STA 4713. Applied Regression Analysis. (3-0) 3 Credit Hours.

Prerequisite: MS 3313 or STA 3003. An introduction to regression analysis, with emphasis on practical aspects, fitting a straight line, examination of residuals, matrix treatment of regression analysis, fitting and evaluation of general linear models, and nonlinear regression. Generally offered: Fall. Differential Tuition: \$126.

STA 4723. Introduction to the Design of Experiments. (3-0) 3 Credit Hours.

Prerequisite: MS 3313 or STA 3003. General concepts in the design and analysis of experiments. Emphasis will be placed on both the experimental designs and analysis and tests of the validity of assumptions. Topics covered include completely randomized designs, randomized block designs, complete factorials, fractional factorials, and covariance analysis. The use of computer software packages will be stressed. Differential Tuition: \$126.

STA 4753. Time-Series Analysis. (3-0) 3 Credit Hours.

Prerequisite: STA 3513 or an equivalent. Development of descriptive and predictive models for time-series phenomena. A variety of modeling approaches will be discussed: decomposition, moving averages, time-series regression, ARIMA, and forecasting errors and confidence intervals. Generally offered: Spring. Differential Tuition: \$126.

STA 4803. Statistical Quality Control. (3-0) 3 Credit Hours.

Prerequisite: STA 2303, STA 3003, STA 3513, or an equivalent. Statistical methods are introduced in terms of problems that arise in manufacturing and their applications to the control of manufacturing processes. Topics include control charts and acceptance sampling plans. (Same as MS 4363 and MAT 4803. Credit cannot be earned for more than one of the following: STA 4803, MS 4363, or MAT 4803.) Differential Tuition: \$126.

STA 4903. Applied Survival Analysis. (3-0) 3 Credit Hours.

Prerequisite: STA 3523 or an equivalent. Measures of survival, hazard function, mean residual life function, common failure distributions, procedures for selecting an appropriate model, the proportional hazards model. Emphasis on application and data analysis using SAS. Differential Tuition: \$126.

STA 4911. Independent Study. (0-0) 1 Credit Hour.

Prerequisites: A 3.0 College of Business grade point average, permission in writing (form available) from the instructor, the student's advisor, the Department Chair, and the Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. Differential Tuition: \$42.

STA 4913. Independent Study. (0-0) 3 Credit Hours.

Prerequisites: A 3.0 College of Business grade point average, permission in writing (form available) from the instructor, the student's advisor, the Department Chair, and the Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. Differential Tuition: \$126.

STA 4933. Internship in Statistics. (0-0) 3 Credit Hours.

Prerequisites: A 2.5 grade UTSA point average, and approval in writing from the instructor, the Department Chair, and the Associate/Assistant Dean of Undergraduate Studies in the College of Business. See academic advisor for required forms and additional requirements. Supervised full- or part-time work experience in statistics. Offers opportunities for applying statistics in private businesses or public agencies. A written report is required. May be repeated for credit, but not more than 6 semester credit hours will apply to a bachelor's degree. Differential Tuition: \$126.

STA 4953. Special Studies in Statistics. (3-0) 3 Credit Hours.

Prerequisites: Consent of instructor, Department Chair and Dean of the College. An organized course offering the opportunity for specialized study not normally or not often available as part of the regular course offerings. Special Studies may be repeated for credit when the topics vary, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree. Differential Tuition: \$126.

STA 4961. Actuarial Science Examination Preparation. (1-0) 1 Credit Hour.

An organized course offering specialized study for Actuarial Science Examinations. Topics covered include General Probability, Random Variables and Probability Distributions, Multivariate Distributions, and Risk Management and Insurance. May be repeated twice for credit. Generally offered: Fall, Spring. Differential Tuition: \$42.

STA 4963. Actuarial Science Examination Preparation. (3-0) 3 Credit Hours.

Prerequisite: STA 3513. An organized course offering specialized study for Actuarial Science Examination. Topics covered include General Probability, Random Variables and Probability Distributions, Multivariate Distributions, and Stochastic Processes. Generally offered: Fall, Spring. Differential Tuition: \$126.

STA 4993. Honors Thesis. (0-0) 3 Credit Hours.

Prerequisites: STA 3523 and consent of instructor, Department Chair and Dean of the College. Enrollment limited to students applying for Honors in Management Science and Statistics. Supervised research and preparation of an honors thesis. May be repeated once for credit with advisor's approval. Generally offered: Spring. Differential Tuition: \$126.

Theater (THR)

Theater (THR) Courses

THR 1013. Acting I. (3-0) 3 Credit Hours. (TCCN = DRAM 1351)

Prerequisite: Completion of the Core Curriculum requirement in Language, Philosophy and Culture. Fundamental techniques of acting, emphasizing the actor's approach to characterization and relationship to all parts of the play's production. Generally offered: Fall. Course Fees: LRLF \$10; STLF \$18.

THR 1023. Acting II. (3-0) 3 Credit Hours. (TCCN = DRAM 1352)

Prerequisite: Completion of the Core Curriculum requirement in Language, Philosophy and Culture. Sustained character portrayal. Intensive work in stage movement and vocal techniques, including dialects. Generally offered: Spring. Course Fees: LRLF \$10; STLF \$18.

THR 2113. Intermediate Acting I. (3-0) 3 Credit Hours.

Prerequisites: Completion of THR 1013 and THR 1023, or placement by audition with instructor consent. Concepts, skills, and techniques of acting styles, collaborative work in all aspects of play production, and development of understanding of the actor's role through performance. Course Fees: LRLF \$10; STLF \$18.

THR 2123. Intermediate Acting II. (3-0) 3 Credit Hours.

Prerequisite: Completion of THR 2113, or placement by audition with instructor consent. Continued development of concepts, skills, and techniques of acting styles required to understand the role of the performer in play production. Course Fees: LRLF \$10; STLF \$18.

Translation and Interpreting Studies (TIS)

Translation and Interpreting Studies (TIS) Courses

TIS 3003. Introduction to Translation and Interpreting. (3-0) 3 Credit Hours.

Prerequisite: SPN 2023 or the equivalent. Principles of translation or interpreting between Spanish and English, including practice with a variety of discourse types. Students will be introduced to realities of language mediation professions as well as main concepts in translation and interpreting studies theory. May be repeated for credit when topics vary. (Formerly FL 3003.) Course Fees: LRLF \$10; MM01 \$7; STLF \$18.

TIS 3013. Translation and Interpreting for the Language Specialist. (3-0) 3 Credit Hours.

Prerequisite: At least one course at the 3000 level in Spanish. This course will explore the language-related and cultural issues involved in translation and interpretation between Spanish and English and will include practice from selected areas, such as business, health care, law, technology, or the arts. May be repeated for credit when topics vary. (Formerly FL 3013.) Course Fees: LRLF \$10; MM01 \$7; STLF \$18.

TIS 3023. Interpreting in Legal Settings. (3-0) 3 Credit Hours.

Prerequisite: SPN 2023 or SPN 3003, the equivalent, or consent of instructor. Designed to prepare students to interpret in legal settings between Spanish and English by exploring interpreter training in the US, ethics in court interpreting, professional certification, language access legislation and civil rights, terminology building, current research trends in legal interpreting, and by developing interpreting skills and strategies. Course Fees: LRLF \$10; MM01 \$7; STLF \$18.

TIS 3033. Interpreting in Medical Settings. (3-0) 3 Credit Hours.

Prerequisite: SPN 2023 or SPN 3003, the equivalent, or consent of instructor. This course aims to prepare students to interpret in medical settings between Spanish and English by providing a panoramic overview of biomedical culture in the US, body systems and anatomy, medical terminology, and by developing interpreting skills and strategies. Course Fees: LRLF \$10; MM01 \$7; STLF \$18.

TIS 3043. Advanced Practice in Healthcare Interpreting. (3-0) 3 Credit Hours.

Prerequisite: TIS 3033 Interpreting in Medical Settings or consent of instructor. SPN 3053 strongly recommended. Advanced practice in interpreting in healthcare settings between Spanish and English. Students will strengthen their skills in the three modes of interpreting (simultaneous, consecutive, and sight translation) while receiving detailed, ongoing individual feedback. Course Fees: LRLF \$10; MM01 \$7; STLF \$18.

TIS 4013. Topics in Translation and Interpreting Studies. (3-0) 3 Credit Hours.

Prerequisite: One course in TIS or consent of instructor. This course represents an opportunity to explore Spanish/English translation and interpreting-related topics in depth, including translation and interpreting in specialized domains such as medical and legal settings; translation studies through film; translators and interpreters in fiction; the sociology of translation; or research methods in translation studies. May be repeated for credit when topics vary. Course Fees: LRLF \$10; MM01 \$7; STLF \$18.

University College Studies (UCS)

University College Studies (UCS) Courses

UCS 2000. Undergraduate Research and Scholarly Activity. (0-0) 0 Credit Hours.

This course is designed to support students participating in research and scholarly activity at the undergraduate level. The course will provide students the opportunity to engage further into the research process by learning and applying research methods, analytical analysis, problem solving and critical thinking skills.

UCS 2003. Undergraduate Research and Scholarly Activity. (0-0) 3 Credit Hours.

This course is designed to support students participating in research and scholarly activity at the undergraduate level. The course will provide students the opportunity to engage further into the research process by learning and applying research methods, analytical analysis, problem solving and critical thinking skills.

UCS 2011. UTSA Engage: A Service-Learning Experience. (1-0) 1 Credit Hour.

Students will be engaged in a minimum of 15 hours of pre-approved, unpaid service in a non-profit or public sector organization in the San Antonio region. Coupled with their service experience will be an online learning environment that will engage students in readings on the nature of service, community engagement, social issues prevalent in the region, and other prompts to engage students in critical thinking and reflection. The service must be performed within the semester that a student is registered. A student may not use another course requirement to complete this credit, it must be an independent experience. A student may repeat the course once for additional credit with the service experience being at a different placement than their previous experience. Course Fee: DL01 \$25.

UCS 2033. Personal Career Planning. (3-0) 3 Credit Hours.

This course provides knowledge of career development theories and decision-making models, current national and state-specific labor market trends, and provides career and occupational resources. Course includes opportunities for self-assessment and career assessment results, including interest, personality, values clarification inventories and skills identification as they relate to occupational choices. This course equips students with skills that help them make positive career decisions throughout their education at UTSA and their career trajectory. (Formerly COU 2103. Credit cannot be earned for both UCS 2033 and COU 2103).

UCS 3201. Graduate School Workshop. (1-0) 1 Credit Hour.

This course is designed to help students prepare for admission to graduate school and, particularly, for admission to Ph.D. programs. The course addresses a variety of pertinent topics, such as how one decides whether to attend graduate school, what type of graduate program one should select, how students can improve their chances of being admitted to the programs of their choice, how to choose select specific programs to apply to, how to prepare an effective application, and how to pay for graduate study. The course also will provide students with practical advice for preparing for the GRE. This course may be repeated for credit.

UCS 4000. Law School Experience I. (0-0) 0 Credit Hours.

The course is designed to introduce students to law school and the legal profession and strengthen their desire to pursue a law degree. Students will have the opportunity to: 1) take mock law school lectures to have an idea of what is expected from them in law school, 2) learn about law school application and admissions and LSAT preparation, 3) understand the real cost of a law degree, 4) have an idea of different legal fields and career choices, and 5) network with law professionals who may be knowledgeable resources for students' academic and professional legal career.

UCS 4013. UTSA Advanced Engagement. (3-0) 3 Credit Hours.

UTSA Advanced Engagement provides students with experiential and meaningful community-based learning opportunities in a real-world context to enrich the learning experience, develop skills of civic engagement/social responsibility and work alongside community partners/leaders to address social challenges. Students will learn theories and best practices from community-based initiatives across academic disciplines. Student will be required to work with a community partner to design, apply, reflect, evaluate and present the service-learning project. Capstone projects will be presented at either the Civic Engagement Summit, UTSA Undergraduate Research Showcase or other approved event.

UCS 4100. Law School Experience II. (0-0) 0 Credit Hours.

This course is designed to introduce students to the elements of analytical reasoning and critical thinking, including the clear and precise use of language, deduction, induction, conditional reasoning, analogy, and logic, and to apply to principles of reasoning and logic in preparations for the Law School Admission Test (LSAT). Pre-requisites are the completion of SLSPA Constitutional Analysis and Introductory Logic during Phase I, and concurrent enrollment in SLSPA Torts and Writing for Prelaw during Phase II.

UCS 4913. Independent Study in Prelaw. (0-0) 3 Credit Hours.

Course designed for students to hone the skills needed for law school in case they decide to pursue a legal education. Students must do independent reading, research, discussion, and or writing on a prelaw topic under the direction of a faculty member of University College.

UCS 4933. Internship in Prelaw Studies. (0-0) 3 Credit Hours.

Course designed to serve as a pre-professional experience for students who may want to attend law school. The internship will provide students a learning experience at a law firm, in a legal department of a corporation, government agency, or non-profit organization. The internship course will be under the direction of a faculty member of University College.

University Peer Mentorship Experience (UPM)

University Peer Mentorship (UPM) Courses

UPM 1000. University Peer Mentorship Experience. (0-0) 0 Credit Hours.

The University Peer Mentorship Experience provides a peer-mentor who will help students navigate campus life at UTSA. Students will have an opportunity to develop a broader understanding of UTSA by participating in programming designed to assist in the academic and social transition from high school to college. This Experience is limited to first- and second-semester freshmen and freshmen transfer students. The Experience is completed during the semester immediately following or prior to completion of AIS 1203, AIS 1213, AIS 1223, AIS 1233, AIS 1243, AIS 1253, AIS 1263, or AIS 1273.

UPM 2000. University Peer Mentorship. (0-0) 0 Credit Hours.

Urban and Regional Planning (URP)

Urban and Regional Planning (URP) Courses

URP 3123. Introduction to Community and Regional Planning and Urban Design. (3-0) 3 Credit Hours.

Introduction to basic practices in community planning and urban design issues, including theoretical/historical bases; developing neighborhood plans/projects; indicators and evaluation of neighborhood sustainability; community patterns; institutional framework, site planning analysis; zoning ordinances; subdivision ordinances; community services, circulation; mixed-use, and community development programming. (Formerly ARC 4123. Credit cannot be earned for both ARC 4123 and URP 3123.) Course Fees: SAP1 \$25; STSA \$15.

URP 3153. Comparative Urban and Regional Development. (3-0) 3 Credit Hours.

A survey of the origin of the contemporary city and region, current conditions, and future trends. Course Fees: SAP1 \$25; STSA \$15.

URP 3163. Visual Communications for Community and Regional Planning. (3-0) 3 Credit Hours.

Expressing planning data and geographic information in visual terms for land use planning projects. Application of related computer software including GIS. (Formerly ARC 4163. Credit cannot be earned for both ARC 4163 and URP 3163.) Course Fees: SAP1 \$25; STSA \$15.

URP 4123. Sustainable Community Development. (3-0) 3 Credit Hours.

Introduction to land use planning topics including new urbanism, growth management, sustainable infrastructure planning, and LEED Neighborhood Development. Course Fees: SAP1 \$25; STSA \$15.

URP 4213. Urban Planning and Public Health. (3-0) 3 Credit Hours.

Survey of the interdependence of urban planning and public health to include the impact of physical environments on the health and quality of life of people in housing and neighborhoods. Course Fees: SAP1 \$25; STSA \$15.

URP 4913. Independent Study. (0-0) 3 Credit Hours.

Prerequisite: Permission in writing (form available) of the instructor, the student's advisor, the Department Chair, and the Dean of the College in which the course is offered. Scholarly research under the direction of a faculty member. May be repeated for credit, but not more than 6 semester credit hours of independent study, regardless of discipline, may apply to a bachelor's degree. Course Fees: SAP1 \$25; STSA \$15.

URP 4953. Special Studies in Urban and Regional Planning. (3-0) 3 Credit Hours.

Prerequisite: Consent of instructor. An organized course offering the opportunity for specialized study not normally or not often available as part of the regular course offerings. Special Studies may be repeated for credit when topics vary. Course Fees: DL01 \$75; SAP1 \$25; STSA \$15.

UTeachSA (UTE)

UTeachSA (UTE) Courses

UTE 1111. Introduction to STEM Teaching Step 1. (1-0) 1 Credit Hour.

Introduces STEM teaching as a career. Discussions include standards and inquiry-based lesson design and various teaching and behavior management strategies. This course requires fieldwork that allows the student to observe and teach in an elementary classroom. Generally offered: Fall, Spring.

UTE 1122. Introduction to STEM Teaching Step 2. (2-0) 2 Credit Hours.

Prerequisite: UTE 1111 with a grade of "C-" or better. Further exploration of STEM teaching as a career while building on the knowledge and skills developed in UTE 1111. Emphasis is placed on various teaching methods that are designed to meet instructional goals and learner outcomes. This course requires fieldwork that provides experience observing and teaching in a middle school STEM classroom. Generally offered: Fall, Spring.

UTE 2113. Functions and Modeling. (3-0) 3 Credit Hours.

Prerequisites: MAT 1093 or consent of instructor, and admission to the UTeachSA teacher preparation program. In-depth study of concepts needed to teach secondary school mathematics at various levels. Emphasizes the development of the concept of function, exploring function patterns in data sets, and the connections between the main topics of mathematics associated with a secondary school curriculum. Use of appropriate technology is explored. May not be applied toward the Mathematics Concentration of the B.S. degree in Mathematics. (Same as MAT 2113. Credit cannot be earned for both UTE 2113 and MAT 2113).

UTE 3023. Perspectives on Science and Mathematics. (3-0) 3 Credit Hours.

Prerequisite: MAT 1193, MAT 1214, STA 1053, or consent of instructor. An examination of important episodes in the history of mathematics and science that illustrate the nature of scientific inquiry and convey that scientific and mathematical concepts are not static. Topics may include Galileo's conflict with the Catholic Church, Isaac Newton's formulation of the laws of motion and invention of calculus, Charles Darwin's proposal of the theory of evolution by natural selection, the development of the atomic bomb, and the discovery of the double helix structure of DNA, or others chosen by the instructor. May not be applied toward the Mathematics Concentration of the B.S. degree in Mathematics. (Same as MAT 3023. Credit cannot be earned for both MAT 3023 and UTE 3023. Credit cannot be earned for both UTE 3023 and MAT 4123).

UTE 3043. UTeachSA Research Methods. (3-0) 3 Credit Hours.

Prerequisite: This course is only open to students who are participating in the UTeachSA teacher preparation program. Students design and carry out independent inquiries, which they write up and present in the manner that is common in the scientific community. Inquiries incorporate mathematics and the various science disciplines to solve research problems. (Credit cannot be earned for more both BIO 3043 and UTE 3043).

UTE 3203. Knowing and Learning in Mathematics and Science. (3-0) 3 Credit Hours.

Prerequisite: UTE 1111 with a grade of "C-" or better. May be taken concurrently with UTE 1111 or UTE 1122. Critical examination of issues related to what it means to know and learn in STEM classrooms.

Emphasis on psychological foundations of learning, problem solving in STEM utilizing technology, principles of expert and novice understandings of subject matter, implications of high-stakes testing, and foundations of formative and summative assessment.

UTE 3213. Classroom Interactions. (3-0) 3 Credit Hours.

Prerequisites: UTE 1122 and UTE 3203 with grades of "C-" or better. Application of learning theories in STEM instructional settings. Design and implementation of instructional activities informed by students' own understanding of what it means to know and learn mathematics and science, and outcome evaluation on the basis of student artifacts. Opportunities to develop awareness and understanding of equity issues affecting students by examining gender, class, race, culture and other diverse attributes of students and how they impact learning. Includes field experience in a middle or high school classroom.

UTE 4203. Project-Based Instruction. (3-0) 3 Credit Hours.

Prerequisites: UTE 3213 with a grade of "C-" or better, cumulative GPA of 2.5 or higher, and admission to the Teacher Certification Program. Exploration of project-based learning environments and instructional strategies in STEM classrooms. Discussion of the foundations for designing, managing, organizing, and evaluating project-based curricula and processes in middle and high school classrooms. Includes field experience in a middle or high school classroom.

UTE 4646. Clinical Teaching. (0-0) 6 Credit Hours.

Prerequisite: Admission to Teacher Certification Program and the clinical teaching semester, and completion of UTE 1111, UTE 1122, UTE 3203, UTE 3213, UTE 4203, LTED 3773, and ESL 3063 with a grade of "C-" or better. Can lack no more than 6 hours in content subject matter. Individuals must apply to the director of clinical teaching one semester in advance. Full semester of full-day clinical teaching in grades 7–12. Student teacher will be responsible for planning, implementing, and evaluating instruction in collaboration with the cooperating teacher and in conjunction with the UTSA supervisor. Individuals pursuing a Basic Secondary Certificate, Concentration A, will student teach in the single teaching field for which certification is sought. Individuals with two teaching fields will student teach in their major teaching field. Seminars explore issues in teaching practice. (Same as C&I 4646. Credit cannot be earned for both UTE 4646 and C&I 4646).

Women's, Gender and Sexuality Studies (WGSS)

Women's, Gender and Sexuality Studies (WGSS) Courses

WGSS 2013. Introduction to Women's Studies. (3-0) 3 Credit Hours.

This course introduces students to core concepts and frameworks in women's, gender, and sexuality studies, using interdisciplinary and cross-cultural approaches. Women and gender are studied as socially constructed categories created through institutions such as culture, the law, the media, and globalization. The course will provide students with the tools of critical feminist inquiry to assess how women's lived experiences are shaped by such categories as race, ethnicity, class, nationality, sexuality, and disability. Students will examine theories and analytical concepts that emerge from specific historical periods and social movements. May be applied toward the Core Curriculum requirement in Language, Philosophy and Culture. (Formerly WGS 2013 and WS 2013. Credit can only be earned for one course: WS 2013, WGS 2013, or WGSS 2013.) Generally offered: Fall, Spring, Summer. Course Fees: LRC1 \$12; LRH1 \$20; STSH \$30.

WGSS 2023. Introduction to LGBTQ Studies. (3-0) 3 Credit Hours.

This interdisciplinary course introduces concepts and theories within LGBTQ Studies. Topics include issues related to lesbian, gay, bisexual, transgender, and queer communities. The central focus is to examine, challenge, and destabilize normative conceptualizations and representations of gender and sexuality. This class emphasizes different aspects of LGBTQ studies including history, queer theory, popular culture, media, and literature. Course work centers on complicating notions of queer identity through intersections of race, class, gender, and globalization. May not be repeated for credit. May be applied toward the Core Curriculum requirement in Language, Philosophy and Culture. (Formerly WS 2023. Credit cannot be earned for both WGSS 2023 and WS 2023.) Course Fees: LRC1 \$12; LRH1 \$20; STSH \$30.

WGSS 3613. Feminist Research Methodologies. (3-0) 3 Credit Hours.

Rigorous examination of the theory, application, and ethical and epistemological concerns of feminist research. What does it mean to "research as a feminist"? Are there particular ways of producing knowledge as women? Investigating women's issues within and across a range of traditional disciplines—history, arts, humanities, sciences, education, health, economics, law, etc.—the course will engage issues of researcher-subject relationships, representation, and value-driven research, to respond to dominant theories of knowledge production. (Same as WS 3613. Credit cannot be earned for both WGSS 3613 and WS 3613.) Generally offered: Spring. Course Fees: LRH1 \$20; STSH \$30.

WGSS 3953. Special Topics. (3-0) 3 Credit Hours.

This course examines women's texts with special attention to understanding gender as a category of analysis. Variable topics may include women in the sciences, women and technology, literary and cultural representations, women and business, historical and political change, questions of class and nation, queer or transgender theories, or medical and health experiences. This class may emphasize the importance of intersecting categories of analysis including gender, race, ethnicity, and sexuality. May be repeated for credit when topics vary. (Formerly WGS 4853, WS 3953, and WS 4853.) Generally offered: Spring. Course Fees: DL01 \$75; LRH1 \$20; STSH \$30.

WGSS 4623. Feminist Theories. (3-0) 3 Credit Hours.

This course will introduce multidisciplinary explorations of theorists' attempts to describe, explain, and critique social institutions. Students will examine theoretical positions on gender and women in the study of the humanities and/or social sciences. Topics may include the ways in which women have been represented in cultural production with special consideration of race, ethnicity, class, sexuality, and nationalism. May be repeated for credit only once when topics vary, but no more than 6 semester credit hours of WS 4623, regardless of cross-listed courses and disciplines, will apply to a bachelor's degree. (Formerly WGS 4623 and WS 4623. Credit can only be earned for one course: WS 4623, WGS 4623, or WGSS 4623.) Course Fees: DL01 \$75; LRH1 \$20; STSH \$30.

WGSS 4863. Feminism and Globalization. (3-0) 3 Credit Hours.

Theoretical, historical, and empirical analysis of how current processes of globalization are transforming the actual conditions of women's lives, labor, gender ideologies, and politics in complex and contradictory ways. Topics include feminist exploration of colonialism, capitalism, economic restructuring policies, and resistance in consumer and environmental movements. Generally offered: Fall, Spring. (Formerly WS 4863. Credit cannot be earned for both WGSS 4863 and WS 4863.) Course Fees: LRH1 \$20; STSH \$30.

WGSS 4913. Independent Study. (0-0) 3 Credit Hours.

Prerequisites: Permission in writing (form available) from the instructor, the student's advisor, the Department Chair, and Dean of the College with which the instructor is affiliated. Independent reading, research, discussion, and/or writing under the direction of a faculty member. A maximum of 3 semester credit hours of Independent Study in Women's Studies may be applied to the Minor in Women's Studies. May be repeated for credit, but no more than 6 semester credit hours of independent study, regardless of discipline, will apply to a bachelor's degree. (Formerly WGS 4913 and WS 4913. Credit can only be earned for one course: WGSS 4913, WS 4913, or WGSS 4913.) Course Fees: LRH1 \$20; STSH \$30.

WGSS 4933. Internship in Women's Studies. (0-0) 3 Credit Hours.

Prerequisite: Consent of instructor. Supervised experience relevant to Women's Studies. May be repeated once for credit, but no more than 3 semester credit hours will apply to the Women's Studies major. (Formerly WGS 4933 and WS 4933.) Generally offered: Fall, Spring. Course Fees: LRH1 \$20; STSH \$30.

WGSS 4953. Special Topics in Women's Studies. (3-0) 3 Credit Hours.

This course offers an examination of an individual topic or set of issues in Women's Studies. May be repeated for credit when topics vary. (Formerly WS 3713 and WS 4953.) Generally offered: Fall, Spring. Course Fees: DL01 \$75; LRH1 \$20; STSH \$30.

WGSS 4973. Seminar in Women's Studies. (3-0) 3 Credit Hours.

Prerequisite: 12 upper-division semester credit hours in Women's Studies. This undergraduate seminar, limited to junior and senior Women's Studies majors and minors, offers the opportunity to study a special topic, issue, author, or period in Women's Studies. May be repeated once for credit when topics vary. (Formerly WS 4973.) Generally offered: Fall. Course Fees: DL01 \$75; LRH1 \$20; STSH \$30.

WGSS 4993. Honors Thesis. (0-0) 3 Credit Hours.

Prerequisite: Consent of instructor. Supervised research and preparation of an Honors Thesis for the purpose of earning Women's Studies Honors. May be repeated once with advisor approval. (Formerly WS 4993.) Course Fee: LRH1 \$20; STSH \$30.

Writing Program (WRC)

Writing Program (WRC) Courses

WRC 0203. Integrated Reading and Writing. (3-0) 3 Credit Hours.

Integrated Reading and Writing offers students the opportunity to increase reading and writing skills before enrollment in WRC 1013 Freshman Composition I. It affords intensive practice in the writing process, including prewriting, drafting, organization, sentence structure, and use of grammar, spelling, and punctuation. The course also offers practical instruction in strategies for improving critical reading of academic writing, such as determining word meaning; understanding main ideas and supporting details; identifying the writer's purpose, point of view, and intended meaning; analyzing relationships among ideas; using critical reasoning when reading; and developing study skills. It also introduces synthesis, library research, and documentation. Offered on a credit/no-credit basis, the course does not satisfy any degree requirements. This course may be repeated. Course Fees: LRF1 \$12; STSF \$6; WRC1 \$5.

WRC 1013. Freshman Composition I. (3-0) 3 Credit Hours. (TCCN = ENGL 1301)

Freshman Composition I, an informative writing course, focuses on developing and expressing ideas clearly and effectively. Students learn to communicate with professional and academic audiences through written, oral, and visual methods by means of individual and team projects. Students review principles of the writing process, including planning, organization, development, revision, and editing. They are also introduced to rhetorical techniques and quantitative literacy. Students critically read and analyze primary and secondary texts to use in developing writing skills through practice with summary and paraphrase, analysis, and synthesis of multiple sources. The course offers students opportunities to reflect on their work, engage in library research, and practice ethical decision-making through responsible selection, use, and documentation of sources. This course, or an equivalent, is required to fulfill the Core Curriculum requirement in Communication. Offered: Fall, Spring, Summer. Course Fees: DL01 \$75; LRC1 \$12; LRF1 \$12; STSF \$6; WRC1 \$5.

WRC 1023. Freshman Composition II. (3-0) 3 Credit Hours. (TCCN = ENGL 1302)

Prerequisite: WRC 1013. Building on the skills introduced in Freshman Composition I, Freshman Composition II focuses on persuasive communication and critical thinking. The course provides intensive writing practice in developing argumentative claims, addressing logical fallacies, and understanding bias and assumptions to help students write clear and effective arguments. Students will further develop the ability to communicate with professional and academic audiences through written, oral, and visual methods by means of individual and team projects. Freshman Composition II continues to develop quantitative literacy skills and to promote ethical decision-making through responsible methods of data analysis and research. The course develops students' critical thinking skills through the analysis and evaluation of primary and secondary sources in order to create source-based arguments. The course also encourages students to think critically through self-reflection. Students may enroll in a discipline-specific section of the course, such as business, communication (documentaries or internet arguments), environmental issues, quantitative literacy, science/pseudoscience, or social sciences. This course, or an equivalent, is required to fulfill the Core Curriculum requirement in Communication. Offered: Fall, Spring, Summer. Course Fees: DL01 \$75; LRC1 \$12; LRF1 \$12; STSF \$6; WRC1 \$5.

WRC 3013. Writing Strategies for the Pre-law Student. (3-0) 3 Credit Hours.

Prerequisite: Completion of Core Curriculum requirement in rhetoric. This writing course is designed for students planning to become attorneys. It emphasizes clear, concise writing, as well as editing conventions necessary to produce readable and correct prose, free of jargon and inflated language. It provides students with an opportunity to improve their ability to express their understanding of law and its application to fact scenarios. The course introduces organizational strategies used to identify relevant elements of facts and law appropriate to the construction of well-written arguments and documents. Generally offered: Spring, Summer. Course Fees: LRF1 \$12; STSF \$6; WRC1 \$5.

WRC 4123. Topics in Writing. (3-0) 3 Credit Hours.

Prerequisite: Consent of instructor. Writing intensive course on various aspects of writing, such as Writing Center tutoring, scientific technical writing, legal technical writing, and writing in the disciplines. May be repeated for credit when topics vary. (Formerly WRC 3123).

APPENDIX A. TEXAS COMMON COURSE NUMBERING SYSTEM

UTSA is a participant in the Texas Common Course Numbering (TCCN) System. A standard set of four-character abbreviations for academic disciplines and four-digit course numbers, this system aids in the transfer of lower-division academic courses among colleges and universities in Texas. The first digit of the number represents the academic level of the course (0 for subfreshman, 1 for freshman, and 2 for sophomore); the second represents the semester credit hours value of the course. Most community colleges in Texas have adopted TCCN as their course numbering system; others cross-reference their courses with TCCN.

The table below lists TCCN course designation and their UTSA equivalents. UTSA courses are designated by four-digit numbers following a two- or three-letter abbreviation of the academic discipline. The first digit indicates the level of the course (0 are developmental education courses, 1 and 2 are lower-division). The second and third digits are used within the colleges by each department to distinguish individual courses. The fourth digit indicates the semester-credit-hour value of each course.

Credit for any single Texas Common Course Number (TCCN) can only be transferred as a single UTSA course.

| TCCN Course | UTSA Course |
|----------------------------------------|-------------|
| ACCT 2301 | ACC 2013 |
| ACCT 2302 | ACC 2033 |
| ANTH 2301 | ANT 2033 |
| ANTH 2302 | ANT 2043 |
| ANTH 2346 | ANT 1013 |
| ANTH 2351 | ANT 2053 |
| ANTH 2351 | BBL 2003 |
| ANTH 2351 - UTSA Acceptable Substitute | BBL 2243 |
| ARCH 1301 | ARC 2413 |
| ARCH 1302 | ARC 2423 |
| ARCH 1303 | ARC 1213 |
| ARCH 1311 | ARC 1113 |
| ARTS 1301 | ART 1103 |
| ARTS 1303 | AHC 1113 |
| ARTS 1304 | AHC 1123 |
| ARTS 1311 | ART 1003 |
| ARTS 1312 | ART 1013 |
| ARTS 1316 | ART 1213 |
| ARTS 1317 | ART 1223 |
| ARTS 1325 | ART 1143 |
| ARTS 2316 | ART 2113 |
| ARTS 2326 | ART 2613 |
| ARTS 2333 | ART 2413 |
| ARTS 2346 | ART 2713 |
| ARTS 2356 | ART 2313 |
| ASTR 1103 | AST 1031 |
| ASTR 1303 | AST 1013 |
| ASTR 1304 | AST 1033 |
| BCIS 1305 | IS 1403 |

| | |
|----------------------------------------|----------|
| BIOL 1111 | ES 1111 |
| BIOL 1113 | ES 1121 |
| BIOL 1308 | BIO 1233 |
| BIOL 1309 | BIO 1243 |
| BIOL 1311 | ES 1113 |
| BIOL 1313 | ES 1123 |
| BIOL 1322 | BIO 2043 |
| BIOL 1406 | BIO 1404 |
| BIOL 1407 | BIO 1414 |
| BIOL 2101 | BIO 2051 |
| BIOL 2102 | BIO 2061 |
| BIOL 2120 | BIO 1061 |
| BIOL 2301 | BIO 2053 |
| BIOL 2302 | BIO 2063 |
| BIOL 2316 | BIO 2313 |
| BIOL 2320 | BIO 1053 |
| CHEM 1111 | CHE 1121 |
| CHEM 1112 | CHE 1131 |
| CHEM 1311 | CHE 1103 |
| CHEM 1312 | CHE 1113 |
| CHEM 1405 | CHE 1004 |
| CHEM 1407 | CHE 1014 |
| CHEM 2123 - UTSA Acceptable Substitute | CHE 2612 |
| CHEM 2323 | CHE 2603 |
| CHIN 1411 | CHN 1014 |
| CHIN 1412 | CHN 1024 |
| CHIN 2311 | CHN 2013 |
| CHIN 2312 | CHN 2023 |
| COMM 1307 | COM 2343 |
| COSC 1336 | CS 1083 |
| COSC 1437 | CS 1714 |
| CRIJ 1301 | CRJ 1113 |
| CRIJ 1306 | CRJ 2813 |
| CRIJ 1307 | CRJ 2153 |
| CRIJ 1310 | CRJ 2623 |
| CRIJ 2313 | CRJ 2513 |
| CRIJ 2328 | CRJ 2213 |
| DANC 2303 | DAN 2003 |
| DRAM 1351 | THR 1013 |
| DRAM 1352 | THR 1023 |
| ECON 1301 | ECO 2003 |
| ECON 2301 | ECO 2013 |
| ECON 2302 | ECO 2023 |
| ENGL 1301 | WRC 1013 |
| ENGL 1302 | WRC 1023 |
| ENGL 2311 | ENG 2413 |
| ENGL 2322 | ENG 2223 |
| ENGL 2323 | ENG 2233 |
| ENGL 2327 | ENG 2263 |
| ENGL 2328 | ENG 2293 |
| ENGL 2332 - UTSA Acceptable Substitute | CSH 1103 |
| ENGL 2333 - UTSA Acceptable Substitute | CSH 1113 |

Appendix A. Texas Common Course Numbering System

| | | | |
|-----------|----------|----------------------------------------|----------|
| ENGL 2341 | ENG 2013 | KINE 1301 | KIN 2303 |
| ENGR 1201 | EE 1322 | KINE 1338 | KIN 2123 |
| ENGR 1304 | ME 1403 | KORE 1411 | KOR 1014 |
| ENGR 2301 | EGR 2103 | KORE 1412 | KOR 1024 |
| ENGR 2302 | EGR 2513 | LATI 1411 | LAT 1114 |
| ENGR 2303 | EGR 2213 | LATI 1412 | LAT 1124 |
| ENGR 2304 | CS 2073 | LATI 2311 | LAT 2113 |
| ENGR 2305 | EE 2213 | LATI 2312 | LAT 2123 |
| ENVR 1301 | ES 2013 | MATH 1314 | MAT 1073 |
| ENVR 1302 | ES 2023 | MATH 1314 - UTSA Acceptable Substitute | MAT 1023 |
| FREN 1411 | FRN 1014 | MATH 1324 | MAT 1053 |
| FREN 1412 | FRN 1024 | MATH 1325 | MAT 1133 |
| FREN 2311 | FRN 2013 | MATH 1332 | MAT 1043 |
| FREN 2312 | FRN 2023 | MATH 1342 | STA 1053 |
| GEOG 1301 | GES 2613 | MATH 1350 | MAT 1153 |
| GEOG 1302 | GES 2623 | MATH 1351 | MAT 1163 |
| GEOG 1303 | GES 1023 | MATH 1442 | ES 1314 |
| GEOL 1103 | GEO 1111 | MATH 2305 | CS 2233 |
| GEOL 1104 | GEO 1131 | MATH 2312 | MAT 1093 |
| GEOL 1105 | ES 1211 | MATH 2313 | MAT 1193 |
| GEOL 1301 | GEO 1013 | MATH 2318 | MAT 2233 |
| GEOL 1303 | GEO 1103 | MATH 2321 | EGR 2323 |
| GEOL 1304 | GEO 1123 | MATH 2413 | MAT 1214 |
| GEOL 1305 | ES 1213 | MATH 2414 | MAT 1224 |
| GERM 1411 | GER 1014 | MATH 2414 | EGR 1324 |
| GERM 1412 | GER 1024 | MATH 2415 | MAT 2214 |
| GERM 2311 | GER 2013 | MUSI 1181 | MUS 1521 |
| GERM 2312 | GER 2023 | MUSI 1183 | MUS 1531 |
| GOVT 2304 | POL 2533 | MUSI 1211 | MUS 1112 |
| GOVT 2305 | POL 1013 | MUSI 1212 | MUS 1132 |
| GOVT 2306 | POL 1133 | MUSI 1216 | MUS 1102 |
| GOVT 2306 | POL 1213 | MUSI 1217 | MUS 1122 |
| HIST 1301 | HIS 1043 | MUSI 1303 | MUS 2623 |
| HIST 1302 | HIS 1053 | MUSI 1306 | MUS 2683 |
| HIST 2301 | HIS 2053 | MUSI 1307 | MUS 2243 |
| HIST 2321 | HIS 2123 | MUSI 1310 | MUS 2633 |
| HIST 2322 | HIS 2133 | MUSI 1310 - UTSA Acceptable Substitute | MUS 2663 |
| HUMA 1301 | HUM 2023 | MUSI 1310 - UTSA Acceptable Substitute | MUS 2673 |
| HUMA 1302 | HUM 2033 | MUSI 2211 | MUS 2152 |
| HUMA 1305 | MAS 2013 | MUSI 2212 | MUS 2162 |
| HUMA 1311 | BBL 2023 | MUSI 2216 | MUS 2102 |
| HUMA 1311 | MAS 2023 | MUSI 2217 | MUS 2112 |
| HUMA 1315 | HUM 2053 | PHED 1304 | HTH 2513 |
| HUMA 2323 | CSH 1213 | PHED 1346 | BIO 1033 |
| ITAL 1411 | ITL 1014 | PHIL 1301 | PHI 2013 |
| ITAL 1412 | ITL 1024 | PHIL 1304 | HUM 2093 |
| ITAL 2311 | ITL 2013 | PHIL 2303 | PHI 1043 |
| ITAL 2312 | ITL 2023 | PHIL 2303 | PHI 2043 |
| JAPN 1411 | JPN 1014 | PHIL 2316 | PHI 2023 |
| JAPN 1412 | JPN 1024 | PHYS 1101 | PHY 1611 |
| JAPN 2311 | JPN 2013 | PHYS 1102 | PHY 1631 |
| JAPN 2312 | JPN 2023 | PHYS 1301 | PHY 1603 |

| | |
|----------------------------------------|----------|
| PHYS 1302 | PHY 1623 |
| PHYS 1310 | PHY 1013 |
| PHYS 2325 | PHY 1943 |
| PHYS 2326 | PHY 1963 |
| PSYC 2301 | PSY 1013 |
| PSYC 2314 | PSY 2503 |
| PSYC 2319 | PSY 2533 |
| RUSS 1411 | RUS 1014 |
| RUSS 1412 | RUS 1024 |
| RUSS 2311 | RUS 2013 |
| RUSS 2312 | RUS 2023 |
| SOCI 1301 | SOC 1013 |
| SOCI 1301 - UTSA Acceptable Substitute | IDS 2113 |
| SOCI 1306 | SOC 2013 |
| SOCI 2320 - UTSA Acceptable Substitute | BBL 2033 |
| SOCI 2340 | SOC 2023 |
| SPAN 1411 | SPN 1014 |
| SPAN 1412 | SPN 1024 |
| SPAN 2311 | SPN 2013 |
| SPAN 2312 | SPN 2023 |
| SPCH 1311 | COM 1043 |
| SPCH 1315 | COM 2113 |
| SPCH 1321 | COM 1053 |
| SPCH 1321 | COM 1063 |

APPENDIX B. NATIONAL STANDARDIZED TESTS: MINIMUM SCORES REQUIRED FOR CREDIT AT UTSA

Students are encouraged to maximize their experience at UTSA by accessing the credit that can be received through prior learning experiences such as, the Advanced Placement (AP) program (p. 510), College Level Examination Program (CLEP) (p. 511), Competency Based Exams (CBE) (p. 512), Dantes (DSST) (p. 513), International Baccalaureate Diploma (IBD) (p. 514), International Baccalaureate Certificate (IBC) (p. 515), and SAT Subject Tests (p. 516). The following tables provide information on minimum scores required in order to receive credit at UTSA. There are University policies that may affect whether or not credit can be received through these tests. The cutoff scores displayed on these pages are valid beginning August 1, 2020. These scores and course credits are subject to change without notice. For more information regarding credit by examination, please review the AP, CLEP, CBE, DSST, and IB information on the Testing Services website (<http://www.utsa.edu/testing/>). Testing Services is located in MS 1.01.04 on the Main Campus, phone 210-458-4125, and in BV 1.302 on the Downtown Campus, phone 210-458-2941.

Advanced Placement (AP)[®]

| Subject | Test Used | Minimum Score Required for UTSA Credit | UTSA Credit Awarded ¹ |
|-------------|-------------------------------------------|----------------------------------------|----------------------------------------|
| AP Capstone | AP Seminar and AP Research (see footnote) | 3 | AIS 1203 ² |
| | AP Seminar and AP Research (see footnote) | 3 | WRC 1013 ³ |
| Art | Art History | 3 | AHC elective, 3 hours (lower division) |
| | Studio Art: 2D Design | 3 | ART 1003 |
| | Studio Art: 3D Design | 3 | ART 1013 |
| Biology | Studio Art: Drawing | 3 | ART 1213 |
| | Biology | 3 or 4 | BIO 1233, BIO 1243 |
| Chemistry | Biology | 5 | BIO 1404, BIO 1414 |
| | Chemistry | 3 | CHE 1004, CHE 1073 |
| | Chemistry | 4 | CHE 1103, CHE 1121 (lab) |
| Chinese | Chemistry | 5 | CHE 1113, CHE 1131 (lab) |
| | Chinese Language and Culture | 2 | CHN 1014, CHN 1024 |

| | | | |
|-----------------------|----------------------------------|---|---------------------------------------------------------------------------------------------------|
| | | 3 | CHN 1014, CHN 1024, CHN 2013, CHN 2023 |
| Computer Science | Computer Science A | 3 | CS 1063, CS 1083 |
| Economics | Macroeconomics | 3 | ECO 2013 |
| | Microeconomics | 3 | ECO 2023 |
| English | English Language and Composition | 3 | WRC 1013 |
| | English Literature & Composition | 3 | ENG 2013 |
| Environmental Science | Environmental Science | 3 | ES 2013, ES 2023 |
| French | French Language and Culture | 2 | FRN 1014, FRN 1024 |
| | | 3 | FRN 1014, FRN 1024, FRN 2013, FRN 2023, FRN 3023 |
| Geography | Human Geography | 3 | GES elective, 3 hours (lower division) |
| | | 3 | GER 1014, GER 1024, GER 2013, GER 2023 |
| German | German Language and Culture | 2 | GER 1014, GER 1024 |
| | | 3 | GER 1014, GER 1024, GER 2013, GER 2023 |
| | | 4 | GER 1014, GER 1024, GER 2013, GER 2023, GER 3023 |
| | | 5 | GER 1014, GER 1024, GER 2013, GER 2023, and GER 3023, and GER electives, 6 hours (upper division) |
| History | United States History | 3 | HIS 1043, HIS 1053 |
| | European History | 3 | HIS 2563 |
| | World History | 3 | HIS 2123 or HIS 2133 ⁴ |
| Information Systems | Computer Science A | 3 | IS 2063 |
| | Computer Science Principles | 3 | IS 1003 |
| Italian | Italian Language and Culture | 2 | ITL 1014, ITL 1024 |

| | | | |
|-------------------|-----------------------------------|--------|------------------------------------------------------------------------------------------------------|
| | | 3 | ITL 1014, ITL 1024, ITL 2013, ITL 2023 |
| Japanese | Japanese Language and Culture | 2 | JPN 1014, JPN 1024 |
| | | 3 | JPN 1014, JPN 1024, JPN 2013, JPN 2023 |
| Latin | Latin | 3 | LAT 1114 |
| Mathematics | Calculus AB | 3 | MAT 1214 or MAT 1193 ⁵ |
| | Calculus BC | 3 | MAT 1214 or MAT 1193 ⁵ |
| | Calculus BC | 4 or 5 | MAT 1214, MAT 1224 |
| | Calculus BC: AB Subscore | 3 | MAT 1214 or MAT 1193 ⁵ |
| Physics | Physics 1: Algebra Based | 3 | PHY 1603 |
| | Physics 2: Algebra Based | 3 | PHY 1623 |
| | Physics C | | |
| | a. Mechanics | 3 | PHY 1943 |
| | b. Electricity & Magnetism | 3 | PHY 1963 |
| Political Science | Comparative Government & Politics | 3 | GLA 2633 or POL 2633 |
| | Government & Politics US | 3 | POL 1013 ⁶ |
| Psychology | Psychology | 3 | PSY 1013 |
| Spanish | Spanish Language and Culture | 2 | SPN 1014, SPN 1024 |
| | | 3 | SPN 1014, SPN 1024, SPN 2013, SPN 2023 |
| | | 4 | SPN 1014, SPN 1024, SPN 2013, SPN 2023, and SPN elective, 3 hours (upper division) |
| | Spanish Literature and Culture | 3 | SPN Literature elective, 3 hours (upper division) |
| Statistics | Statistics | 3 | STA 1053 |

1

All credit shown in this table as elective credit is lower division unless otherwise indicated.

2

Student must earn a minimum score of "3" on both the AP Seminar and Research sections in order to receive credit for Academic Inquiry and Scholarship (AIS 1203).

3

Student must earn at least the AP Seminar and Research Certificate, submit a portfolio, with a reflective self-analysis for possible credit for WRC 1013.

4

Credit will be awarded for either HIS 2123 or HIS 2133, but not for both.

5

Credit will be awarded for either MAT 1193 or MAT 1214, but not for both.

6

This credit is earned after completion of POL 1133 Texas Politics and Society (available as a Competency-Based Exam - see chart for requirements) or POL 1213 Civil Rights in Texas and America. Any substitutions or equivalencies allowed by an advisor will not be the responsibility of Testing Services.

College Level Examination Program (CLEP®)

| Subject | Test Used | Minimum Score Required for UTSA Credit | UTSA Credit Awarded ¹ |
|-------------------------------|----------------------------------------|----------------------------------------|-------------------------------------------------------------|
| Biology | Biology | 65 | BIO 1233, BIO 1243 |
| | Natural Sciences | 65 | BIO elective, 3 hours (lower division) |
| Business | Financial Accounting | 50 | ACC 2013 |
| | Introductory Business Law | 50 | BLW 3013 |
| | Principles of Management | 50 | MGT 3013 |
| | Principles of Marketing | 50 | MKT 3013 |
| Chemistry | Chemistry | 58 | CHE 1103, CHE 1121 (lab) |
| | | 68 | CHE 1103, CHE 1121 (lab), CHE 1113, CHE 1131 (lab) |
| Computer Science ² | Information Systems | 60 | CS 1033 |
| | | 50 | IS 3003 |
| Economics | Principles of Macroeconomics | 50 | ECO 2013 |
| | Principles of Microeconomics | 50 | ECO 2023 |
| English | College Composition Modular with Essay | 50 ³ | WRC 1013 |
| | | 63 ³ | WRC 1013, WRC 1023 |

Appendix B. National Standardized Tests: Minimum Scores Required for Credit at UTSA

| | | | |
|-------------------|---------------------------------------------------|-----------------|-------------------------------------------------|
| | American Literature | 63 | ENG 2263, ENG 2293 |
| | English Literature | 63 | ENG 2223, ENG 2233 |
| | Analyzing and Interpreting Literature | 63 | ENG 2013 |
| | with Essay | 63 ⁴ | ENG 2213 |
| French | French Language | 43 | FRN 1014 |
| | | 50 | FRN 1014, FRN 1024 |
| | | 56 | FRN 1014, FRN 1024, FRN 2013 |
| | | 62 | FRN 1014, FRN 1024, FRN 2013, FRN 2023 |
| German | German Language | 43 | GER 1014 |
| | | 50 | GER 1014, GER 1024 |
| | | 56 | GER 1014, GER 1024, GER 2013 |
| | | 63 | GER 1014, GER 1024, GER 2013, GER 2023 |
| Health | Human Growth and Development | 50 | HTH 3543 |
| History | History of the United States I | 50 | HIS 1043 |
| | History of the United States II | 50 | HIS 1053 |
| | Western Civilization I: Ancient Near East to 1648 | 50 | HIS 2563 ⁵ |
| | Western Civilization II: 1648 to the Present | 50 | HIS 2563 ⁵ |
| Humanities | Humanities | 50 | HUM 2023 |
| Mathematics | College Mathematics | 50 | MAT elective, 3 hours (lower division) |
| | College Algebra | 50 | MAT 1073 |
| | Precalculus | 50 | MAT 1093 |
| | Calculus | 50 | MAT 1214 |
| Political Science | American Government | 50 | POL 1013 ⁶ |
| Psychology | Introductory Psychology | 50 | PSY 1013 |
| Sociology | Introductory Sociology | 50 | SOC 1013 |

| | | | |
|---------|----------------------|----|-------------------------------------------------|
| Spanish | Spanish Language | 43 | SPN 1014 |
| | | 50 | SPN 1014, SPN 1024 |
| | | 58 | SPN 1014, SPN 1024, SPN 2013 |
| | | 66 | SPN 1014, SPN 1024, SPN 2013, SPN 2023 |
| | Spanish with Writing | 50 | SPN 1014, SPN 1024 |
| | | 65 | SPN 1014, SPN 1024, SPN 2013, SPN 2023 |

1

All credit shown in this table as elective credit is lower division unless otherwise indicated.

2

This examination is the same for both credit granting areas. The score determines which credit is awarded. Credit cannot be awarded for both IS and CS. Students having earned course credit for IS 3003 cannot earn test credit for CS 1033.

3

With "pass" on essay scored by Writing Program faculty.

4

With "pass" on essay scored by English Department faculty.

5

Credit will be awarded for Western Civilization I or Western Civilization II, but not for both.

6

This credit is earned after completion of POL 1133 Texas Politics and Society or POL 1213 Civil Rights in Texas and America. Any substitutions or equivalencies allowed by an advisor will not be the responsibility of Testing Services.

Competency Based Exams (CBE)

Students who take and successfully pass a departmentally created Competency Based Exam will receive credit in the course for which the exam was taken. The grade of "CR" will not be included in the UTSA grade point average, but the hours for the course will contribute to overall hours taken and count toward the minimum UTSA residence requirements.

| Subject | Test Used | Minimum Score Required for UTSA Credit | UTSA Credit Awarded ¹ |
|------------------|--------------------------------|----------------------------------------|----------------------------------|
| Computer Science | Departmental Exam | Credit/No Credit | CS 3343 |
| | | Credit/No Credit | CS 3723 |
| | | Credit/No Credit | CS 3733 |
| | | Credit/No Credit | CS 3853 |
| English | Writing Portfolio ² | Credit/No Credit | WRC 1013 |
| | | Credit/No Credit | WRC 1023 |

| | | | |
|---------------------|--------------------------------------------|------------------------------------------------------------------------------------------|----------|
| Information Systems | IS 1403 Test Out Series | 70% Cumulative over 4 Exam Modules | IS 1403 |
| | Microsoft Office Excel Certification | Microsoft Excel Certificate ³ | IS 1413 |
| Mathematics | College Algebra with Applications | 70% | MAT 1023 |
| | College Algebra for Scientists & Engineers | 70% | MAT 1073 |
| Political Science | Texas Politics & Society ⁴ | 10 out of 20 with 5 on AP American Government or an "A" in POL 1013 or equivalent course | POL 1133 |
| | | 12 out of 20 with 4 on AP American Government or a "B" in POL 1013 or equivalent course | POL 1133 |
| | | 15 out of 20 with 3 on AP American Government or a "C" in POL 1013 or equivalent course | POL 1133 |

1

All credit shown in this table as elective credit is lower division unless otherwise indicated.

2

Specific requirements must be met prior to attempting the Competency Portfolio Option including: a) Student must be a Junior or Senior who has written papers for their major/degree requirements; and b) Student has not been able to register for Freshman Composition I or II. Contact the Writing Program for further details at 210-458-5363.

3

Proof of Certiport Certificate required. Microsoft versions 2013, 2016 are eligible.

4

Students must be eligible for credit for AP American Government or have college credit for POL 1013 Introduction to American Politics or equivalent course prior to attempting the Competency Exam. Students must meet the AP score or college course credit grade requirements. Students must have an AP score of 3-5 or college credit for POL 1013 or equivalent course with a grade of "A," "B," or "C". Students who do not meet the required AP scores or grades will not be eligible to take the Competency Exam. Passing of the exam is determined on a sliding scale in accordance with AP score and or letter grade.

Dantes Subject Standardized Test (DSST)

| Subject | Test Used | Minimum Score Required for UTSA Credit | UTSA Credit Awarded ¹ |
|--------------|----------------------|----------------------------------------|----------------------------------|
| Anthropology | General Anthropology | 400 | ANT 1013 |

| | | | |
|--------------------------------------|--------------------------------------|-----|----------------------------------------|
| Astronomy | Astronomy | 400 | AST 1013 |
| Biology | Substance Abuse | 400 | BIO 1033 |
| Business | Business Ethics & Society | 425 | GBA 2013 |
| | Business Mathematics | 400 | MAT elective, 3 hours (lower division) |
| | Human Resource Management | 425 | MGT 3613 |
| | Introduction to Business | 425 | MGT 3013 |
| | Money and Banking | 400 | FIN 3313 |
| | Organizational Behavior | 425 | MGT 3023 |
| | Principles of Finance | 400 | FIN 3013 |
| | Principles of Supervision | 425 | MGT 3023, MGT 4923 |
| Computer Science | Computing and Information Technology | 420 | CS 1033 |
| Criminal Justice | Criminal Justice | 400 | CRJ 1113 |
| | Introduction to Law Enforcement | 400 | CRJ 2213 |
| English | Technical Writing | 400 | ENG 2413 |
| Environmental Science | Environmental Science | 400 | ES 2013 |
| Geography | Introduction to Geography | 400 | GES 2623 |
| Geological Sciences | Introduction to Geology | 400 | GEO 1103 |
| Health | Health & Human Development | 400 | HTH 2513 |
| History | The Civil War & Reconstruction | 400 | HIS 3553 |
| | History of the Soviet Union | 400 | HIS 3753 |
| Humanities | Introduction to World Religions | 410 | HUM 2093 |
| Information Systems & Cyber Security | Fundamentals of Cybersecurity | 400 | IS 1003 |
| | Management Information Systems | 400 | IS 3003 |
| Mathematics | Fundamentals of College Algebra | 400 | MAT 1023 |
| | Math for Liberal Arts | 400 | MAT 1043 |
| Philosophy | Ethics in America | 434 | PHI 3213 |
| Psychology | Lifespan Developmental Psychology | 400 | PSY 2503 |

1

All credit shown in this table as elective credit is lower division unless otherwise indicated.

International Baccalaureate Diploma Examination (IBD)

The University of Texas at San Antonio accepts credit by examination through several testing venues. In accordance with Section 51.968 of the Texas Education Code, students who receive an International Baccalaureate (IB) diploma will be eligible for a minimum of 24 hours course credit if scores of “4” or better were achieved on all IB examinations attempted. The current articulation of how credit will be disseminated for standard level (SL) and higher level (HL) International Baccalaureate Diploma examinations is available below or on the Testing Services website at <http://testing.utsa.edu>.

| Examination | UTSA Course | Minimum Score Required |
|-----------------------------------------------------|--------------------------------------------------------------------|------------------------|
| College of Business | | |
| Business/Management HL | ACC 2003 | 4 |
| | MGT 3013 | 4 |
| | MKT 3013 | 4 |
| Economics HL | ECO 2013, ECO 2023 | 4 |
| College of Education & Human Development | | |
| Sports, Exercise & Health Science SL | KIN 2303 | 4 |
| College of Liberal & Fine Arts | | |
| Social & Cultural Anthropology HL | ANT 2053 | 4 |
| Chinese Language B HL | CHN 1014, CHN 1024 | 4 |
| | CHN 1014, CHN 1024, CHN 2013, CHN 2023 | 5 |
| Classical Languages HL | GRK 1114 or LAT 1114 ¹ | 4 |
| English A Literature SL/ HL | ENG 2013 | 4 |
| English A Language & Literature SL/HL | ENG 2013 | 4 |
| French Language B HL | FRN 1014, FRN 1024 | 2 |
| | FRN 1014, FRN 1024, FRN 2013 | 3 |
| | FRN 1014, FRN 1024, FRN 2013, FRN 2023, & 6 hours (upper division) | 4 |
| | FRN 1014, FRN 1024, FRN 2013, FRN 2023, & 9 hours (upper division) | 6 |
| French Language B SL | FRN 1014, FRN 1024 | 4 |
| Geography SL/HL | GES 1023, GES 3123, GES 3133, GES 3213, GES 3633, & POL 3463 | 4 |
| Global Politics SL/HL | GLA 2603 or POL 2603 ² | 4 |
| German Language B HL | GER 1014, GER 1024 | 2 |
| | GER 1014, GER 1024, GER 2013 | 3 |

| | | |
|----------------------------------------|--------------------------------------------------------------------|---|
| | GER 1014, GER 1024, GER 2013, GER 2023, & 6 hours (upper division) | 4 |
| | GER 1014, GER 1024, GER 2013, GER 2023, & 9 hours (upper division) | 6 |
| German Language AB SL | GER 1014 | 4 |
| German Language B SL | GER 1014, GER 1024 | 4 |
| History HL | HIS 2133 | 6 |
| Italian Language B HL | ITL 1014, ITL 1024 | 2 |
| | ITL 1014, ITL 1024, ITL 2013 | 3 |
| | ITL 1014, ITL 1024, ITL 2013, ITL 2023, & 6 hours (upper division) | 4 |
| Italian Language B SL | ITL 1014, ITL 1024 | 4 |
| Japanese Language B HL | JPN 1014, JPN 1024 | 4 |
| | JPN 1014, JPN 1024, JPN 2013, JPN 2023 | 5 |
| Japanese Language AB or B SL | JPN 1014, JPN 1024 | 4 |
| Music HL | MUS 2243 | 4 |
| Philosophy HL | PHI 2013 | 4 |
| Psychology SL/HL | PSY 1013 | 4 |
| Russian Language B HL | RUS 1014, RUS 1024, RUS 2013, RUS 2023, & 6 hours (upper division) | 4 |
| Russian Language AB or B SL | RUS 1014, RUS 1024 | 4 |
| Spanish Language B HL | SPN 1014, SPN 1024 | 2 |
| | SPN 1014, SPN 1024, SPN 2013 | 3 |
| | SPN 1014, SPN 1024, SPN 2013, SPN 2023 | 4 |
| Spanish Language AB or B SL | SPN 1014, SPN 1024 | 4 |
| Theater SL/HL | THR 1013 | 4 |
| College of Science | | |
| Biology SL/HL | BIO 1233, BIO 1243 | 4 |
| | BIO 1404, BIO 1414 | 6 |
| Chemistry HL | CHE 1103, CHE 1113 | 4 |
| Chemistry SL | CHE 1103, CHE 1113 | 4 |
| Computer Science SL | CS 1083 | 5 |
| Computer Science HL | CS 1083, CS 1714 | 5 |
| Environmental Systems and Societies SL | ES 2013, ES 2023, ES 2021, ES 2031 | 4 |
| Mathematics HL | MAT 1093, MAT 1214 ³ | 4 |
| Mathematics SL | MAT 1093 | 4 |
| Physics HL | PHY 1603, PHY 1623 | 4 |

1

Credit will be awarded for either GRK 1114 or LAT 1114, but not for both.

2

Credit will be awarded for either GLA 2603 or POL 2603, but not for both.

3

It is recommended for students who have met the score requirements for IB Mathematics HL, and are eligible for course credit to contact the Math Department prior to registering for MAT 1224 Calculus II.

International Baccalaureate Certificate Examination (IBC)

International Baccalaureate Certificate students can currently receive the following course credit for the higher level (HL) exams if they meet the score criteria listed on the table below, also available on the Testing Services website at <http://testing.utsa.edu>.

| Examination | UTSA Course | Minimum Score Required |
|-----------------------------------------------|-----------------------------------------------------------------|------------------------|
| College of Business | | |
| Business/Management HL | MKT 3013 | 4 |
| | MGT 3013 | 4 |
| Economics HL | ECO 2013, ECO 2023 | 4 |
| Information Technology in a Global Society HL | IS 3003 | 4 |
| College of Liberal & Fine Arts | | |
| Social and Cultural Anthropology HL | ANT 2053 | 6 |
| Chinese Language B HL | CHN 1014, CHN 1024 | 4 |
| | CHN 1014, CHN 1024, CHN 2013, CHN 2023 | 5 |
| Classical Languages HL | LAT 1114 | 5 |
| English Language A - Literature HL | ENG 2013 | 4 |
| English Language A - Language & Literature HL | ENG 2013 | 4 |
| French Language B HL | FRN 1014, FRN 1024 | 2 |
| | FRN 1014, FRN 1024, FRN 2013 | 3 |
| | FRN 1014, FRN 1024, FRN 2013, FRN 2023 | 4 |
| | FRN 1014, FRN 1024, FRN 2013, FRN 2023 & 6 hours upper division | 5 |
| | FRN 1014, FRN 1024, FRN 2013, FRN 2023 & 9 hours upper division | 6 |
| Geography HL | GES 1023, GES 3213, GES 3633, POL 3463 | 5 |
| German Language B HL | GER 1014, GER 1024 | 2 |
| | GER 1014, GER 1024, GER 2013 | 3 |
| | GER 1014, GER 1024, GER 2013, GER 2023 | 4 |

| | | |
|------------------------|-----------------------------------------------------------------|---|
| | GER 1014, GER 1024, GER 2013, GER 2023 & 6 hours upper division | 5 |
| | GER 1014, GER 1024, GER 2013, GER 2023 & 9 hours upper division | 6 |
| History HL | HIS 2133 | 6 |
| Global Politics HL | GLA 1013 or POL 2603 ¹ | 4 |
| Italian Language B HL | ITL 1014, ITL 1024 | 2 |
| | ITL 1014, ITL 1024, ITL 2013 | 3 |
| | ITL 1014, ITL 1024, ITL 2013, ITL 2023 | 4 |
| | ITL 1014, ITL 1024, ITL 2013, ITL 2023 & 6 hours upper division | 5 |
| | ITL 1014, ITL 1024, ITL 2013, ITL 2023 & 9 hours upper division | 6 |
| Japanese Language B HL | JPN 1014, JPN 1024 | 2 |
| | JPN 1014, JPN 1024, JPN 2013 | 3 |
| | JPN 1014, JPN 1024, JPN 2013, JPN 2023 | 4 |
| | JPN 1014, JPN 1024, JPN 2013, JPN 2023 & 6 hours upper division | 5 |
| | JPN 1014, JPN 1024, JPN 2013, JPN 2023 & 9 hours upper division | 6 |
| Music HL | MUS 2243 | 4 |
| Philosophy HL | PHI 2013 | 5 |
| Psychology HL | PSY 1013 | 5 |
| Russian Language B HL | RUS 1014, RUS 1024 | 2 |
| | RUS 1014, RUS 1024, RUS 2013 | 3 |
| | RUS 1014, RUS 1024, RUS 2013, RUS 2023 | 4 |
| | RUS 1014, RUS 1024, RUS 2013, RUS 2023 & 6 hours upper division | 5 |
| | RUS 1014, RUS 1024, RUS 2013, RUS 2023 & 9 hours upper division | 6 |
| Spanish Language B HL | SPN 1014, SPN 1024 | 2 |
| | SPN 1014, SPN 1024, SPN 2013 | 3 |
| | SPN 1014, SPN 1024, SPN 2013, SPN 2023 | 4 |
| | SPN 1014, SPN 1024, SPN 2013, SPN 2023 & 6 hours upper division | 5 |
| | SPN 1014, SPN 1024, SPN 2013, SPN 2023 & 9 hours upper division | 6 |
| Theatre HL | THR 1013 | 4 |

| College of Sciences | | |
|---------------------|---------------------------------|---|
| Biology HL | BIO 1233, BIO 1243 | 4 |
| | BIO 1404, BIO 1414 | 6 |
| Chemistry HL | CHE 1103, CHE 1113 | 5 |
| Computer Science HL | CS 1083, CS 1714 | 5 |
| Mathematics HL | MAT 1093, MAT 1214 ² | 4 |
| Physics HL | PHY 1603, PHY 1623 | 4 |

1

Credit will be awarded for either GLA 1013 or POL 2603, but not for both.

2

It is recommended for students who have met the score requirements for IB Mathematics HL, and are eligible for course credit to contact the Math Department prior to registering for MAT 1224 Calculus II.

SAT[®] Subject Tests

| Subject | Test Used | Minimum Score Required for UTSA Credit | UTSA Credit Awarded ¹ |
|-----------------------|----------------------|----------------------------------------|----------------------------------|
| Biology | Biology - Molecular | 700 | BIO 1404 |
| | Biology - Ecological | 700 | BIO 1414 |
| Chemistry | Chemistry | 750 | CHE 1103, CHE 1113 |
| English | Literature | 700 | ENG 2013 |
| Philosophy & Classics | Latin | 700 | LAT 1114 |

1

All credit shown in this table as elective credit is lower division unless otherwise indicated.

APPENDIX C. FACULTY

College for Health, Community and Policy

| Name | Title | Education |
|-----------------------------------------|------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| Baird, Raymond R. | Professor Emeritus | A.B., Eastern New Mexico University; M.A., Ph.D., University of Washington |
| Cheatwood, A. Derral | Professor Emeritus | B.A., Oklahoma State University; M.A., Ph.D., Ohio State University |
| Colfer, George R. | Professor Emeritus | B.S., Lock Haven State College; M.S., Ithaca College; Ph.D., Texas A&M University |
| Dykes, James R. | Associate Professor Emeritus | B.A., Ph.D., The University of Texas at Austin |
| Gilbert, Michael J. | Associate Professor Emeritus | B.A., M.A., University of New Hampshire; Ph.D., Arizona State University |
| Halley, Jeffrey A. | Professor Emeritus | B.A., Hobart and William Smith Colleges; M.A., New School for Social Research; Ph.D., City University of New York |
| Marquez, Raquel | Professor Emerita | B.S., Southwest Texas State University; M.A., Ph.D., University of Texas |
| Romo, Harriett D. | Professor Emerita | B.A., The University of Texas at Austin; M.A., University of California, Los Angeles; M.A., Ph.D., University of California, San Diego |
| Criminology and Criminal Justice | | |
| Augustyn, Megan | Associate Professor | B.A., University of Notre Dame; M.A., Ph.D., University of Maryland |
| Boccio, Cashen I. M. | Assistant Professor | B.A., B.S., University of Washington; M.S., California State University, Fresno; Ph.D., Florida State University |
| Booker, Christopher | Lecturer I | B.S., M.S., Florida State University |
| Cardwell, Stephanie | Assistant Professor | B.S., M.S., University of Alabama at Birmingham; Ph.D., The University of Texas at Dallas |
| Enriquez, Roger | Associate Professor | B.B.A., The University of Texas at San Antonio; J.D., University of Iowa College of Law |
| Fahmy, Chantal D. | Assistant Professor | B.A., University of California, Irvine; M.S., California State University, Long Beach; Ph.D., Arizona State University |
| Hartley, Richard D. | Professor | B.S., M.S., Minot State University; Ph.D., University of Nebraska at Omaha |
| Lynch, Kellie R. | Assistant Professor | B.A., Memorial University; M.S., Ph.D., University of Kentucky |
| Meade, Henry | Lecturer III | B.A., St. Mary's University; M.P.A., The University of Texas at San Antonio |

| | | |
|-----------------------|---------------------|---------------------------------------------------------------------------------------------------------------------------|
| Meyers, Travis | Assistant Professor | B.S., University of Wisconsin-La Crosse; M.S., Arizona State University; Ph.D., Arizona State University |
| Moon, Byongook | Professor | B.A., Daegu University; M.S., Ph.D., Michigan State University |
| Rico, Robert | Lecturer III | B.A., M.P.A., The University of Texas at San Antonio |
| Smith, Michael R. | Professor | B.S., Virginia Commonwealth University; J.D., University of South Carolina School of Law; Ph.D., Arizona State University |
| Testa, Alexander M. | Assistant Professor | B.A., University of Albany, SUNY; M.P.P., American University; M.A., Ph.D., University of Maryland |
| Tillyer, Marie Skubak | Professor | B.A., University of Dayton; M.A., Ph.D., University of Cincinnati |
| Tillyer, Robert | Professor | B.A., M.A., Simon Fraser University; Ph.D., University of Cincinnati |

Demography

| | | |
|---------------------|---------------------|-----------------------------------------------------------------------------------------------------------------------------|
| Huang, Ying | Assistant Professor | LL.B., Southwest University of Political Science and Law; M.P.P., University of Missouri; Ph.D., University of Albany |
| Potter, Lloyd B. | Professor | B.S., Texas A&M University; M.S., University of Houston; M.P.H., Emory University; Ph.D., The University of Texas at Austin |
| Saenz, Rogelio | Professor | B.S.W., Pan American University; M.S., Ph.D., Iowa State University |
| Singelmann, Joachim | Professor | Universität Hamburg; M.A., Ph.D., The University of Texas at Austin |
| Sparks, Corey | Associate Professor | B.A., M.A., University of Tennessee; Ph.D., Pennsylvania State University |
| Sparks, P. Johnelle | Professor | B.A., M.A., University of Arkansas; M.A., University of Sydney; Ph.D., Pennsylvania State University |
| Zenteno, Rene | Professor | B.A., Instituto Tecnológico y de Estudios Superiores; M.A., El Colegio de Mexico; Ph.D., The University of Texas at Austin |

Kinesiology

| | | |
|------------------|---------------------|--------------------------------------------------------------------------------------------------------|
| Cheever, Kelly | Assistant Professor | B.S., Southern Utah University; M.S., Brigham Young University; Ph.D., Temple University |
| Chung, Eunhee | Assistant Professor | B.E., Kon-Kuk University; B.S.Ed., The University of Georgia; M.S., Ph.D., The University of Wisconsin |
| Cordova, Alberto | Associate Professor | B.S., M.S., Ph.D., Texas A&M University |
| Dean, William M. | Senior Lecturer | B.S., M.Ed., University of Houston; Ph.D., Texas A&M University |
| Francis, Jimi | Assistant Professor | B.S., M.S., The University of Nevada at Reno; Ph.D., The University of California at Davis |

Appendix C. Faculty

| | | |
|--------------------|---------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Guan, Jianmin | Associate Professor | B.S., Huizhou Normal College; M.S., Shanghai Institute of Physical Education; M.S., Wayne State University; Ph.D., Texas A&M University |
| Hart, Curtis L. | Associate Professor in Practice | B.A., Central University of Iowa; M.S., Iowa State University; Ed.D., Oklahoma State University |
| Land, William | Assistant Professor | B.S., University of Tennessee at Chattanooga; M.S., Ph.D., Florida State University |
| Oyama, Sakiko | Associate Professor | B.S., Oregon State University; M.S., University of Pittsburg; Ph.D., University of North Carolina |
| Umeda, Masataka | Assistant Professor | B.S., M.S.H., University of Tsukuba; Ph.D., University of Wisconsin-Madison |
| Yao, Wan Xiang | Professor | B.S., M.S., Beijing Institute of Physical Education; Ph.D., Auburn University |
| Zhang, John Quiang | Professor | B.S., Shandong Teacher's University; M.S., Springfield College; Ph.D., University of Missouri-Columbia |
| Zhang, Tianou | Assistant Professor | B.S., Sun Yat-Sen University of Medical Sciences, China; M.S., Peking University, China; Ph.D., University of Minnesota-Twin Cities |

Nutrition and Dietetics

| | | |
|---------------------|------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| Leal-Vasquez, Liset | Director/Assistant Professor in Practice | B.S., The University of Texas-Pan American; M.A., The University of Texas at San Antonio; Ph.D., Texas Women's University |
| Price, Breanna | Clinical Dietetic Instructor/Coordinator | M.D.S., The University of Texas Health Science Center at San Antonio; B.S., The University of Texas at San Antonio |
| Ullevig, Sarah | Associate Professor | B.S., Texas State University; Ph.D., The University of Texas Health Science Center at San Antonio |

Psychology

| | | |
|---------------------|-----------------|-------------------------------------------------------------------------------------------------|
| Achorn, Eileen J. | Senior Lecturer | B.A., Ph.D., The University of Texas at Austin |
| Baumann, Michael R. | Professor | B.A., Northwestern University; M.A., Ph.D., University of Illinois |
| Bray, James H. | Professor | B.S., M.A., Ph.D, University of Houston |
| Coyle, Thomas R. | Professor | B.A., M.A., Florida Atlantic University; Ph.D., University of Florida |
| Eisenberg, Ann R. | Professor | B.A., M.A., Johns Hopkins University; Ph.D., University of California, Berkeley |
| Fernandez, Ephrem | Professor | B.A., University of Western Australia; M.A., Miami University; Ph.D., The Ohio State University |
| Fuhrman, Robert W. | Professor | B.A., St. Louis University; M.A., Ph.D., University of Illinois |

| | | |
|-----------------------------|---------------------|----------------------------------------------------------------------------------------------------------------------------|
| Garza, Raymond T. | Professor | B.A., M.A., Texas A&I University; Ph.D., Purdue University |
| Golob, Edward J. | Professor | Ph.D., Dartmouth College |
| Hale, Willie J. | Assistant Professor | B.A., Creighton University; M.S., Ph.D, The University of Texas at San Antonio |
| Lopez, Stella D. | Associate Professor | B.A., Southern Methodist University; Ph.D., The University of Texas at Arlington |
| Mangold, Deborah | Associate Professor | B.S., Johns Hopkins University; M.A., Loyola College in Maryland; Ph.D., Howard University |
| McNaughton-Cassill, Mary E. | Professor | B.A., M.A., University of California, Santa Barbara; Ph.D., University of California, San Diego/San Diego State University |
| Morissette, Sandra Baker | Professor | B.A., University of Vermont; M.A., Ph.D., Boston University |
| Osman, Augustine | Professor | B.A., M.A., Ph.D., Western Virginia University |
| Pillow, David R. | Professor | B.A., The University of Texas at Arlington; M.A., Ph.D., Arizona State University |
| Romanowich, Paul | Assistant Professor | B.A., B.S., University of Florida; M.A., Ph.D., University of California, San Diego |
| Ryan, Michael P. | Associate Professor | B.A., Pomona College; Ph.D., Stanford University |
| Swan, Alicia A. | Assistant Professor | B.A., Purdue University; M.A., Ph.D., Southern Illinois University, Carbondale |
| Weston, Rebecca | Associate Professor | B.A., The University of Texas at Austin; M.A., Ph.D., University of North Texas |
| Zawacki, Tina | Associate Professor | B.S., Grand Valley State University; Ph.D., Wayne State University |

Public Administration

| | | |
|-----------------------|---------------------|----------------------------------------------------------------------------------------------------------------------|
| Alexander, Jennifer | Associate Professor | B.S., Georgetown University; M.S., Ph.D., Virginia Polytechnic Institute and State University |
| Amatangelo, Gina | Lecturer III | B.A., Pennsylvania State University; M.P.A., The University of Texas at Austin, LBJ School of Public Affairs |
| Demir, Tansu | Associate Professor | B.S., M.A., Hacettepe University; Ph.D., Florida Atlantic University |
| Elias, Veronica | Assistant Professor | B.A., The National University of the South, Bahia Blanca, Argentina; M.A., Ph.D., The University of Akron |
| Fernandez, Kandyce M. | Assistant Professor | B.A., University of Miami; M.A., Texas A&M University; Ph.D., Arizona State University |
| Jaramillo, Patricia | Senior Lecturer | B.A., Southwestern University; M.P.Aff., The University of Texas at Austin; Ph.D., University of Colorado at Boulder |
| Ponomariov, Branco L. | Associate Professor | B.A., Sofia University; M.A., Central European University; Ph.D., Georgia Institute of Technology |

| | | |
|--------------------------|---------------------|-------------------------------------------------------------------------------------|
| Reddick, Christopher G. | Professor | B.A., M.A., M.B.A., University of Guelph; Ph.D., University of Sheffield |
| Romero, Francine Sanders | Associate Professor | B.A., California State University; M.A., Ph.D., University of California, Riverside |
| Sanders, Heywood T. | Professor | A.B., Johns Hopkins University; Ph.D., Harvard University |

Public Health

| | | |
|---------------------|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Baldwin, Aleta | Assistant Professor | B.A., The University of Nevada, Las Vegas; M.A., M.P.H., Ph.D., Indiana University |
| Clark, James R. | Lecturer III | B.S., Arizona State University; M.S., The University of Texas Health Science Center at Houston |
| Grigsby, Timothy | Assistant Professor | B.A., University of California, Irvine; Ph.D., The University of Southern California |
| Harb, Crystal M. | Lecturer II | B.S., St. Mary's University; M.P.H., The University of Texas Health Science Center at Houston |
| He, Meizi | Professor | B.S., M.S., Sun Yat-sen University of Medical Sciences, China; Ph.D., University of Hong Kong |
| Howard, Jeffrey | Assistant Professor | B.A., M.A., The University of Texas at Arlington; Ph.D., The University of Texas at San Antonio |
| Oswalt, Sara B. | Professor | B.S., The Pennsylvania State University; M.P.H., Indiana University; Ph.D., The University of Georgia |
| Sosa, Erica | Associate Professor | B.A., St. Mary's University; M.S., The University of Texas at San Antonio; Ph.D., Texas A&M University |
| Sunil, Thankam S. | Professor | B.S., M.S., University of Kerala; M.P.H., Ph.D., International Institute for Population Sciences; M.P.H., University of North Texas Health Science Center; Ph.D., University of North Texas |
| Wallace, Erica | Lecturer II | B.S., M.P.H., Georgia Southern University |
| Wyatt, Tammy | Associate Professor | B.S., Sam Houston State University; M.Ed., Southwest Texas State University; Ph.D., The University of Texas at Austin |
| Yin, Zenong | Professor | B.S., Beijing Institute of Physical Education; M.A., Ph.D., University of Southern California |
| Sociology | | |
| Bartkowski, John P. | Professor | B.S., St. Mary's University; M.A., Ph.D., The University of Texas at Austin |
| Denton, Melinda L. | Associate Professor | B.A., Seattle Pacific University; M.A., Ph.D., University of North Carolina at Chapel Hill |
| Earnest, Terri | Senior Lecturer | B.B.A., M.S., Ph.D., Mississippi State University |

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|---------------------------|---------------------|--------------------------------------------------------------------------------------------------------------|
| Ellison, Christopher G. | Professor | A.B., Ph.D., Duke University |
| Ford-Robertson, Joanne M. | Lecturer III | B.S., M.S., The University of Texas at San Antonio |
| Garcia-Alexander, Ginny | Assistant Professor | B.S., M.s., Ph.D., Texas A&M University |
| Hill, Terrence | Associate Professor | B.A., Texas State University; M.A., Bowling Green State University; Ph.D., The University of Texas at Austin |
| Joyner, Kara | Professor | B.A., Beloit College; M.A., Ph.D., The University of Chicago |
| Lewis, Richard | Professor | B.S., Texas Tech University; M.S., Ph.D., Texas A&M University |
| Miller, Michael V. | Associate Professor | B.S., M.S., Ph.D., Texas A&M University |
| Ruiz, Andrea L. | Assistant Professor | B.A., M.S., The University of Texas at San Antonio; Ph.D., The Pennsylvania State University |
| Swisher, Raymond | Professor | B.A., M.C.R.P., Ohio State University; M.A., Ph.D., University of North Carolina at Chapel Hill |
| Upenieks, Laura | Assistant Professor | B.S., M.A., Ph.D., University of Toronto |
| Xu, Xiaohu | Professor | B.A., Sichuan University, PRC; M.A., Michigan State University, Ph.D., University of Michigan |

College of Architecture, Construction and Planning

| Name | Title | Education |
|---------------------|---------------------|---------------------------------------------------------------------------------------------------------|
| Baron, Robert | Professor Emeritus | B.Arch., University of Oregon, M.Arch., University of Washington; M.S.Arch., University of Pennsylvania |
| Architecture | | |
| Alexander, John | Associate Professor | B.Arch., University of Detroit; M.Arch. History, Ph.D., University of Virginia |
| Araiza, Armando | Lecturer III | B.Arch., The University of Texas at San Antonio; M.A., Pratt Institute |
| Bagarozzy, John T. | Lecturer I | M.S., Kansas State University |
| Balderas, Rene J. | Lecturer I | B.Arch., University of Houston |
| Blizard, Mark | Associate Professor | B.Arch., M.Arch., Virginia Polytechnic Institute and State University |
| Blount, Craig | Senior Lecturer | B.Arch., The University of Texas at Austin |
| Burian, Edward R. | Professor | B.Arch., University of Southern California, Los Angeles; M.Arch., Yale University |
| Caine, Ian | Associate Professor | B.A., M.Arch., Washington University; M.S., Massachusetts Institute of Technology |

Appendix C. Faculty

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|--------------------------|---------------------------------|-------------------------------------------------------------------------------------------------------------------------|-----------------------------|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Canizaro, Vincent B. | Associate Professor | B.E.D., Texas A&M University; M.Arch., University of California, Berkeley; Ph.D., Texas A&M University | Petrov, Antonio | Associate Professor | M.Arch. and Urban Design, University of Applied Sciences Koblenz, Germany; M.Arch., Illinois Institute of Technology; D.Des., Harvard University Graduate School of Design |
| Diego, Analý | Lecturer III | B.S., M.Arch., The University of Texas at San Antonio | Rashed-Ali, Hazem | Associate Professor | B.S., Ain Shams University, Cairo; M.S., Oxford Brookes University School of Architecture; Ph.D., Texas A&M University |
| Doganer, Sedef | Associate Professor | B.Arch., M.S., Ph.D., Istanbul Technical University | Roff, Shelley | Associate Professor | B.E.D., Texas A&M University; M.Arch., University of California, Berkeley; Ph.D., Brown University |
| Dupont, William | Professor | San Antonio Conservation Society, Endowed Professorship; A.B., Brown University; M.Arch., University of Pennsylvania | Rogers, Candid W. | Lecturer III | B.A., M.Arch., The University of Texas at Austin |
| Fish, Curtis | Lecturer III | B.A., B.S., M.Arch., The University of Texas at San Antonio | Suk, Jae-Yong | Assistant Professor | B. Engineering, Ajou University; M. Building Science, Ph.D., University of Southern California |
| Gribou, Julius M. | Professor | B. Design, University of Florida, Gainesville; M.Arch., University of Illinois at Urbana-Champaign | Tangum, Richard R. | Professor | B.Arch., Texas Tech University; M.Arch., Virginia Polytechnic Institute; D.E.D., Texas A&M University |
| Griffin, Greg P. | Assistant Professor | Ph.D., The University of Texas at Austin | Temple, Stephen A. | Associate Professor | B.Arch., Carnegie Mellon University; M.S.Arch. Studies, The University of Texas at Austin |
| Guarino, Michael S. | Lecturer III | B.A., M.Arch., The University of Texas at Austin | Toker-Beeson, Saadet | Associate Professor | B.Arch., M.S., Ph.D., Middle East Technical University, Ankara, Turkey |
| Han, Albert T. | Assistant Professor | M.S., University of Iowa; Ph.D., University of Pennsylvania | Construction Science | | |
| Hays, Diane B. | Senior Lecturer | B.S., M.Arch., The University of Texas at Austin | Benjamin, David P. | Adjunct Assistant Professor | J.D., Southern Methodist University |
| James, Ryan D. | Associate Professor | M.A., The Ohio State University; M.A., University of Cincinnati; Ph.D., University of North Carolina at Charlotte | Cai, Jiannan | Assistant Professor | Ph.D., Purdue University |
| Lewis, James Rick | Assistant Professor in Practice | B.Arch., Texas Tech University; M.Arch., The University of Texas at Austin | Chakraborty, Debaditya | Assistant Professor | Ph.D., University of Cincinnati |
| Lombardi, Angela | Associate Professor | B.A., M.Arch., Ph.D., University of Rome | Escobar, Arnoldo | Adjunct Assistant Professor | M.S., The University of Texas at Arlington |
| Manzke, Marc D. | Lecturer I | B.Arch., Carnegie Mellon University | Freund, Matthew | Adjunct Assistant Professor | M.S., The University of Texas at Austin |
| Martinez Molina, Antonio | Assistant Professor | M.S., Ph.D., Universitat Politecnica-Technical University of Valencia | Galvan Jr., Alfredo D. | Adjunct Assistant Professor | M.B.A., The University of Texas at San Antonio |
| Matiella, David | Lecturer I | B.S., M.Arch., The University of Texas at San Antonio | Hatipkarasulu, Yilmaz | Associate Professor | B.S., Cukurova University; M.S., Ph.D., Louisiana State University |
| McGlone, Ann B. | Lecturer II | B.Arch., Kansas State University; M.S., Columbia University | Langar, Sandeep | Assistant Professor | Ph.D., Virginia Polytechnic Institute and State University |
| Mears, Buddy | Adjunct Assistant Professor | B.A., M.Arch., Harvard University | Patin, Jude W. P. | Senior Lecturer | B.S., Southern University, B.S., Louisiana State University, M.S., Arizona State University |
| Murphy, Jr., John D. | Professor | B.S., M.S., Ph.D., Texas A&M University | Schmidt, Charles | Adjunct Assistant Professor | B.S., The University of Texas at Austin |
| Nishimoto, Taeg | Professor | B.Arch., Waseda University, Tokyo, Japan; M.Arch., Cornell University | Sulbaran, Tulio | Professor | Ph.D., Georgia Institute of Technology |
| Norouzi, Neda | Assistant Professor | M.Arch., M. Urban Regional Planning, University of Colorado; Ph.D., Virginia Polytechnic Institute and State University | | | |
| Ohlenbusch, Darryl | Lecturer III | B.E.D., Texas A&M University; M.Arch., Columbia University | | | |
| Pemberton-Haugh, Sue Ann | Assistant Professor in Practice | B.E.D., M.Arch., Texas A&M University | | | |

Trahan, Gabriel Senior Lecturer B.A., M.B.A, University of New Orleans; Ph.D., Louisiana State University

Pitman, Marshall K. Professor B.S., M.B.A., Eastern Illinois University; Ph.D., University of Mississippi; C.M.A., C.P.A.

College of Business

| Name | Title | Education |
|------------------------|------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| Cardy, Robert L. | Professor Emeritus | B.S., M.A., Central Michigan University; Ph.D., Virginia Polytechnic Institute and State University |
| Lengel, Robert H. | Associate Professor Emeritus | B.S., Pennsylvania State University; M.B.A., M.S., Rensselaer Polytechnic Institute; Ph.D., Texas A&M University |
| Lengnick-Hall, Cynthia | Professor Emerita | B.A., M.B.A., University of California, Los Angeles; Ph.D., The University of Texas at Austin |
| Lengnick-Hall, Mark | Professor Emeritus | B.B.A., M.B.A., The University of Texas at Austin; Ph.D., Purdue University |
| Rao, V. Srinivasan | Professor Emeritus | B.Tech., Indian Institute of Technology, Madras; M.S., Colorado School of Mines; Ph.D., The University of Texas at Austin |
| Sandoval, Rodolpho | Associate Professor Emeritus | B.B.A., Texas A&I University; J.D., Texas Southern School of Law; M.A., Notre Dame University; LL.M., Harvard Law School |
| Walz, Diane B. | Professor Emerita | B.A., St. Louis University; M.B.A., Washington University; Ph.D., The University of Texas at Austin |
| Warren, John | Associate Professor Emeritus | B.A., Knox College; M.B.A., Governors State University; Ph.D., University of Illinois at Chicago |
| Accounting | | |
| Asthana, Sharad C. | Professor | B.S., M.S., Lucknow University; Ph.D., The University of Texas at Austin |
| Boone, Jeff | Professor | B.B.A., M.S., Texas A&M University; Ph.D., University of North Texas |
| Conrad, Stacy | Lecturer II | B.B.A., M.S., Texas A&M University |
| Lee, Patrick | Lecturer III | B.S., University of La Verne; M.S., Oklahoma State University; M.S.ACC., University of Connecticut |
| Linthicum, Cheryl L. | Professor | B.S., Colorado State University; M.B.A., Pittsburgh State University; Ph.D., Oklahoma State University |
| Liu, Hu (Harrison) | Associate Professor | Ph.D., Texas A&M University; Ph.D., University of Houston |
| Lopez, Dennis | Associate Professor | B.B.A., University of Puerto Rico; M.B.A., The George Washington University; Ph.D., University of Arkansas |
| Mao, Juan | Assistant Professor | B.S., M.S., Wuhan University; Ph.D., University of Kansas |
| Nwaeze, Emeka T. | Professor | B.S., M.P.A., Southern University; Ph.D., University of Connecticut |

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| Raman, K.K. | Professor | BA., University of Calcutta; M.B.A., India Institute of Management, Calcutta; Ph.D., Indiana University |
| Sanchez, Daniela | Assistant Professor | B.B.A., M.B.A., St. Mary's University; Ph.D., Texas Tech University |
| Sanchez, J. Manuel | Professor | B.B.A., M.B.A., St. Mary's University; Ph.D., The University of Texas at San Antonio |
| Sanders, Elaine | Associate Professor | B.B.A., Eastern New Mexico University; M.Acc., Ph.D., The University of Oklahoma |
| Smith, Pamela C. | Professor | B.S., University of Virginia; M.S., Ph.D., Virginia Polytechnic Institute and State University |
| Vaello, Linda R. | Lecturer II | B.B.A., M.B.A., The University of Texas at San Antonio |
| Ye, Zhongxia (Shelly) | Associate Professor | B.S., M.Acc., Southwestern University of Finance and Economics; Ph.D., Temple University |
| Yin, Jennifer | Professor | B.S., M.S. Tax., University of New Orleans; Ph.D., University of Houston |

Economics

| | | |
|---------------------|---------------------|----------------------------------------------------------------------------------------------------------------------------|
| Alva, Samson J. | Associate Professor | B.A. Mercer University; M.A., Ph.D., Boston College |
| Arslan, Hayri Alper | Assistant Professor | B.A., Boğaziçi University; M.A., Sabancı University; Ph.D., Vanderbilt University |
| Beheshti, David | Assistant Professor | B.A., Brigham Young University; M.S., Ph.D., The University of Texas at Austin. |
| Beladi, Hamid | Professor | B.A., Rasht College of Business, Iran; M.S., Ph.D., Utah State University |
| De la Viña, Lynda | Professor | B.A., The University of Texas-Pan American; M.A., Ph.D., Rice University |
| Firoozi, Fathali | Professor | M.B.A., Oklahoma City University; M.A., The University of Texas at Austin; M.S., Ph.D., The University of Oklahoma |
| Ghossoub, Edgar A. | Associate Professor | B.B.A., Notre Dame University, Lebanon; M.S., University of North Carolina, Charlotte; M.S., Ph.D., University of Kentucky |
| Hollas, Daniel R. | Professor | B.B.A., University of Houston; M.A., Ph.D., University of Illinois at Urbana-Champaign |
| Johnson, Shakira T. | Lecturer II | B.A., M.A., The University of Texas at San Antonio |
| Lien, Donald | Professor | B.S., National Tsing Hua University; M.S., National Chiao Tung University; M.S., Ph.D., California Institute of Technology |

Appendix C. Faculty

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|--------------------------|---------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Liu, Long | Associate Professor | B.A., M.A., Renmin University, Beijing, China; Ph.D., Syracuse University |
| Lo, Melody | Professor | B.A., National Tsing Hua University; M.A., Ph.D., Purdue University |
| Finance | | |
| Adhikari, Binay | Assistant Professor | B.S., Tribhuvan University; M.B.A., Kathmandu University; M.S. Auburn University; Ph.D., University of Alabama |
| Agrawal, Vipin K. | Associate Professor in Practice | B.E., University of Delhi; M.S., Texas A&M; Ph.D., The University of Texas at Austin |
| Bayar, Onur | Professor | B.S., Bogazici University; M.S., University of Pittsburgh; M.S., Carnegie Mellon University; Ph.D., Boston College |
| Bhanot, Karan | Professor | B.S.E.E., Punjab Engineering College, India; M.B.A., Indian Institute of Management; Ph.D., University of Iowa |
| Burns, Natasha | Associate Professor | M.B.A., Michigan State University; B.S., Ph.D., The Ohio State University |
| Ciochetti, Brian (Tony) | Professor | B.S., University of Oregon; M.S., Ph.D., University of Wisconsin-Madison |
| Kadapakkam, Palani-Rajan | Professor | B.S., Loyola College, India; Postgraduate Diploma in Management, Indian Institute of Management; Ph.D., University of Michigan |
| Kalcheva, Ivalina | Associate Professor | B.A., University of Economics, Varna Bulgaria; M.B.A., Saginaw Valley State University; Ph.D., University of Utah |
| Sikes, Candy | Senior Lecturer | B.S., Nicholls State University; Ph.D., University of Alabama |
| Sweet, Ronald B. | Lecturer II | B.Mus., B.B.A., The University of Texas at Austin; M.B.A., The University of Texas at San Antonio |
| Teske III, Raymond H. C. | Associate Professor in Practice | B.A., Baylor University; M.B.A., The University of Texas at San Antonio; J.D., South Texas College of Law |
| Thomson, Thomas A. | Professor | B.S.F., University of British Columbia; M.S., Virginia Polytechnic Institute and State University; Ph.D., University of California, Berkeley; Ph.D., University of Michigan |
| Wald, John K. | Professor | B.A., Yale University; Ph.D., University of California, Berkeley |
| Wang, Zijun | Associate Professor | B.A., M.A., Ren Min University of China; Ph.D., Texas A&M University |
| Wolfe, Brian | Assistant Professor | B.S.C.E., University of Cincinnati; M.B.A., Xavier University; Ph.D., Indiana University |

Information Systems and Cyber Security

| | | |
|---------------------------|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Bachura, Eric | Assistant Professor | B.S., University of Phoenix, Business; M.B.A., Sam Houston State University; Ph.D., The University of Texas at San Antonio |
| Ball, Larry L. | Associate Professor in Practice | B.S., U.S. Air Force Academy; M.S., University of Southern California; M.S., San Jose State University; Ph.D., Stanford University |
| Beebe, Nicole | Professor | B.S., Michigan Technological University; M.S., Georgia State University; Ph.D., The University of Texas at San Antonio |
| Bonto-Kane, Maria Vicente | Assistant Professor in Practice | B.A., Ateneo de Manila University; M.A., M.S., State University of New York in Binghamton; Ph.D., North Carolina State University |
| Bou-Harb, Elias | Associate Professor | B.S., Notre Dame University; M.S., Ph.D., Concordia University; Postdoctoral, Carnegie Mellon University, |
| Castaneda, Robert | Associate Professor in Practice | B.S., M.S., Ph.D., The University of Texas at San Antonio |
| Choo, Kim-Kwang Raymond | Professor | B.A., M.S., University of South Australia; Graduate Diploma in Business Administration, University of Queensland; Ph.D., Queensland University of Technology |
| Davis, Terri | Lecturer II | B.S., Texas A&M University-Corpus Christi; M.S., The University of Texas at San Antonio |
| Dietrich, Glenn B. | Professor | B.S., University of Missouri; M.B.A., The University of Texas at San Antonio; Ph.D., The University of Texas at Austin |
| Grant, Kevin P. | Associate Professor | B.S., U.S. Air Force Academy; M.S., Air Force Institute of Technology; Ph.D., Texas A&M University |
| Guo, Yuanxiong (Richard) | Assistant Professor | B.E., Huazhong University of Science and Technology; M.S., The University of Florida; Ph.D., The University of Florida |
| Kaufman, Robert | Lecturer III | B.S., Clemson University; M.S., University of West Florida; Post-Grad, University of Colorado |
| Ko, Myung S. | Professor | B.A., University of Washington; M.A., Ph.D., Virginia Commonwealth University |
| Liu, Zhechao (Charles) | Associate Professor | B.A., Xiamen University, China; M.A., Tulane University; Ph.D., University of Pittsburgh |
| Menard, Philip | Assistant Professor | B.S., Nicholls State University; Ph.D., Mississippi State University |
| Mitra, Rita | Associate Professor in Practice | B.M., Texas Tech University; M.M., Julliard School of Music; D.M.A., Manhattan School of Music; M.S., New York University |

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| Najafirad, Peyman (Paul Rad) | Associate Professor | B.S., Sharif University; M.S., Ph.D., The University of Texas at San Antonio |
| Pugh, William | Assistant Professor in Practice | B.A., Louisiana Tech University; M.S., Texas A&M Central Texas; Ph.D., University of the Incarnate Word |
| Rao, Hejamadi R. | Professor | B.Tech., India Institute of Technology Kanpur; M.B.A., University of Delhi; Ph.D., Purdue University |
| Rios, Anthony M. | Assistant Professor | B.S., Georgetown College; Ph.D., University of Kentucky |
| Sands, Yvette Newton | Lecturer II | B.B.A., University of Georgia; M.S.B.E., University of North Carolina; Ed.D., University of South Carolina |
| Shepherd, Linda H. | Lecturer III | B.S., Northern Arizona University; M.C.S.M., Creighton University |
| Spivey, Woodie A. | Associate Professor | B.A.E., Georgia Institute of Technology; M.M.S., Texas Christian University; Ph.D., University of Houston |
| Teneyuca, David | Assistant Professor in Practice | B.B.A., M.B.A., Our Lady of the Lake University; M.S., St. Mary's University; Ph.D., Our Lady of the Lake University; Ph.D., Colorado Technical University |
| Valecha, Rohit | Assistant Professor | B.S., M.S., Ph.D., University of Buffalo, SUNY |
| Villarreal, Marco | Assistant Professor in Practice | M.S., Texas A&M International; Ph.D., The University of Texas Rio Grande Valley |
| Williams, Karen L. | Professor in Practice | B.A., University of Colorado; B.S., M.B.A., University of West Florida; Ph.D., The Florida State University |
| Zhang, Xiaolu | Assistant Professor in Practice | B.E., Northeast Normal University, China; Ph.D., Jilin University, China |
| Zhu, Hongyi | Assistant Professor | B.B.M., Tsinghua University; Ph.D., The University of Arizona |

Management

| | | |
|--------------------------|---------------------------------|-----------------------------------------------------------------------------------------------------------------|
| Caldwell Marquez, Andrea | Assistant Professor | B.S., Pennsylvania State University; M.B.A., University of Notre Dame; Ph.D., The University of Texas at Austin |
| Chang, Pepe | Associate Professor | B.S., Ph.D., University of Utah |
| Clark, Jonathan | Associate Professor | B.A., Boston College; M.S., Ph.D., Harvard University |
| Cordero, Arkangel | Assistant Professor | B.A., Ave Maria University; M.B.A., Bentley University; M.S., Ph.D., Cornell University |
| Heller, Victor L. | Associate Professor | B.A., M.P.A., Ph.D., Arizona State University |
| Keeton, Kathryn | Associate Professor in Practice | B.S., The University of Texas at Austin; M.A., Ph.D., University of Houston |

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|----------------------|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------|
| Khanna, Poonam | Assistant Professor | B.Com., University of Delhi, India; M.B.A., Institute of Management Technology, India; Ph.D., The University of Texas at Austin |
| Krasikova, Dina | Assistant Professor | Diploma, Voronezh State University; M.S., Ph.D., Purdue University |
| Le, Huy | Associate Professor | B.S., Vietnam National University; Ph.D., University of Iowa |
| Lewis, Alexander C. | Assistant Professor | B.A., Trinity University; M.A., Ph.D., The University of Texas at San Antonio |
| Marlow, Shannon | Assistant Professor | B.S., M.S., University of Central Florida; Ph.D., Rice University |
| McDonald, Michael L. | Professor | B.A., Emory University; Ph.D., The University of Texas at Austin |
| Miller, Stewart R. | Professor | B.A., M.B.A., Northwestern University; Ph.D., Indiana University, Bloomington |
| Montoya, Lisa | Associate Professor in Practice | B.A., University of Denver; M.P.A., Arizona State University; Ph.D., Washington University in St. Louis |
| Ramirez, Consuelo | Associate Professor in Practice | B.S., Texas Woman's University; M.S., Texas Tech University; Ph.D., Our Lady of the Lake University |
| Rudy, Bruce C. | Associate Professor | M.S., University of Michigan; B.B.A., M.S., Ph.D., The University of Texas at Austin |
| Xu, Kai | Assistant Professor | Bachelor's, Master's, Ph.D., Xi'an Jiaotong University; Ph.D., Texas A&M University |

Management Science and Statistics

| | | |
|----------------------|---------------------|------------------------------------------------------------------------------------------------------------------------|
| Anderson, Michael T. | Lecturer III | B.S., University of California, Riverside; M.S.C.E., Stanford University; M.S., The University of Texas at San Antonio |
| Dell, Jacob J. | Lecturer I | B.A., B.B.A., Texas Lutheran University; M.B.A., University of Notre Dame |
| DeOliveira, Victor | Professor | B.S., M.S., Universidad Simon Bolivar; Ph.D., University of Maryland |
| Han, Donghoon | Associate Professor | B.Sc., M.Sc., Ph.D., McMaster University |
| Keating, Jerome P. | Professor | B.S., M.A., Ph.D., The University of Texas at Arlington |
| Leung, Mark T. | Associate Professor | B.A., M.B.A., University of California; M.B.A., Ph.D., Indiana University |
| Mason, Robert L. | Adjunct Professor | B.S., St. Mary's University; Ph.D., Southern Methodist University |
| Massaro, Kimberly | Lecturer I | B.A., University of Missouri at Columbia; M.S., The University of Texas at San Antonio |
| Park, Yeonjoo | Assistant Professor | B.S., Ewha Womens University-Seoul; M.S., Seoul National University; Ph.D., University of Illinois at Urbana-Champaign |

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|-----------------------|---------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| Roy, Anuradha | Associate Professor | B.S., Calcutta University; M.Stat., Indian Statistical Institute, Calcutta; Ph.D., Oakland University |
| Roy, Arkajyoti | Assistant Professor | B.S., Ph.D., Purdue University |
| Sass, Daniel A. | Associate Professor | B.S., Ph.D., University of Wisconsin-Milwaukee |
| Sonmez, Mahmut | Associate Professor in Practice | B.B.A., Dokuz Eylul University, Turkey; M.S., University of Birmingham, U.K.; Ph.D., Manchester School of Management, U.K. |
| Sun, Minghe | Professor | B.S., Northeast University of Technology; M.B.A., Chinese University of Hong Kong; Ph.D., The University of Georgia |
| Tripathi, Ram C. | Professor | B.A., M.A., Banaras Hindu University, India; M.S., Ph.D., University of Wisconsin-Madison |
| Wang, Min | Associate Professor | B.A., Concordia University; M.S., Ph.D., Clemson University |
| Wani, Deepa | Assistant Professor | B. Engr., M. Bus., University of Mumbai, India; M.S., Ph.D., University of South Carolina |
| Wu, Wenbo | Assistant Professor | B.S., The University of Texas at Austin; M.S., University of Central Florida; Ph.D., University of Georgia |
| Xu, Kefeng | Professor | B.E., Shanghai Jiao-Tong University; M.S.B.A., University of British Columbia; Ph.D., University of Maryland |
| Ye, Keying | Professor | B.S., Fudan University, Shanghai; M.S., Institute of Applied Mathematics, Academia Sinica, Beijing; Ph.D., Purdue University |
| Marketing | | |
| Basuroy, Suman | Professor | B.A., Brandeis University; M.S., Carnegie-Mellon University; Ph.D., University of Pittsburgh |
| Bojanic, David C. | Professor | B.S., Pennsylvania State University, M.B.A., James Madison University; D.B.A., University of Kentucky |
| Cannon, Thomas F. | Professor in Practice | B.S., M.A., Western Michigan University; J.D., South Texas College of Law |
| Chandrasekaran, Deepa | Assistant Professor | B.A., M.A., University of Madras, India; M.B.A., Indian Institute of Management; Ph.D., University of Southern California |
| Davied, Daniel J. | Associate Professor in Practice | BSET, Pittsburgh State University; M.B.A., Ph.D., St. Louis University |
| Gretz, Richard | Associate Professor | B.A., Westfield State College; M.A., Ph.D., Claremont Graduate University |
| Johnsen, David W. | Associate Professor in Practice | B.S., Rutgers University; M.A., Oral Roberts University; Ph.D., St. Louis University |

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|------------------------|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| Jung, Jihye | Assistant Professor | B.A., Yonsei University, South Korea; M.B.A., KDI School of Public Policy and Management, South Korea; Ph.D., Rice University |
| Kilger, Max F. | Associate Professor in Practice | B.S., Oregon State University; M.A., Ph.D., Stanford University |
| Malshe, Ashwin | Assistant Professor | B.E., M.M.S., Mumbai University; Ph.D., Binghamton University, State University of New York |
| Utecht, Richard L. | Associate Professor | B.B.A., M.B.A., Texas A&I University; Ph.D., University of North Texas |
| Wang, Dian | Assistant Professor | B.B.A., Texas Tech University; M.B.A., The University of Texas at Arlington; Ph.D., Texas A&M University |
| Zhang, Yinlong (Allen) | Professor | Bachelor of History, Renmin University of China; M.Phil., Hong Kong University of Science and Technology; Ph.D., University of Pittsburgh |

College of Education and Human Development

| Name | Title | Education |
|------------------------------|------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| Borman, Christopher A. | Professor Emeritus | B.S., Ed.D., Indiana University; M.A., Northwestern University |
| Briscoe, Felecia | Associate Professor Emerita | B.S., M.A., University of Nevada, Las Vegas; Ed.D., University of Cincinnati |
| Clark, Ellen R. | Professor Emerita | B.A., Trinity University; M.A., The University of Texas at San Antonio; Ph.D., The University of Texas at Austin |
| Cook, Gillian E. | Professor Emerita | B.A., Sir George Williams University; Ed.M., Ed.D., Harvard University |
| Davis, Dewey D. | Professor Emeritus | B.S., Edinboro State College; M.Ed., Ph.D., The University of Texas at Austin |
| Desjean-Perrotta, Blanche A. | Professor Emerita | B.A., Anna Maria College; M.Ed., Rhode Island College; M.Ed., University of Southern Alabama; Ed.D., University of Arizona |
| Dizinno, Gerry | Associate Professor Emeritus | B.S., State University College at New Paltz; M.S., Ph.D., Florida State University |
| Henkin, Roxanne | Professor Emerita | B.S., M.S., Ed.D., Northern Illinois University |
| Kessler, Carolyn L. | Professor Emerita | B.A., St. Mary-of-the-Woods College; M.S., Ph.D., Georgetown University |
| Laughery, Wayne W. | Professor Emeritus | B.A., M.A., San Diego State College; Ed.D., Columbia University Teachers College |
| Martin, Nancy K. | Professor Emerita | B.A., M.Ed., Sam Houston State University; Ed.D., Texas Tech University |

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|-------------------------------------|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| McGee, Patricia | Associate Professor Emerita | B.A., M.A., The University of Texas at San Antonio; Ph.D., The University of Texas at Austin | Ek, Lucila D. | Professor | B.A., Stanford University; Ph.D., University of California, Los Angeles |
| Milk, Robert D. | Professor Emeritus | B.A., M.A., Ph.D., Stanford University | Flores, Belinda B. | Professor | B.A., M.A., The University of Texas at San Antonio; Ph.D., The University of Texas at Austin |
| Moseley, Christine A. | Professor Emerita | B.S., Texas Tech University; M.A., Angelo State University; Ph.D., Oklahoma State University | Henderson, Kathryn | Associate Professor | B.A., Washington University in St. Louis; M.A., Framingham State College Campus Guadalajara; Ph.D., The University of Texas at Austin |
| Méndez-Negrete, Josie | Professor Emerita | B.A.S.W., M.S.W., San Jose State University; M.A., Ph.D., University of California, Santa Cruz | Huang, Becky | Associate Professor | B.A., National Kaohsiung Normal University-Taiwan; M.Ed., Harvard University; M.A., Ph.D., University of California, Los Angeles |
| Nora, Amaury | Professor Emeritus | B.A., The University of Texas at Austin; M.S., Texas A&M University-Kingsville; Ed.D., University of Houston | Kisselev, Olesya | Assistant Professor | B.A., M.A., Buryat State University, Russia; M.A., Portland State University; Ph.D., The Pennsylvania State University |
| Orange, Carolyn M. | Professor Emerita | B.A., Harris Teachers College; M.A., Ph.D., Washington University | Langman, Juliet | Professor | B.S., Georgetown University; M.A., Ph.D., Stanford University |
| Padilla, Raymond V. | Professor Emeritus | B.A., University of Michigan; M.A., Ph.D., University of California, Berkeley | Lara, Gilberto | Assistant Professor | B.A., M.Ed., Boise State University; Ph.D., The University of Texas at Austin |
| Pate, P. Elizabeth | Professor Emerita | B.S., M.Ed., Angelo State University; Ph.D., Texas A&M University | Lindahl, Kristen M. | Associate Professor | B.A., M.A., Ph.D., University of Utah |
| Pérez, Bertha | Professor Emerita | B.S., M.Ed., Our Lady of the Lake University; Ed.D., University of Massachusetts Amherst | Smith, Howard L. | Professor | B.A., Temple University; Ph.D., The University of Arizona |
| Rendón, Laura | Professor Emerita | B.A., University of Houston; M.A., Texas A&M University-Kingsville; Ph.D., University of Michigan | Solís, Jorge L. | Associate Professor | A.B., Stanford University; Ph.D., University of California, Berkeley |
| Schutz, Paul A. | Professor Emeritus | B.A., B.S., Winona State University; M.Ed., University of Wisconsin-La Crosse; Ph.D., The University of Texas at Austin | Sánchez, Patricia | Professor | B.A., Rice University; M.A., The University of Texas at Austin; Ph.D., University of California, Berkeley |
| Sutherland, Berry | Professor Emeritus | B.S., The University of Texas at Austin; M.S., Ed.D., University of Houston | Tian, Zhongfeng | Assistant Professor | B.A., Beijing Normal University-Hong Kong Baptist University United International College; Ed.M., Boston University; Ph.D., Boston College |
| Tafolla, Carmen | Professor Emerita | B.A., Texas Lutheran College; M.A., Austin College; Ph.D., The University of Texas at Austin | Trujillo, Armando L. | Associate Professor | B.S., M.Ed., The University of Texas at El Paso; M.A., University of Northern Colorado; Ph.D., The University of Texas at Austin |
| Wagener, James W. | Professor Emeritus | B.A., Southern Methodist University; M.A., Ph.D., The University of Texas at Austin | Yazan, Bedrettin | Associate Professor | B.A., M.A., Middle East Technical University, Ankara; Ph.D., University of Maryland |
| Winter, Suzanne | Associate Professor Emerita | M.S., Texas A&M University-Corpus Christi; Ph.D., The University of Texas at Austin | College Faculty | | |
| Wortham, Sue C. | Professor Emerita | B.S., University of Houston; M.A., Southwest Texas State University; Ph.D., The University of Texas at Austin | Clark, Langston | Associate Professor | B.S., North Carolina Agricultural and Technical State University; M.A., The Ohio State University; Ph.D., The University of Texas at Austin |
| Bicultural-Bilingual Studies | | | Counseling | | |
| Christiansen, Martha Sidury | Associate Professor | B.A., Universidad Veracruzana-Xalapa, Mexico; M.A., Indiana University-Purdue University Fort Wayne; Ph.D., The Ohio State University | Duffey, Thelma | Professor | B.A., M.Ed., Trinity University; M.A., Ph.D., St. Mary's University |
| DelliCarpini, Margo | Professor | B.A., M.A., State University of New York at Stony Brook; Ph.D., Stony Brook University | Interiano-Shiverdecker, Claudia | Assistant Professor | B.A., Ave Maria University, San Marcos, Nicaragua; M.S., Universidad Tecnológica, San Pedro Sula, Honduras; M.S., University of Wisconsin-Stout; Ph.D., University of North Carolina at Charlotte |

Appendix C. Faculty

| | | |
|------------------------|------------------------------|-------------------------------------------------------------------------------------------------------------------|
| Jones, Brenda L. | Clinical Assistant Professor | B.S., Alcorn State University; M.A., Ph.D., The University of Texas at San Antonio |
| Juhnke, Gerald A. | Professor | B.A., Michigan State University; M.A., Central Michigan University; Ed.D., Western Michigan University, Kalamazoo |
| Lloyd-Hazlett, Jessica | Associate Professor | B.A., University of Virginia; M.Ed., Ph.D., College of William and Mary |
| Prasath, Priscilla | Assistant Professor | M.S., Bharathiar University; Ph.D., Ohio State University |
| Robertson, Derek | Assistant Professor | B.S., M.Ed., Texas Tech University; Ph.D., College of William and Mary |
| Romero, Devon | Assistant Professor | M.A., Ph.D., University of Alabama |
| Somody, Catherine F. | Clinical Assistant Professor | B.S., Texas State University; M.Ed., Trinity University; Ph.D., The University of Texas at San Antonio |
| Trepal, Heather C. | Professor | B.A., The Ohio State University; M.Ed., Cleveland State University; Ph.D., Kent State University |

Educational Leadership and Policy Studies

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|-------------------------|---------------------------------|-------------------------------------------------------------------------------------------------------------|
| Aguilera, Vangie | Assistant Professor in Practice | B.A., M.Ed., Our Lady of the Lake University; Ed.D., The University of Texas at San Antonio |
| Bahena, Sofia | Assistant Professor | B.A., Trinity University; Ed.M., Ed.D., Harvard University |
| Barnett, Bruce G. | Professor | B.A., Arizona State University; M.A., Pepperdine University; Ph.D., University of California, Santa Barbara |
| Brewer, Curtis A. | Associate Professor | B.A., M.Ed., University of North Texas; Ph.D., The University of Texas at Austin |
| DeLeon, Abraham | Professor | B.S., New Mexico State University; M.A., Ph.D., University of Connecticut |
| Garcia-Louis, Claudia | Assistant Professor | B.A., B.S., Oregon State University; M.A., Seattle University; Ph.D., The University of Texas at Austin |
| Garza, Jr., Encarnación | Professor | B.A., M.Ed., The University of Texas-Pan American; Ph.D., The University of Texas at Austin |
| Giles, Mark | Professor | B.A., University of Cincinnati; M.S., Miami University-Ohio; Ph.D., Indiana University |
| Lac, Van | Assistant Professor | B.A., University of California, Berkeley; M.A., Stanford University; Ph.D., University of Wisconsin-Madison |
| Merchant, Betty M. | Professor | B.S., M.S., State University of New York College at Plattsburgh; M.S., Ph.D., Stanford University |
| Niño, Juan M. | Associate Professor | B.S., M.Ed., The University of Texas at Brownsville; Ph.D., Texas State University |

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| Okilwa, Nathern | Assistant Professor | B.A., M.A., University of Wyoming; Ph.D., The University of Texas at Austin |
| Rodríguez, Mariela A. | Professor | B.A., M.Ed., Our Lady of the Lake University; M.Ed., The University of Texas at Brownsville; Ph.D., New Mexico State University |
| Sansone, Vanessa | Assistant Professor | B.A., St. Mary's University; M.Ed., Ed.D., The University of Texas at San Antonio |
| Smith, Page A. | Professor | B.S., Wright State University; M.S., University of Dayton; M.A., Ph.D., The Ohio State University |
| Thompson, David P. | Professor | B.S., M.S., Ph.D., Texas A&M University |

Educational Psychology

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|----------------------------|---------------------|---------------------------------------------------------------------------------------------------------------------------------|
| Castro-Villarreal, Felicia | Associate Professor | B.A., The University of Texas at San Antonio; M.S., St. Mary's University; Ph.D., Oklahoma State University |
| Guerra, Norma S. | Professor | B.A., Trinity University; M.A., The University of Texas at San Antonio; Ph.D., Texas A&M University |
| Karcher, Michael J. | Professor | B.A., Austin College; Ed.M., Ed.D., Harvard University; Ph.D., The University of Texas at Austin |
| MacNaul, Hannah | Assistant Professor | B.A., Texas State University; M.A., The University of Texas at San Antonio; Ph.D., University of South Florida |
| Neely, Leslie | Associate Professor | B.S., The University of Texas at Austin; M.Ed., Ph.D., Texas A&M University |
| Nichols, Sharon L. | Professor | B.A., Bucknell University; M.A., Ph.D., The University of Arizona |
| Sullivan, Jeremy R. | Professor | B.S., Sam Houston State University; Ph.D., Texas A&M University |
| Thacker, Ian | Assistant Professor | B.A., University of Colorado, Boulder; M.A.; University of California, Berkeley; M.S., Ph.D., University of Southern California |
| Villarreal, Victor | Associate Professor | B.A., University of Notre Dame; Ph.D., Texas A&M University |

Interdisciplinary Learning and Teaching

| | | |
|---------------------|---------------------|--------------------------------------------------------------------------------------------------------------------------------|
| Alanís-York, Iliana | Associate Professor | B.A., The University of Texas at Austin; M.Ed., The University of Texas-Pan American; Ph.D., The University of Texas at Austin |
| Arreguín, María | Associate Professor | B.A., Universidad Autónoma de Nuevo Leon; M.Ed., The University of Texas-Pan American; Ed.D., Texas A&M University-Kingsville |
| Bonner, Emily P. | Associate Professor | B.A., M.A.T., Trinity University; Ph.D., University of Florida |
| Boon, Richard T. | Professor | B.S., M.S., Purdue University; Ph.D., George Mason University |

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|---------------------------------|---------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Carmona-Dominguez, Guadalupe D. | Associate Professor | B.Sc., Instituto Tecnológico Autónomo de México (ITAM); M.Sc., Centro de Investigaciones y de Estudios Avanzados del Instituto Politécnico Nacional (Cinvestav-IPN); Ph.D., Purdue University |
| DeJulio, Samuel | Assistant Professor | B.S., Emporia State University; M.Ed., Texas State University; Ph.D., The University of Texas at Austin |
| Emenaha, Uchenna | Assistant Professor | B.S., Houston Baptist University; M.Ed., Texas Southern University; Ph.D. (ABD), University of Houston |
| Ewoldt, Kathy B. | Assistant Professor | B.S., Park University; M.Ed., Ph.D., University of Nevada Las Vegas |
| Fies, Carmen H. | Associate Professor | B.S., M.S., The University of Texas at San Antonio; Ph.D., The University of Texas at Austin |
| Garcia, Claudia Treviño | Assistant Professor in Practice | B.A., M.A., Ph.D., The University of Texas at San Antonio |
| Haddad, Zaid M. | Assistant Professor In Practice | B.A., M.Ed., Ph.D., University of Nevada, Las Vegas |
| Harmon, Janis | Professor | B.A., M.Ed., University of Southwest Louisiana; Ph.D., The Ohio State University |
| Horowitz, Rosalind | Professor | B.S., M.A., Ph.D., University of Minnesota |
| Kalinec-Craig, Crystal A. | Assistant Professor | B.S., University of Houston; M.S., Texas A&M University; Ph.D., University of Arizona |
| Leija, María G. | Assistant Professor | B.A., M.Ed., Boise State University; Ph.D., The University of Texas at Austin |
| Lima, Cynthia E. | Assistant Professor | B.A., Universidad Nacional Autónoma de México; M.A., Ph.D., The University of Texas at Austin |
| Marone, Vittorio | Assistant Professor | B.A., M.A., Ph.D., Ca' Foscari University of Venice; Ph.D., University of Padua and University of Tennessee |
| Martinez, Miriam G. | Professor | B.A., University of Alabama; M.A., Ph.D., The University of Texas at Austin |
| Muñoz, Marissa | Assistant Professor | B.S., M.S., Texas A&M University; Ph.D., University of British Columbia |
| Ndimande, Bekisizwe S. | Associate Professor | B.Ed., University of Durban-Westville, South Africa; M.Ed., University of Massachusetts Amherst; Ph.D., University of Wisconsin-Madison |
| Popielarz, Kaitlin E. | Assistant Professor | B.A., M.A., Michigan State University; Ph.D., Wayne State University |
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| Ryan, Ann Marie | Professor | B.A., Loyola University Chicago; M.A., Seattle University; Ph.D., University of Illinois at Chicago |
| Sanders, Rachel Kaminski | Assistant Professor | B.A., Florida State University; M.A.T., Clemson University; Ph.D., The University of Georgia |
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| Sutterby, John A. | Associate Professor | B.S., M.A., Ph.D., The University of Texas at Austin |
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Race, Ethnicity, Gender, and Sexuality Studies

| | | |
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| Cruz, Rachel | Assistant Professor | B.A., The University of Notre Dame; M.A., D.M.A., The University of Texas at Austin |
| Cuevas, T. Jackie | Associate Professor | B.A., M.A., Ph.D., The University of Texas at Austin |
| Elenes, C. Alejandra | Professor | B.A., Universidad de Monterrey; M.A., Ph.D., University of Wisconsin-Madison |
| Mendoza, Sylvia | Assistant Professor | B.J., The University of Texas at Austin; M.A., The University of Texas at San Antonio; Ph.D., University of Utah |
| Saldaña, Lilliana P. | Associate Professor | B.A., Boston University; M.A., The University of Texas at San Antonio; Ph.D., University of Wisconsin-Madison |
| Saldívar-Hull, Sonia | Professor | B.A., University of Houston; M.A., Ph.D., The University of Texas at Austin |

College of Engineering

| Name | Title | Education |
|--------------------------------------------------------|----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Howe, Richard S. | Professor Emeritus | B.S., University of Kentucky; S.M., Massachusetts Institute of Technology; M.S., Ph.D., University of Wisconsin-Madison |
| Singh, Yesh P. | Professor Emeritus | B.E., University of Roorkee; M.S., Youngstown State University; Ph.D., University of Wisconsin-Milwaukee, P.E. |
| Biomedical Engineering and Chemical Engineering | | |
| Abu-Lail, Nehal | Associate Professor | B.S., M.S., Jordan University of Science and Technology; Ph.D., Worcester Polytechnic Institute |
| Amaechi, Bennett | Professor | B.S., BDS, Dentistry Health Science University of Life, Nigeria; M.S., Guy's Hospital, London, U.K.; Ph.D., University of Liverpool, U.K. |
| Antebi, Ben | Biomedical Research Physiologist | B.S., Florida Atlantic University; Ph.D., The University of Texas at San Antonio |
| Appleford, Mark R. | Associate Professor | B.S., M.S., California Polytechnic State University; Ph.D., University of Tennessee Health Science Center/ University of Memphis |
| Asmis, Reto | Professor | M.S., Ph.D., University of Fribourg, Switzerland |
| Bai, Yidong | Associate Professor | B.S., Fudan University, China; M.S., Ph.D., Columbia University |
| Bizios, Rena | Professor | B.S., University of Massachusetts; M.S., California Institute of Technology; Ph.D., Massachusetts Institute of Technology |
| Bopassa, Jean | Assistant Professor | DEUG I, University of Marien Ngouabi, Republic of Congo; M.S., Ph.D., University of Cocody, Ivory Coast |
| Brenner, Andrew | Associate Professor | B.S., Texas A&M University; M.D., Texas Tech; Ph.D., The University of Texas at Austin |
| Brenner, Robert | Associate Professor | B.S., The University of Texas at Arlington; M.S., San Diego State University; Ph.D., The University of Texas at Austin |
| Brey, Eric | Professor | B.S., M.Eng., University of Louisville; Ph.D., Rice University |
| Bynum, James | Research Biologist | B.S., The University of Texas at San Antonio; Ph.D., The University of Texas at Austin |
| Cheng, XingGuo | Principal Scientist, SWrl | B.S., M.S., Wuhan University, China; Ph.D., University of Florida |
| DeLorenzo, Robert A. | Professor | B.S., The University of Texas at Arlington; M.S., The University of Texas Health Science Center at San Antonio; M.S., University of Maryland University College; M.D., Albany Medical College |
| Demeler, Borries | Professor | B.S., University of Montana; Ph.D., Oregon State University |
| Dion, Gregory | Assistant Professor | M.D., Virginia Commonwealth University School of Medicine |
| Feng, Yusheng | Professor | B.S., Tsinghua University; M.S., University of Oklahoma; Ph.D., The University of Texas at Austin |
| Finol, Ender | Professor | B.S., Universidad de Carabobo, Valencia, Venezuela; M.S., University of Massachusetts, Lowell; M.A., Ph.D., Carnegie Mellon University |
| Flores, Mario A. | Assistant Professor | B.S., Autonomous Metropolitan University, Mexico City; M.S., Ph.D., The University of Texas at San Antonio |
| Gaviria, Laura | Senior Lecturer | B.S., University of Antioquia; Ph.D., The University of Texas at San Antonio |
| Giambini, Hugo | Assistant Professor | B.S., Florida International University; Ph.D., Mayo Clinic |
| Glickman, Randolph | Professor | AB, Columbia College of Columbia University; Ph.D., University of Toronto |
| Grigoryan, Artyom | Associate Professor | M.S., Ph.D., Yerevan State University, Armenia, USSR; M.S., Moscow Institute of Physics and Technology; M.S., Texas A&M University |
| Guda, Teja | Associate Professor | B.Tech., Indian Institute of Technology, Bombay; Ph.D., The University of Texas at San Antonio-The University of Texas Health Science Center at San Antonio |
| Han, Hai-Chao | Professor | B.S., M.S., Ph.D., Jiaotong University, Xi'an, China |
| Hood, Robert Lyle | Assistant Professor | B.S., University of Houston; M.S., Ph.D., Virginia Tech-Wake Forest University School of Biomedical Engineering and Sciences |
| Hsieh, Jenny | Professor | B.S., University of California, San Diego; Ph.D., Johns Hopkins University |
| Huang, Tim | Professor | B.S., Tunghai University, Taiwan; Ph.D., University of California, Davis |
| Jacobs, Gary | Assistant Professor | B.S., The University of Texas at Austin; Ph.D., University of Oklahoma |
| Jiang, Jean | Professor | B.S., Nanjing University, China; Ph.D., State University of New York |

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|-----------------------------|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Jin, Victor | Associate Professor | B.S., Fudan University, China; M.S., University of Ottawa, Canada; Ph.D., Queen's University |
| Libich, David | Assistant Professor | B.S., Ph.D., University of Guelph, Canada |
| Liu, Jason Zhjie | Assistant Professor | B.S., Lanzhou University, China; M.S., Chinese Academy of Sciences, China; Ph.D., University of Georgia at Athens |
| Meyer, Andrew | Assistant Professor | B.S., University of California, Berkeley; M.S., M.D., Virginia Commonwealth University; M.M.S., The University of Texas Health Science Center at San Antonio |
| Ong, Joo L. | Professor | B.S., University of Iowa; M.S., Ph.D., University of Alabama at Birmingham |
| Patel, Sandeep | Associate Professor | B.S., Boston University; D.O., University of Health Science, College of Osteopathic Medicine; M.M.S., Texas Tech University |
| Paukert, Martin | Assistant Professor | M.D., Eberhard Karls University of Tübingen |
| Qutub, Amina | Associate Professor | B.S., Rice University; Ph.D., University of California, Berkeley/San Francisco |
| Ramirez-Hernandez, Abelardo | Assistant Professor | B.S., Ph.D., Universidad Autónoma del Estado de Morelos |
| Rathbone, Christopher R. | Assistant Professor | B.A., University of Northern Iowa; M.S., Texas A&M University; Ph.D., University of Missouri |
| Romero Uribe, Gabriela | Assistant Professor | B.S., Autonomous University of San Luis Potosi; M.S., Ph.D., University of the Basque Country |
| Shah, Amita | Assistant Professor | B.S., Trinity University; M.D., UT-Health San Antonio; Ph.D., The University of Texas at San Antonio |
| Sousa, Rui | Professor | B.A., Harvard University; Ph.D., University of Pittsburgh |
| Tang, Liang | Associate Professor | B.S., Jiangsu Polytechnic University, China; Ph.D., University of Louisville |
| Vielma, Karina Ivette | Assistant Professor | B.S., Massachusetts Institute of Technology; M.Ed., Harvard University; Ph.D., The University of Texas at San Antonio |
| Wang, Howard | Associate Professor | B.A., Cornell University; M.D., Johns Hopkins University School of Medicine |
| Wang, Xiaodu | Professor | B.S., M.S., Beijing Institute of Aeronautics and Astronautics, China; Ph.D., Yokohama National University, Japan |
| Wang, XiaoYan | Senior Lecturer | B.Eng., M.Eng., Tianjin University, China; Ph.D., National University of Singapore |

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| Weintraub, Susan | Professor | B.S., University of Pennsylvania; M.S., Trinity University; Ph.D., The University of Texas Health Science Center at San Antonio |
| Xu, Kexin | Assistant Professor | B.S., Fudan University, China; Ph.D., University of Maryland |
| Yaszemski, Michael | Professor | B.S., M.S., Lehigh University; M.D., Georgetown University School of Medicine; Ph.D., Massachusetts Institute of Technology |
| Ye, Jing Yong | Professor | B.S., Huazhong University of Science and Technology, China; Ph.D., University of Tsukuba, Japan |

Civil and Environmental Engineering

| | | |
|----------------------|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Arroyo, G. Alberto | Professor | B.S., Universidad Nacional de Ingeniería, Lima, Peru; M.S., Ph.D., New Mexico State University, P.E. |
| Bin-Shafique, Sazzad | Professor | B.S., Bangladesh University of Engineering and Technology at Dhaka; M.S., The University of Texas at El Paso; Ph.D., University of Wisconsin-Madison, P.E. |
| Browning, JoAnn | Professor | B.S., M.S., University of Kentucky; Ph.D., Purdue University, P.E. |
| Dessouky, Samer | Professor | B.S., Ain Shams University; M.S., Washington State University; Ph.D., Texas A&M University, P.E. |
| Diaz, Manuel A. | Professor | B.S., M.S., National University of Engineering, Peru; Ph.D., The University of Texas at Austin, P.E. |
| Ghannoum, Wassim | Associate Professor | B.Eng., M.Eng., McGill University; Ph.D., University of California, Berkeley, P.E. |
| Giacomoni, Marcio | Associate Professor | B.S., University of Brasilia, Brazil; M.S., Federal University of Rio Grande do Sul, Brazil; Ph.D., Texas A&M University, P.E. |
| Huang, Jie | Associate Professor | B.S., M.S., Wuhan University, China; Ph.D., The University of Kansas, P.E. |
| Johnson, Drew | Professor | B.S., The University of Texas at Austin; Ph.D., University of Minnesota, P.E. |
| Kapoor, Vikram | Assistant Professor | B.Tech., Jaypee Institute of Information Technology, Noida, India; Ph.D., University of Cincinnati |
| Kumar, Amit | Associate Professor | B.S., Babasaheb Bhimrao Ambedkar Bihar University; M.S., Indian Institute of Technology Bombay; Ph.D., Purdue University |
| Matamoros, Adolfo | Professor | Lic., University of Costa Rica; M.S., Ph.D., University of Illinois at Urbana-Champaign |
| Montoya, Arturo | Associate Professor | B.S., M.S., Ph.D., Columbia University |
| Papagiannakis, A.T. | Professor | B.S., National Technical University of Athens; M.S., University of Saskatchewan; Ph.D., University of Waterloo, P.E. |

Appendix C. Faculty

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|--------------------------------------------|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|-----------------------|------------------------------------------------------------------------------------------------------------------------------|
| Sharif, Hatim O. | Professor | B.S., University of Khartoum; M.S., Colorado State University; Ph.D., University of Connecticut, P.E. | Gui, Changfeng | Professor | B.S., M.S., Peking University; Ph.D., University of Minnesota, Twin Cities |
| Shiple, Heather | Professor | B.S., Baylor University; M.S., Ph.D., Rice University | Guo, Ruyan | Professor | B.S., M.S., Xian Jiaotong University, China; Ph.D., The Pennsylvania State University |
| Testik, Firat | Professor | B.S., Orta Dogu Teknik Universitesi, Turkey; M.S., University of Minnesota; Ph.D., Arizona State University | Hansen, Lars | Professor in Practice | B.S., Rice University; M.S., Stanford University; Ph.D., The University of Texas at Austin |
| Weissmann, José | Professor | B.S., M.S., University of Sao Paulo; Ph.D., The University of Texas at Austin, P.E. | Hood, Robert Lyle | Assistant Professor | B.S., University of Houston; M.S., Ph.D., Virginia Tech-Wake Forest University School of Biomedical Engineering and Sciences |
| Electrical and Computer Engineering | | | Huang, Yufei | Professor | B.S., Northwestern Polytechnic University, China; M.S., Ph.D., State University of New York at Stony Brook |
| Ahmed, Sara | Assistant Professor | B.S., M.S., Ph.D., Virginia Polytechnic Institute and State University | Jamshidi, Mohammad | Professor | B.S., Oregon State University; M.S., Ph.D., University of Illinois at Urbana-Champaign |
| Ahn, Ethan C. | Assistant Professor | B.S., M.S., KAIST; Ph.D., Stanford University | Jin, Yufang | Professor | B.S., Zhengzhou University, China; M.S., Chinese Academy of Aviation, China; M.S., Ph.D., University of Central Florida |
| Akopian, David | Professor | B.S., M.S., Moscow Institute of Physics and Technology, Russia; Ph.D., Tampere University of Technology, Finland | John, Eugene | Professor | B.S., University of Kerala, India; M.S., The University of Texas at El Paso; Ph.D., The Pennsylvania State University |
| Alamaniotis, Miltos | Assistant Professor | B.S., University of Thessaly; M.S., Ph.D., Purdue University | Joo, Youngjoong | Lecturer III | B.S., M.S., Korea University, South Korea; Ph.D., Georgia Institute of Technology |
| Allo, Jr., August J. | Lecturer III | B.S., M.S., Louisiana Tech University | Kelley, Brian T. | Associate Professor | B.S., Cornell University; M.S., Ph.D., George Institute of Technology |
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| Bhounsule, Pranav | Assistant Professor | B.E., Goa Engineering College; M.Tech., Indian Institute of Technology Madras; Ph.D., Cornell University | Morton, Paul E. | Professor in Practice | B.S., Purdue University; M.S., Ph.D., M.D., University of Missouri-Columbia |
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Mechanical Engineering

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| Anthropology | | |
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| Hard, Robert J. | Professor | B.A., University of Arizona; M.A., Ph.D., University of New Mexico | Sherer, Scott | Professor | B.A., Yale University; M.A., University of Kentucky, Lexington; Ph.D., University of Minnesota, Minneapolis |
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Appendix C. Faculty

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|------------------------|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|---------------------|-------------------------------------------------------------------------------------------------------------------------|
| Kang, Seok | Professor | B.A., Sungkyunkwan University, Seoul, Korea; M.A., Sogang University, Seoul, Korea; M.A., Illinois State University; Ph.D., University of Georgia | Zhang, Juyan | Professor | B.L., Renmin University of China; M.L., Beijing University; Ph.D., University of Missouri-Columbia |
| Kanso El-Ghori, Ali | Professor | B.A., Lebanese University; M.S., Ph.D., Ohio University | English | | |
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| Madden, Marina "Red" | Lecturer III | B.F.A., Texas State University; M.F.A., Savannah College of Art and Design | Fonzo, Kimberly | Assistant Professor | B.A., Hanover College; M.A., Ph.D., University of Illinois at Urbana-Champaign |
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| | | | Clinton, Catherine | Professor | A.B., Harvard University; M.A., University of Sussex; Ph.D., Princeton University |
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| Ng, Wing Chung | Professor | B.A., M.Phil., University of Hong Kong; Ph.D., University of British Columbia |
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Modern Languages and Literatures

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Music

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| Breithaupt, Peter | Lecturer | B.M., M.A., Western Michigan University; M.M., University of Illinois at Urbana-Champaign |
| Brill, Mark | Associate Professor | B.A., Oberlin College; M.A., Tulane University; J.D., Loyola University; Ph.D., University of California, Davis |
| Bustos, Isaac | Senior Lecturer | B.M., University of New Hampshire; M.M., D.M.A., The University of Texas at Austin |
| Caploe, Joseph | Lecturer | B.A., California State University; M.F.A., California Institute of the Arts |

Appendix C. Faculty

| | | | | | |
|--------------------------|---------------------|---------------------------------------------------------------------------------------------------------------------------------|---------------------|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Castle, Jeffrey | Lecturer | B.M., University of Massachusetts Amherst; M.M., William Marsh Rice University | McCrary, William | Associate Professor | B.M., University of Montana, Missoula; M.M., San Francisco State University; D.A., University of Northern Colorado |
| Cherry, Nicole | Assistant Professor | B.M., University of Maryland; M.M., The Juilliard School; D.M.A., Texas Tech University | Miles, Randi | Lecturer | B.S., Texas State University; M.F.A., Arizona State University |
| Cowden, Tracy | Professor | B.M., Western Michigan University; M.M., D.M.A., Eastman School of Music | Millican, Si | Professor | B.M., M.M.E., University of North Texas; Ph.D., University of Oklahoma |
| Davis, Stacey | Associate Professor | B.M., Arizona State University; M.M., Ph.D., Northwestern University | Moree, Catherine | Lecturer | B.M.E., University of Northern Colorado; M.M., Florida State University |
| Dawkins, Allyson | Lecturer | B.F.A., State University of New York at Purchase; M.M., University of Rochester Eastman School of Music | Muhn, Yoo Jin | Assistant Professor | B.A., SookMyung Women's University; M.M., College-Conservatory of Music of University of Cincinnati; M.M., Westminster Choir College of Rider University; D.M.A., University of Southern California |
| Debus, Christine | Specialist | Medaille d'Or and Medaille de la Ville de Bordeaux; Conservatoire National de Region de Bordeaux | Murphy, James Ryan | Lecturer | B.M., The Cleveland Institute of Music; M.M., The Juilliard School |
| Dill, Susan | Associate Professor | B.M., South Illinois University; M.M., Ph.D., University of North Texas | Nix, John | Professor | B.M., University of Georgia; M.Mus.Ed., Florida State University; M.M., University of Colorado at Boulder; Certificate of Vocology, University of Iowa |
| El-Farrah, Rami | Lecturer | B.M., California State University, Fullerton; M.M., D.M.A., The University of Texas at Austin | Olson, Susan | Associate Professor | B.M., Capital University Conservatory of Music; M.M., D.M.A., The Ohio State University |
| Ellis, Ron | Associate Professor | B.A., University of Central Florida; M.M., University of South Florida | Parker, Steven | Lecturer | B.M., Oberlin College; M.M., Rice University; D.M.A., The University of Texas at Austin |
| Escalante, Samuel | Senior Lecturer | B.M., University of North Texas; M.M., The University of Texas at Austin; Ph.D., University of North Texas | Pellegrino, Kristen | Professor | B.M., Eastman School of Music; M.M., Ph.D., University of Michigan |
| Fagan-Miller, Patricia | Lecturer | B.M., University of the Pacific; M.M., John Hopkins University; D.M.A., University of Colorado Boulder | Pena, Juan | Lecturer | B.M., Texas A&M International University; M.M., The University of Texas at San Antonio |
| Howell, Jourdan Laine | Lecturer | B.M., M.M., The University of Texas at San Antonio; D.M.A., University of North Carolina Greensboro | Peters, Troy | Lecturer | B.M., Curtis Institute of Music; M.A., University of Pennsylvania |
| Hurd, Ivan | Assistant Professor | A.A., North Iowa Community College; B.M., University of Iowa; M.M., Eastern Michigan University; D.M.A., University of Oklahoma | Pietri, Michelle | Lecturer | B.A., University of New Orleans; M.F.A., Tulane University |
| Jarrell-Johnson, Crystal | Lecturer | B.M., Abilene Christian University; M.M., Indiana University | Poffenbarger, Gary | Lecturer | B.M., Arkansas State University; M.M., Boston University |
| Johnston, Sean | Lecturer | B.A., University of Missouri-Columbia; M.M., Florida State University; Ph.D., The University of Texas at Austin | Renard, Stan | Assistant Professor | B.M., Chambery Conservatory; M.M., University of Massachusetts Amherst; M.B.A., Providence College; D.M.A., University of Connecticut; D.B.A., Southern New Hampshire University |
| Keeling, Kasandra | Professor | B.M., M.M., University of Houston; D.M.A., University of Colorado at Boulder | Rubins, Peter | Lecturer | B.F.A., Carnegie Mellon University; M.M., The University of Texas at Austin |
| Kelly, Laura L. | Senior Lecturer | B.M., University of Nebraska at Lincoln; M.M., DePaul University; Ph.D., The University of Texas at Austin | Rubins, Sherry | Senior Lecturer | B.A., Western Illinois University; M.M., The University of Texas at San Antonio |
| Leonhardt, Angela | Lecturer | B.M., M.M., The University of Texas at San Antonio; M.E., Lamar University | Rulewicz, Megan | Lecturer | B.A., Brigham Young University; M.F.A., The University of Utah |
| Lloyd, S. Andrew | Assistant Professor | B.M., Brigham Young University; M.M., University of Kansas; D.M.A., University of North Texas | | | |

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|--------------------------------|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Schneeman, Eric | Lecturer | B.A., University of California Santa Cruz; M.M., The University of Texas at Austin; Ph.D., University of Southern California | Graber, Abraham | Associate Professor | B.A., Carleton College; M.A., Ph.D., University of Iowa |
| Sherrill, William | Lecturer | B.M., The University of Texas at San Antonio; M.M., Ph.D., The University of Texas at Austin | Grant, David Gray | Assistant Professor | B.A., University of North Carolina at Chapel Hill; Ph.D., Massachusetts Institute of Technology |
| Steiner, Michael | Lecturer | B.M., University of North Florida; M.M., The University of Texas at San Antonio | Kelly, Sean | Professor | B.A., State University of New York at Geneseo; M.A., Ph.D., Binghamton University (SUNY) |
| Stephen, J. Drew | Associate Professor | B.M., University of Western Ontario; Diploma, Aufbaustudium Staatliche Hochschule für Musik, Freiburg; M.A., M.M., Ph.D., University of Toronto | Nowlin, Jessica | Lecturer II | B.A., The University of Texas at Austin; Ph.D., Brown University |
| Syler, James | Lecturer | B.M., Northern Illinois University; M.M., University of Miami | Rosenberg, Susan | Lecturer I | B.A., University of North Carolina at Chapel Hill; M.A., The University of Texas at Austin |
| Villanueva, Christopher | Lecturer | B.A., M.M., University of North Texas | Tekin, Serife | Assistant Professor | B.Sc., Middle East Technical University, Turkey; M.A., University of Saskatchewan, Canada; Ph.D., York University, Canada |
| Westney, Stephanie | Senior Lecturer | B.M., Vanderbilt University; M.M., Yale University; D.M.A., The University of Texas at Austin | Thurrow, Joshua | Associate Professor | B.S., M.A., Ph.D., University of Wisconsin-Madison |
| Wickman, Ethan | Associate Professor | B.M., Brigham Young University; M.M., Boston University; D.M.A., University of Cincinnati, College-Conservatory of Music | Welchman, Alistair | Associate Professor | B.A., Oxford University; M.Sc., University of Sussex; M.A., Ph.D., University of Warwick |
| Wolf, Rachel | Lecturer | B.M., University of Michigan Ann Arbor; M.M., Bowling Green State University; D.M.A., University of North Texas | Wright, Jessica | Assistant Professor | B.A., Cambridge University; Ph.D., Princeton University |
| Yan, Dorothy | Lecturer | B.M., M.M., The University of Texas at San Antonio | Political Science and Geography | | |
| Yee, Thomas | Lecturer | B.A., Pepperdine University; M.M., The University of Texas at Austin | Amberg, Stephen | Associate Professor | B.A., Tufts University; Ph.D., Massachusetts Institute of Technology |
| Zapata, Oswaldo | Assistant Professor | B.M., Universidad Nacional de Colombia; M.M., University of South Carolina; D.M.A., Arizona State University | Ang, Milena | Lecturer | B.A., CIDE, Mexico City; Ph.D., University of Chicago |
| Zarco, John | Associate Professor | B.M., M.M., California State University at Sacramento; D.M.A., University of Minnesota | Bagheri, Nazgol | Associate Professor | B.A., B.S., M.A., National University of Iran; Ph.D., University of Missouri-Kansas City |
| Zeserman, Steven | Lecturer | Diploma in Double Bass, The Curtis Institute of Music | Bellows, Thomas J. | Professor | B.A., Augustana College; M.A., University of Florida; M.A., Ph.D., Yale University |
| Philosophy and Classics | | | | | |
| Almeida, Michael J. | Professor | B.A., Bridgewater State University; Ph.D., The Ohio State University | Brogdon, Matthew S. | Associate Professor | B.A., M.A., University of West Florida; Ph.D., Baylor University |
| Browning, Eve | Professor | B.A., University of Florida; M.A., Ph.D., University of California, San Diego | Calder, James D. | Professor | B.A., University of Maryland; M.S., California State University; Ph.D., Claremont Graduate School |
| Chen, Xunwu | Professor | B.A., Zhongshan (Sun Yatsen) University; M.A., International Academy of Philosophy; Ph.D., Fordham University | Debbage, Neil A. | Assistant Professor | B.A., M.S., Ph.D., University of Georgia |
| DeBerg, Oak | Lecturer | B.A., The University of Texas at San Antonio; M.A., University of California, Berkeley; Ph.D., Texas A&M University | DeOliver, Miguel D. | Associate Professor | B.A., University of Illinois; M.S., Ph.D., Pennsylvania State University |
| | | | El-Kikhia, Mansour O. | Professor | B.A., American University of Beirut; M.A., Ph.D., University of California, Santa Barbara |
| | | | Gervais, Bryan T. | Associate Professor | B.A., University of Massachusetts; M.A., Ph.D., University of Maryland |
| | | | Hofferberth, Matthias | Associate Professor | B.A., Westfälische Wilhelms-Universität, Münster; M.A., Goethe-University, Frankfurt and University of Wales, Swansea; Ph.D., Goethe-University, Frankfurt |
| | | | Jones, Richard C. | Professor | B.S., Austin Peay State University; M.A., Indiana University; Ph.D., The Ohio State University |

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|-------------------------|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|--------------------|--------------------------------------------------------------------------------------------------------|
| Lambert, Dean | Senior Lecturer | B.A., West Texas State University; M.A., Ph.D., The University of Texas at Austin | Jarrett, Harry W. | Professor Emeritus | B.S., University of South Carolina at Columbia; Ph.D., The University of North Carolina at Chapel Hill |
| Laracey, Melvin C. | Associate Professor | B.A., University of Notre Dame; J.D., University of Michigan Law School; M.P.A., Harvard University; Ph.D., University of Michigan | Martinez, Andrew O. | Professor Emeritus | B.S., Santa Fe College; Ph.D., University of Arizona |
| Mathie, Mary | Senior Lecturer | B.A., Thomas Aquinas College; M.A., Ph.D., Baylor University | Robbins, Kay A. | Professor Emerita | S.B., Ph.D., Massachusetts Institute of Technology |
| Mathur, Ritu | Associate Professor | B.A., University of Kolkata; M.A., M.Phil., Jawaharlal Nehru University; Ph.D., York University | Robbins, Steve | Professor Emeritus | S.B., S.M., Ph.D., Massachusetts Institute of Technology |
| Navarro, Sharon A. | Professor | B.A., M.A., The University of Texas at El Paso; M.A., Ph.D., University of Wisconsin-Madison | Rodriguez, Paul H. | Professor Emeritus | B.S., Creighton University; M.S., University of New Mexico; Ph.D., University of Rhode Island |
| Oliva, Javier | Senior Lecturer | B.A., University of Notre Dame; M.S., St. Mary's University Graduate School; J.D., St. Mary's University School of Law | Smith, Robert K. | Professor Emeritus | B.S., Washington State University; M.S., Ph.D., University of Iowa |
| Stefanova, Boyka | Professor | Dipl. Economist, Karl Marx Higher Economic Institute, Sofia Bulgaria; Doctorate, University of National and World Economy, Bulgaria; M.A., Ph.D., University of Delaware | Swanson, Eric R. | Professor Emeritus | B.S., Western Michigan University; M.A., Ph.D., The University of Texas at Austin |
| Taylor, Jon R. | Professor | B.A., M.A., Ph.D., University of Oklahoma | Teale, Judy | Professor Emerita | B.S., Pennsylvania State University; Ph.D., University of Virginia |
| Thayer, Bradley A. | Professor | B.A., University of Arizona; M.A., Ph.D., University of Chicago | Travis, Betty S. P. | Professor Emerita | B.A., M.S., St. Mary's University; Ph.D., The University of Texas at Austin |
| Vaughan, James | Senior Lecturer | B.A., Stanford University; Master of Applied Geography, Ph.D., Texas State University | Van Auken, Oscar | Professor Emeritus | B.S., High Point College; M.S., Ph.D., University of Utah |
| Wilson, Walter C. | Associate Professor | B.A., Augustana College; Ph.D., The University of Oklahoma | Walmsley, Judith A. | Professor Emerita | B.A., Florida State University; Ph.D., University of North Carolina at Chapel Hill |
| Wayner, Jr., Matthew J. | Professor Emeritus | A.B., Dartmouth College; M.S., Tufts University; Ph.D., University of Illinois | Wene, Gregory P. | Professor Emeritus | B.A., M.A., The University of Texas at Austin; Ph.D., University of Iowa |
| Williams, Lawrence R. | Professor Emeritus | B.S., Texas Southern University; M.A., Ph.D., University of Michigan | | | |

College of Sciences

| Name | Title | Education | Biology | | |
|-------------------------|------------------------------|------------------------------------------------------------------------------------------------------------------|---------------------------|---------------------|------------------------------------------------------------------------------------------------------------------------|
| Berriozábal, Manuel | Professor Emeritus | B.S., Rockhurst College; M.S., University of Notre Dame; Ph.D., University of California, Los Angeles | Aguero, Kristabel | Lecturer II | B.S., M.S., The University of Texas at San Antonio |
| Birnbaum, Stuart J. | Associate Professor Emeritus | B.S., State University of New York at Stony Brook; Ph.D., Cambridge University | Akwar, Emmanuel | Lecturer II | B.S., M.S., The University of Texas at San Antonio |
| Chou, Youn-Min | Professor Emeritus | B.S., National Taiwan University; M.S., The University of Texas at El Paso; Ph.D., Southern Methodist University | Alaniz, Gabriel | Lecturer II | B.S., M.S., The University of Texas at San Antonio |
| Chronopoulos, Anthony | Professor Emeritus | B.S., University of Athens; M.S., University of Minnesota; Ph.D., University of Illinois at Urbana-Champaign | Apicella, Alfonso | Assistant Professor | B.S., Ph.D., University of Naples, Italy |
| Dutton, Alan R. | Associate Professor Emeritus | B.A., University of Rochester; Ph.D., The University of Texas at Austin | Arulanandam, Bernard P. | Professor | B.S., M.A., Minnesota State University; M.B.A., The University of Texas at San Antonio; Ph.D., Medical College of Ohio |
| Hammond, Jr., Weldon W. | Associate Professor Emeritus | B.A., M.A., Ph.D., The University of Texas at Austin | Barea-Rodriguez, Edwin J. | Professor | B.A., Inter-American University of Puerto Rico; M.A., Ph.D., Southern Illinois University, Carbondale |
| | | | Burgos-Robles, Anthony | Assistant Professor | B.S., Pontifical Catholic University of Puerto Rico; Ph.D. Ponce School of Medicine, Puerto Rico |
| | | | Cardona, Astrid | Associate Professor | B.S., Universidad de Antioquia, Colombia; Ph.D., The University of Texas Health Science Center at San Antonio |

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|-----------------------|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|---------------------|----------------------------------------------------------------------------------------------------------------------------|
| Carless, Melanie A. | Associate Professor | B.Sc., BHSc, Ph.D., Griffith University Gold Coast, Australia | Klose, Karl | Professor | B.A., University of California, San Diego; Ph.D., University of California, Berkeley |
| Cassill, J. Aaron | Professor | B.A., Harvard University; Ph.D., University of California, San Diego | Kumar, Pramod | Senior Lecturer | Ph.D., Agra University, India |
| Chambers, James P. | Professor | B.A., St. Mary's University; M.A., Incarnate Word College; Ph.D., The University of Texas Health Science Center at San Antonio | LeBaron, Richard G. | Professor | B.S., Louisiana State University; Ph.D., The University of Alabama |
| Dalterio, Susan | Senior Lecturer | B.A., Boston University, M.A., Assumption College; Ph.D., Tufts University, Medford | Lee, Hyoung-gon | Associate Professor | B.S., M.S., Hallym University; Ph.D., Case Western University School of Medicine |
| Degen, Donna | Lecturer I | B.S., M.S., The University of Texas at San Antonio | Lee, Soo Chang | Assistant Professor | B.S., M.S., Kyung Hee University; Ph.D., Texas A&M University |
| Engelberth, Jurgen | Associate Professor | B.Sc., M.Sc., University of Bonn, Germany; Ph.D., University of Bochum, Germany | Lin, Chin-Hsing | Associate Professor | B.S., M.S., The University of Alabama at Birmingham; Ph.D., Fred Hutchinson Cancer Research Center |
| Eppinger, Mark | Assistant Professor | M.S., Tuebingen University; Ph.D., University of Tuebingen | Lopez-Ribot, Jose | Professor | B.S., Pharm.D., Ph.D., University of Valencia |
| Forsthuber, Thomas | Professor | M.D., Ph.D., University of Tubingen | Lundell, Martha J. | Professor | B.A., University of Colorado; Ph.D., University of California, Los Angeles |
| Garza-Decanini, Jesus | Lecturer I | Ph.D., Universidad Autonoma de Nuevo Leon | Macpherson, Lindsey | Assistant Professor | B.S., University of California, San Diego; Ph.D., The Scripps Research Institute, Kellogg School of Science and Technology |
| Gaufo, Gary | Associate Professor | B.A., M.A., Ph.D., University of California, Berkeley | Martinez Delgado, Lucero | Lecturer II | Ph.D., Universidad de Monterrey |
| Grotte, Rachel | Lecturer I | B.S., M.S., The University of Texas at San Antonio | McCarrey, John | Professor | B.S., M.S., Ph.D., University of California, Davis |
| Guentzel, M. Neal | Professor | B.A., M.A., Ph.D., The University of Texas at Austin | Moss, Anita | Senior Lecturer | B.S., Texas A&M University; Ph.D., The University of Texas Health Science Center at San Antonio |
| Hanna, Michael | Lecturer II | B.S., M.S., Ph.D., University of Rochester | Muzzio, Isabel | Associate Professor | B.S., University of Massachusetts; M.S., Ph.D., Rutgers University |
| Hanson, Kirsten K. | Assistant Professor | B.A., M.S., University of Chicago; Ph.D., University of Cambridge | Nuckels, Richard | Lecturer II | M.S., Texas State University |
| Haro, Luis S. | Professor | B.A., University of California, San Diego; Ph.D., University of California, Santa Cruz | Paladini, Carlos | Professor | B.A., Ph.D., Rutgers University |
| Heidner, Hans W. | Professor | B.S., California Polytechnic State University-San Luis Obispo; M.S., North Carolina State University; Ph.D., University of California, Davis | Perry, George | Professor | A.A., Allan Hancock College, B.A., University of California, Santa Barbara, Ph.D., University of California, San Diego |
| Hermann, Brian | Associate Professor | B.S., Villanova University; Ph.D., The University of Kansas Medical Center | Phelix, Clyde F. | Professor | B.A., State University of New York; Ph.D., University of Missouri |
| Hernandez, Hector | Lecturer III | B.S., Texas A&M University; M.S., The University of Texas at San Antonio; Ph.D., Walden University | Ramos, William | Lecturer III | B.S., The University of Texas at Austin; M.S., Ph.D., The University of Texas at San Antonio |
| Hsieh, Jenny | Professor | B.S., University of California, San Diego; Ph.D., Johns Hopkins University | Renthal, Robert D. | Professor | B.A., Princeton University; Ph.D., Columbia University |
| Hung, Chiung-Yu | Assistant Professor | B.S., National Taiwan Normal University; Ph.D., The University of Texas at Austin | Rivas, Robert | Lecturer III | B.S., M.S., The University of Texas at San Antonio |
| Jaffe, David B. | Professor | B.A., B.S., The University of Texas at Austin; M.S., Duke University; Ph.D., Baylor College of Medicine | Rogers, James | Lecturer I | B.S., M.S., Texas State University |
| Jones, Amy | Lecturer II | B.S., M.S., The University of Texas at San Antonio | Santamaria, Fidel | Associate Professor | B.S., National Autonomous University of Mexico (UNAM); Ph.D., California Institute of Technology |
| Jordan, Craig | Senior Lecturer | B.A., Lawrence University; Ph.D., The University of Texas at Austin; J.D., St. Mary's University School of Law | Savelli, Francesco | Assistant Professor | M.S., Ph.D., Universita` degli Studi di Roma "La Sapienza", Italy |
| | | | Saville, Stephen | Associate Professor | B.Sc., Wolverhampton University, England; Ph.D., University of Leicester, England |
| | | | Saygin, Nazin | Lecturer II | Ph.D., University of Ankara |

Appendix C. Faculty

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|---------------------|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|------------------------------------------------------------------------------------------------------------------------|
| Senseman, David M. | Associate Professor | B.S., Kent State University; M.S., Ph.D., Princeton University | Frantz, Doug | Professor | B.S., Stephen F. Austin State University; Ph.D., Texas A&M University |
| Seshu, Janakiram | Professor | B.V.Sc., Madras Veterinary College; Ph.D., Washington State University | Frederick, John H. | Professor | A.B., Princeton University; A.M., Ph.D., Harvard University |
| Sponsel, Valerie | Professor | B.Sc., Ph.D., University of Wales, U.K.; D.Sc., University of Bristol, U.K. | Gold, Keegan | Lecturer II | B.S., M.S., University of Hawaii at Manoa |
| Spottswood, Matthew | Lecturer II | B.S., University of Houston; M.S., Ph.D., The University of Texas at Dallas | Gorski, Waldemar | Professor | M.S., Ph.D., University of Warsaw, Poland |
| Sunter, Garry | Professor | B.Sc., Chelsea College, University of London, England; Diploma of Imperial College, Ph.D., University of London, England | Han, Hyunsoo | Associate Professor | B.S., Kyung-Pook National University; M.S., Seoul National University; Ph.D., Princeton University |
| Suter, Kelly | Associate Professor | B.A., B.S., M.S., West Virginia University School of Medicine; Ph.D., University of Pittsburgh School of Medicine | Hsieh, Jenny | Professor | B.S., University of California, San Diego; Ph.D., Johns Hopkins University |
| Troyer, Todd | Associate Professor | B.A., Washington University in St. Louis; Ph.D., University of California, Berkeley | Lamb, Audrey | Professor | B.S., Furman University; Ph.D., Vanderbilt University School of Medicine |
| Wanat, Matthew | Associate Professor | B.S., University of Wisconsin-Madison; Ph.D., University of California, San Francisco | Larionov, Oleg | Associate Professor | M.S., Higher Chemical College of the Russian Academy of Sciences; Ph.D., Göttingen University, Germany |
| Wang, Yufeng | Professor | B.S., Fudan University, Shanghai, P.R. China; M.S., Ph.D., Iowa State University | Liu, Aimin | Professor | B.S., University of Science and Technology of China; Ph.D., Chinese Academy of Sciences; Ph.D., Stockholm University |
| Wicha, Nicole | Professor | B.A., The University of Texas at San Antonio; M.S., Ph.D., University of California, San Diego | McHardy, Stanton F. | Professor of Research | B.S., Texas Lutheran University; Ph.D., The University of Utah |
| Wilson, Charles J. | Professor | B.A., M.A., Ph.D., University of Colorado at Boulder | Musie, Ghezai | Associate Professor | B.S., Asmara University, Asmara, Eritrea; M.S., Sam Houston State University; Ph.D., Texas A&M University |
| Zhang, Guoquan | Professor | M.S., Chinese Academy of Agriculture Sciences, China; DVM, Inner Mongolia Agricultural University, China; Ph.D., University of Gifu, Japan | Perry, George | Professor | A.A., Allan Hancock College; B.A., University of California, Santa Barbara; Ph.D., University of California, San Diego |
| Chemistry | | | | | |
| Aguilar, Hector | Senior Lecturer | B.S., The University of Texas-Pan American; Ph.D., The University of Texas at San Antonio | Sadeghi, Raymond R. | Senior Lecturer | B.S., The University of Texas at Austin; M.S., Ph.D., University of Colorado at Boulder |
| Arman, Hadi D. | Lecturer II | B.S., Middle Tennessee State University; Ph.D., Clemson University | Schanze, Kirk | Professor | B.S., Florida State University; Ph.D., University of North Carolina at Chapel Hill |
| Bach, Stephan B. H. | Professor | B.S., B.A., University of Cincinnati; Ph.D., University of Florida | Thomas, Susan T. | Senior Lecturer | B.S., Texas A&M University; Ph.D., Texas Tech University |
| Chen, Banglin | Professor | B.S., M.S., Zhejiang University; Ph.D., National University of Singapore | Tonzetich, Zachary J. | Associate Professor | B.S., University of Rochester; Ph.D., Massachusetts Institute of Technology |
| Davidson, Mark A. | Lecturer II | B.S., M.S., The University of Texas at San Antonio | Xu, Fang | Assistant Professor | B.S., Nanjing University; Ph.D., SUNY Stony Brook University and Brookhaven National Laboratory |
| Dougherty, Victoria | Lecturer III | B.S., M.S., The University of Texas at San Antonio | Yoshimoto, Francis | Assistant Professor | B.S., B.A., University of California, Berkeley; Ph.D., The University of Texas Southwestern Medical Center |
| Doyle, Michael P. | Professor | B.S., College of St. Thomas; Ph.D., Iowa State University | | | |
| Ermler, Walter C. | Professor | B.S., Northern Illinois University; M.S., Ph.D., The Ohio State University | | | |

Zhao, John Cong-Gui Professor B.S., Tongji University, China; M.S., Shanghai Institute of Organic Chemistry, Chinese Academy of Sciences; Ph.D., Institute of Organic Chemistry, University of Würzburg, Germany

Computer Science

Boppana, Rajendra V. Professor B.Tech., University of Mysore; M.Tech., Indian University of Technology; Ph.D., University of Southern California

Clark, Larry Lecturer III B.S., M.S., The University of Texas at San Antonio

Desai, Kevin Assistant Professor of Practice Ph.D., University of Texas at Dallas

Dutta, Anandi Assistant Professor of Practice Ph.D., University of Louisiana at Lafayette

Fernandez, Amanda Assistant Professor B.S., Siena College; M.S., Ph.D., University at Albany

Gibson, Matthew Associate Professor B.S., Northwestern College; M.S., Ph.D., University of Iowa

Gomez, Mauricio Assistant Professor in Practice B.S., Rafael Landivar University; M.S., Central American Technological University; M.S., Kyung Hee University; Ph.D., University of Paris Est; Ph.D., Purdue University

Harrison, Keith Lecturer I Ph.D., The University of Texas at San Antonio

Holladay, Kenneth Lecturer I Ph.D., The University of Texas at San Antonio

Jadliwala, Murtuza Assistant Professor B.E., Mumbai University, M.S., Ph.D., State University of New York at Buffalo

Korkmaz, Turgay Professor B.S., Hacettepe University, Ankara, Turkey; M.S., Bilkent University, Ankara, Turkey; M.S., Syracuse University; Ph.D., University of Arizona

Ku, Bernard Assistant Professor in Practice B.S., University of Hong Kong; M.B.A., The University of Texas at Permian Basin; M.S., University of North Texas; Ph.D., Southern Methodist University

Kudithipudi, Dhireesha Joint Professor Ph.D., The University of Texas at San Antonio

Lama, Palden Assistant Professor B.Tech., Indian Institute of Technology, Roorkee; Ph.D., Colorado University at Colorado Springs

Lu, Qi Assistant Professor of Practice Ph.D., University of New Mexico

Muhammad Arafat, Imtiaz Lecturer III Ph.D., The University of Texas at San Antonio

Murphy, Richard Lecturer II M.S., The University of Texas at San Antonio

Niu, Jianwei Professor B.Sc., M.Sc., Jilin University, Changchun, P.R. China; Ph.D., University of Waterloo, Canada

O'Hara, Steven Assistant Professor in Practice B.S., M.S., Ph.D., The University of Texas at San Antonio

Ortiz, John Lecturer III M.S., Air Force Institute of Technology

Prasad, Sushil Professor Ph.D., University of Central Florida, Orlando

Quarles, John Associate Professor B.S., The University of Texas at Austin; M.S., Ph.D., University of Florida

Rathore, Heena Assistant Professor of Practice Ph.D., Indian Institute of Technology, Jodhpur

Roberson, Dawnlee Lecturer III Ph.D., The University of Texas at Austin

Robinson, Mark Assistant Professor in Practice B.S., Trinity University; M.S., Ph.D., The University of Texas at San Antonio

Ruan, Jianhua Professor B.S., University of Science and Technology of China, Hefei, China; M.S., California State University, San Bernardino; Ph.D., Washington University in St. Louis

Rutherford, James Lecturer I Ph.D., The University of Texas at San Antonio

Rutherford, Linda Lecturer I M.S., The University of Texas at San Antonio

Sandhu, Ravi Professor B.Tech., Indian Institute of Technology, Bombay; M.Tech., Indian Institute of Technology, New Delhi; M.S., Ph.D., Rutgers University

Sherette, Jonathan Lecturer III Ph.D., The University of Texas at San Antonio

Silvestro, Sam Assistant Professor of Practice Ph.D., The University of Texas at San Antonio

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Wang, Wei Assistant Professor B.Engr., University of Science and Technology of China; M.S., Ph.D., University of Virginia

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White, Greg B. Professor B.S., Brigham Young University; M.S., Air Force Institute of Technology; Ph.D., Texas A&M University

Appendix C. Faculty

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| Xie, Mimi | Assistant Professor | B.S., M.S., Chongqing University, China; Ph.D., University of Pittsburgh |
| Xu, Shouhuai | Professor | Ph.D., Fudan University, Shanghai, P.R. China |
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| Zhu, Dakai | Professor | B.E., Xi'an Jiaotong University, Xi'an Shanxi, P.R. China; M.E., Tsinghua University, Beijing, P.R. China; M.S., Ph.D., University of Pittsburgh |

Environmental Science and Ecology

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| Bush, Janis K. | Professor | B.S., M.S., The University of Texas at San Antonio; Ph.D., The University of Texas at El Paso |
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| Grunstra, Matthew B. | Senior Lecturer | B.S., Grove City College; M.S., Ph.D., The University of Texas at San Antonio |
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| Juarez, Monica | Lecturer I | B.S., St. Mary's University; M.S., The University of Texas at San Antonio |
| Laub, Brian | Assistant Professor | B.S., University of Montana; Ph.D., University of Maryland |
| Markgraf, Melissa | Lecturer I | B.S., M.S., The University of Texas at San Antonio |
| Martinez, Fernando | Senior Lecturer | B.S., San Angelo State University; M.S., Ph.D., The University of Texas at San Antonio |
| Matiella, Terri | Senior Lecturer | B.S., M.S., Ph.D., The University of Texas at San Antonio |
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| Thompson, Robert | Senior Lecturer | B.S., Oklahoma State University; B.S., M.S., The University of Texas at San Antonio; Doctor of Law, University of Southern California |
| Troia, Matthew | Assistant Professor | B.S., University of Wisconsin; M.S., University of Texas at Tyler; Ph.D., Kansas State University |
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| Willmott, Thomas | Lecturer I | B.S., M.S., The University of Texas at San Antonio |
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Geological Sciences

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| Fernandez, Alfonso | Assistant Professor | B.S., Universidad de Chile; Ph.D., Ohio State University |
| Gao, Yongli | Associate Professor | B.S., M.S., Beijing University, P.R. China; M.S., Ph.D., University of Minnesota |
| Godet, Alexis M.D. | Assistant Professor | A.D., University of Perpignan, France; B.S., M.S., University of Montpellier II, France; M.S., University of Lille I, France; Ph.D., University of Neuchâtel, Switzerland |
| Gray, Walter M. | Distinguished Senior Lecturer | B.S., U.S. Naval Academy; M.E., University of Virginia; M.S., The University of Texas at San Antonio; Ph.D., University of North Carolina |
| Haschenburger, Judith K. | Professor | B.S., University of Nebraska at Kearney; M.A., Arizona State University; Ph.D., University of British Columbia |
| Hincapie, Jamie | Lecturer I | B.S., Universidad Nacional de Colombia; M.S., Ph.D., The University of Texas at El Paso |
| Keairns, Carter E. | Senior Lecturer | B.A., Earlham Collge; M.S., Oklahoma State University; Ph.D., Texas Tech University |
| Lambert, Lance L. | Professor | B.S., M.S., Texas A&M University; Ph.D., University of Iowa |
| Mazari, Newfel | Lecturer I | B.S., Université Des Sciences et Technology, Algeria; D.E.A., Université Paris Diderot-Paris 7, France; M.S., Ph.D., The University of Texas at San Antonio |
| Mestas-Nunez, Alberto | Associate Professor in Practice | B.S., Instituto Tecnológico de Buenos Aires, Argentina; P.D., Oregon State University |
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| Scherer, Jackie | Lecturer II | B.S., University of Florida Gainesville, Florida; M.S., Ph.D., The University of Texas at San Antonio |

| | | | | | |
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| Weissling, Blake P. | Assistant Professor in Practice | B.S., Texas A&M University; Ph.D., The University of Texas at San Antonio | Jia, Zhiyuan | Lecturer III | Ph.D., Michigan State University |
| Whittington, Alan | Professor | B.S., University of Cambridge, UK; Ph.D., Open University, UK | Jimenez, Carolina | Lecturer II | M.A., The University of Texas at San Antonio |
| Xie, Hongjie | Professor | B.S., East China Institute of Technology; M.S., Beijing Research Institute of Uranium Geology and China University of Geosciences, Beijing; Ph.D., The University of Texas at El Paso | Kennedy, Esmarie | Lecturer I | M.S., The University of Texas at San Antonio |
| Mathematics | | | Lahodny, Glenn | Lecturer III | M.S., Ph.D., Texas Tech University |
| Aghayan, Reza | Senior Lecturer | Ph.D., Kingston University, U.K. | Le, Dung | Professor | B.S., University of Saigon, Vietnam; Diploma in Mathematics, International Center for Theoretical Physics, Italy; Ph.D., Arizona State University |
| Arciniega, Armando | Senior Lecturer | B.A., M.A., Eastern New Mexico University; Ph.D., Texas Tech University | Liang, Su | Associate Professor | Ph.D., University of Connecticut |
| Barakat, Davood | Lecturer I | M.S., The University of Texas at San Antonio | Love, Janie | Lecturer I | B.A., M.A., The University of Texas at El Paso |
| Beatty, Sean | Lecturer II | B.S., M.S., The University of Texas at San Antonio | Luna, Carolyn | Lecturer I | M.A., The University of Texas at San Antonio |
| Brucks, Jonathan | Lecturer I | M.S., The University of Texas at San Antonio | Lunsford, Erin | Lecturer II | M.Ed., Texas State University |
| Busald, Gerald | Lecturer II | M.A., Texas State University | Nasr, Ghassan | Lecturer I | B.S., M.S., The University of Texas at San Antonio |
| Cao, Weiming | Associate Professor | B.Sc., Nanjing University, China; M.Sc., Ph.D., Shanghai University of Science and Technology, China | Nguyen, Vu | Lecturer II | Ph.D., Vietnam National University |
| Chen, Fengxin | Associate Professor | B.S., Hangzhou University, China; M.S., Yunnan University, China; Ph.D., Brigham Young University | Norman, F. Alexander | Associate Professor | B.A., University of Virginia; M.A., Ed.D., The University of Georgia |
| Dueñez, Eduardo | Associate Professor | B.Sc., University of Guanajuato, Mexico; M.S., Ph.D., Princeton University | Olivarez, Ernesto | Lecturer I | M.S., The University of Texas at San Antonio |
| Duncan, Karen | Lecturer I | M.Ed., University of Idaho | Pasnicu, Cornel | Professor | B.A., M.S., Ph.D., University of Bucharest, Romania |
| Dyas, Carol | Distinguished Senior Lecturer | B.S., M.S., The University of Texas at San Antonio; Ph.D., The University of Texas at Austin | Popa, Mihai | Associate Professor | B.S., M.S., University of Bucharest; Ph.D., University of California, Los Angeles |
| Esparza, Edward | Lecturer III | M.S., The University of Texas at San Antonio | Popescu, Gelu F. | Professor | B.S., University of Timisoara; M.S., University of Bucharest; Ph.D., Texas A&M University |
| Fazly, Mostafa | Assistant Professor | Ph.D., The University of British Columbia | Prasad, Priya | Associate Professor | B.A., Scripps College; Ph.D., Arizona State University |
| Fies, David | Lecturer II | M.S., The University of Texas at San Antonio | Richardson, Jr., Walter B. | Professor | B.S., Southwest Texas State University; M.S., University of Houston; Ph.D., University of North Texas |
| Gokhman, Dmitry | Associate Professor | B.S., University of Miami; Ph.D., University of California, Berkeley | Roberts, Cynthia | Lecturer II | B.S., University of Houston-Victoria; M.S.; The University of Texas at Austin |
| Gui, Changfeng | Professor | B.S., M.S., Peking University, China; Ph.D., University of Minnesota, Twin Cities | Rutland, Nathan (Rick) | Lecturer I | B.S., M.Ed., Texas State University |
| Gutierrez, Juan | Professor | M.S., Ph.D., Florida State University | Salingaros, Nikos A. | Professor | B.S., University of Miami; M.A., Ph.D., State University of New York at Stony Brook |
| Halfin, Igor | Lecturer II | M.A., University of the Ukraine; M.S., The University of Texas at San Antonio | Schurmann, Matthew | Lecturer I | M.S., The University of Texas at San Antonio |
| Hoang, Du | Assistant Professor | Ph.D., Karlsruhe Institute of Technology, Germany | Sharon, Zachery | Lecturer I | M.S., The University of Texas at San Antonio |
| | | | Shirinkam, Sara | Lecturer II | Ph.D., K.N. Toosi University of Technology, Iran |

Appendix C. Faculty

| | | | | | |
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| Stamov, Gani | Lecturer III | D.M.S., University of Chemical Technology and Metallurgy, Bulgaria | Gladstone, George | Adjoint Professor | B.Sc., The University of British Columbia; M.S., Ph.D., California Institute of Technology |
| Stamova, Ivanka | Associate Professor | M.S., University of Plovdiv, Bulgaria; Ph.D., D.Sc., Higher Accreditation Commission of Bulgaria | Goldstein, Jerry | Adjoint Professor | B.S., Brooklyn College; Ph.D., Dartmouth College |
| Vallines Mira, Raquel | Lecturer III | Ph.D., Montana State University | Hamby, Robert D. | Lecturer II | B.S., M.S., Southwest Texas State University |
| Vega, Tina | Lecturer II | Ph.D., University of Texas at Austin | Jahn, Jörg-Micha | Associate Professor | M.S., Ludwig-Maximilians-Universität München, Germany; Ph.D., Dartmouth College |
| Walls, Carey | Lecturer I | M.A., University of the Incarnate Word | Koinov, Zlatko G. | Associate Professor | M.S., University of Sofia, Bulgaria; Ph.D., D.Sc., St. Petersburg Electrotechnical University, Russia |
| Weissling, Deborah | Lecturer I | M.A., University of the Incarnate Word | Konno, Ichishiro | Senior Lecturer | B.A., Miyagi University of Education, Japan; M.S., Bowling Green State University; Ph.D., Arizona State University |
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| Physics and Astronomy | | | | | |
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| Allegrini, Frédéric | Adjoint Professor | B.S., Vaud School of Engineering, Switzerland; M.S., University of Lausanne, Switzerland; Ph.D., University of Bern, Switzerland | Livi, Stefano | Adjoint Professor | B.S., Universita' degli Studi di Firenze; Ph.D., University of Florence; Ph.D., University of Rome |
| Ayón, Arturo A. | Professor | B.S., Universidad de Guadalajara, Mexico; M.S., Ph.D., Cornell University | Lopez-Lozano, Xochitl | Associate Professor | B.S., M.S., Ph.D., University of Puebla, Mexico |
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| Brancaleon, Lorenzo | Associate Professor | B.S., Ph.D., University of Parma, Italy | Martirosyan, Karen | Adjoint Professor | M.S., Ph.D., Institute of Structural Macrokinetics, Russian Academy of Science and State Engineering University of Armenia |
| Chabanov, Andrey | Professor | M.S., Kharkov State University, Ukraine; D.Sc., Ukrainian Academy of Sciences, Ukraine; Ph.D., City University of New York | Marucho, Marcelo | Associate Professor | M.S., University of Buenos Aires; Ph.D., National University of La Plata |
| Chen, Chonglin | Professor | B.S., Huachiao University, P.R. China; M.S., Chinese Academy of Sciences, P.R. China; M.S., Ph.D., The Pennsylvania State University | Mayer, Kathryn | Associate Professor | B.S., M.S., Ph.D., Rice University |
| Chen, Liao Y. | Professor | B.S., Xinyang Normal College, Henan; M.S., Huazhong University of Science Technology, Wuhan; Ph.D., Academia Sinica, Beijing | Nash, Kelly | Professor | B.S., Dillard University; M.S., University of Michigan-Ann Arbor; Ph.D., The University of Texas at San Antonio |
| Desai, Mihir | Adjoint Associate Professor | B.Sc., University of London, U.K.; Ph.D., University of Birmingham, U.K. | Packham, Christopher | Professor | B.S., Ph.D., University of Hertfordshire |
| Drozdov, Dina | Senior Lecturer | B.S., The Ohio State University; M.S., Ph.D., Clemson University | Ponce-Pedraza, Arturo | Associate Professor | M.S., Universidad Autonoma de Puebla; Ph.D., Universidad de Cadiz |
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| Elliot, Heather | Adjoint Professor | B.S., Clemson University; M.S., University of Michigan; Ph.D., University of Alabama in Huntsville | Retherford, Kurt | Adjoint Professor | B.S., University of Wisconsin-Madison; M.S., Ph.D., John Hopkins University |
| Fuselier, Stephen | Adjoint Professor | B.S., University of Southern California; M.S., Ph.D., University of Iowa | Roaming, Pete | Adjoint Professor | B.S., M.S., Ph.D., Brigham Young University |

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| Sardar, Dhiraj K. | Professor | B.S., M.S., University of Calcutta, India; Ph.D., Oklahoma State University |
| Schlegel, Eric M. | Professor | B.S.(2), State University of New York at Albany; Ph.D., Indiana University, Bloomington |
| Silva, David | Professor | B.S., University of Arizona, Ph.D., University of Michigan |
| Sooby Wood, Elizabeth | Assistant Professor | B.S., Millsaps College; M.S., Ph.D., Texas A&M University |
| Speck, Angela | Professor | B.S., Queen Mary University of London; Ph.D., University College London |

University College

| Name | Title | Education |
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| Academic Inquiry and Scholarship | | |
| Camargo, Maria Elena | Lecturer I | B.S., M.S., The University of Texas at San Antonio |
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| Howell, Shelley | Lecturer I | B.S., Southern Illinois University; M.E., University of Oklahoma; Ed.D., Oklahoma State University |
| Kainer, John | Lecturer II | B.S., Ph.D., Texas A&M University |
| Laborde, Kathleen | Lecturer III | B.A., Trinity University; M.B.A., Our Lady of the Lake University; Ed.D., The University of Texas at San Antonio |
| Leveridge, Tinney | Lecturer III | B.S., Texas State University; M.A., The University of Texas at San Antonio; Ph.D., Texas Woman's University |
| Newell, Michael | Lecturer II | B.A., The Ohio State University; M.A., University of Chicago; Ph.D., Syracuse University |
| Ramirez, Candelario | Lecturer II | B.A., M.S., Texas A&M International University |
| Riojas-Fitzpatrick, Lauren | Lecturer I | B.F.A., Texas State University; M.F.A., The University of Texas at San Antonio |
| Rodriguez, Paul | Lecturer III | B.A., M.Ed., University of Notre Dame; Ed.D., The University of Texas at San Antonio |
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| Schroeder, Rebecca | Lecturer II | B.S., Texas A&M University; Ph.D., M.D. Anderson Cancer Center UT Health Graduate School of Biomedical Sciences |
| Vikesland, Alyssa | Lecturer II | B.S., Wheaton College; M.S., Ph.D., University of Washington |

Multidisciplinary Studies

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Writing Program

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| Cruz, Geneveva | Lecturer I | B.A., Austin Peay State University; M.A., Our Lady of the Lake University |
| English-Bircher, Robin | Lecturer III | B.A., The University of Texas at San Antonio; M.F.A., Texas State University |
| Frasier, Christina | Lecturer III | B.A., Stephen F. Austin State University; M.A., University of Louisiana at Lafayette |
| Gifford, Mark | Lecturer III | B.A., Baylor University; M.A., The University of Texas at San Antonio |
| Glasscock, Robyn | Lecturer I | B.A., M.A., The University of Texas at San Antonio |
| Hall, Nancy | Lecturer III | B.A., M.A., Our Lady of the Lake University |
| Helton, John | Senior Lecturer | B.A., The University of Texas at Austin; M.F.A., Texas State University |
| Hudson, Maike | Lecturer I | M.A., University of Osnabrueck, Germany |
| Jensen, Karen | Lecturer II | B.A., University of the Incarnate Word; M.A., The University of Texas at San Antonio |
| Johnson, Paul | Lecturer I | B.A., California State University, East Bay; M.A., The University of Texas at San Antonio |
| Kaur, Manjit | Lecturer III | B.A., M.A., Panjab University, Chandigarh, India |
| Keizer, Jennifer | Lecturer I | B.A., South Dakota State University; M.A., The University of Texas at San Antonio |
| Kemp, Fred | Lecturer I | B.A., The University of Texas at Austin; M.A., Texas A&M University-Commerce; Ph.D., The University of Texas at Austin |
| Long, Loretta | Lecturer I | B.A., M.A., Portland State University; M.F.A., Pacific Lutheran University |
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Appendix C. Faculty

| | | |
|------------------------|-----------------|-----------------------------------------------------------------------------------------------------------------|
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| Meritz, Darren | Lecturer II | B.A., M.A., St. Mary's University |
| Miller, Victoria | Lecturer I | B.A., Angelo State University; M.A., The University of Texas at San Antonio |
| Mkwinda Nyasulu, Betty | Lecturer I | B.A., Chancellor College; M.A., M.Ed., Teachers College, Columbia University; Ph.D., The University of Adelaide |
| Morley, Beth | Lecturer I | B.A., Western Michigan University; M.A., Eastern Michigan University |
| Murata-Gomez, Melissa | Lecturer I | B.A., M.A., The University of Texas at San Antonio |
| Newcomb, Marguerite | Lecturer I | B.A., St. Edwards University; M.A., Texas Tech University |
| Park, J. Hannah | Lecturer I | B.A., Keimyng University; M.A., Ph.D., The University of Texas at Austin |
| Pena, Debra | Lecturer I | B.A., Concordia University; M.A., Ph.D., The University of Texas at San Antonio |
| Pina-Theall, Michelle | Lecturer I | B.A., M.A., St. Mary's University |
| Pizzola, Gail | Senior Lecturer | B.A., Fitchburg State University; M.A., Clark University; Ph.D., Indiana University of Pennsylvania |
| Ratcliffe, Lindsay | Lecturer III | B.A., Grove City College; M.A., The University of Texas at San Antonio; M.S., Antioch University |
| Shaw-Tillmon, Dixie | Lecturer III | B.A., University of Houston; M.A., Sam Houston State University |
| Smith, Martha | Lecturer III | B.A., The University of Texas at Austin; M.A., College of William and Mary |
| Tapp, Michael | Lecturer I | B.A., The University of Texas Permian Basin; M.A., University of North Texas |
| West, Phil | Lecturer I | B.A., University of Washington; M.F.A., The University of Texas at Austin |
| Williams, Amanda | Lecturer III | B.A., The University of Texas at San Antonio; M.A., University of North Texas |
| Wilson, Ryan | Lecturer I | B.A., M.A., The University of Texas at San Antonio |
| Wright, Todd | Lecturer II | B.A., Texas Lutheran University; M.A., Kansas State University; M.F.A., New School for Social Research |

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| Department of Psychology | 151 | I | |
| Department of Public Administration | 154 | Information Systems (IS) | 429 |
| Department of Public Health | 159 | Interdisciplinary Studies (IDS) | 433 |
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