Please note, advising centers referenced in this catalog have changed http://utsa.edu/advise/. 
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.

utsa.edu
The University’s Main Campus address is The University of Texas at San Antonio, One UTSA Circle, San Antonio, TX 78249. The main telephone number is (210) 458-4011. The address of the Downtown Campus is 501 César E. Chávez Boulevard, San Antonio, Texas 78207. The main telephone number is (210) 458-2700. Visit UTSA on the Web at http://utsa.edu.

Disclaimer

The provisions of this document do not constitute a contract, expressed or implied, between any applicant, student, or faculty member and The University of Texas at San Antonio or The University of Texas System. This document is a general information publication, 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. 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 penalties he or she may incur.

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.

Accreditation

The University of Texas at San Antonio is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools to award baccalaureate, master’s, and doctorate degrees. Contact the Commission on Colleges at 1866 Southern Lane, Decatur, Georgia 30033-4097 or call 404-679-4500 for questions about the accreditation of The University of Texas at San Antonio.

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. The UTSA Information Bulletin 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. The bulletin 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**

UTSA views sound academic advising as a significant responsibility in educating its students. Employing developmental advising principles, UTSA academic advisors offer academic advising and guidance to empower students to realize their full potential. For this reason, each student is assigned to a particular professional academic advisor whom he or she may consult on all academic and curricular issues.

Many individuals within the UTSA community contribute to the advising process, including faculty mentors and professional staff academic advisors. Students are encouraged to develop mentoring relationships with faculty for additional information and support.

Students are ultimately responsible for knowing and meeting degree requirements, for enrolling in appropriate courses to ensure orderly and timely completion of their degree programs, and for following the rules and policies of UTSA as found in the catalog, the current *UTSA Information Bulletin*, and the online schedule of classes. Each professional advisor sees students concerning all matters related to their academic status, such as progress toward degree completion, graduation status, academic warning, academic probation, academic dismissal, and changing majors. Students who are on academic warning or academic probation for the first time or who are reinstated after academic dismissal or with a Texas Success Initiative (TSI) deficiency are required to be advised, and holds are placed on their registration records to ensure that the student meets with the advisor. Students may also be required to meet with an advisor to obtain approval to register for restricted courses.

Frequent advisor contact provides students with current academic information and promotes progress toward educational goals. All students, regardless of classification or major, accepted into the Honors College are advised through the Honors College.
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1. Bachelor’s Degree Regulations

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 at least one course in the University Core Curriculum designated as a Q-course to satisfy the Quantitative Scholarship requirement.
4. 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
   c. that a maximum of 9 semester credit hours of military science can be applied to the free electives allowed for any UTSA degree program.
5. 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.
6. Meet the minimum UTSA residence requirements.
7. 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.
8. Be in good academic standing at UTSA.
9. 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 takes courses that meet requirements common to all UTSA undergraduates. Candidates for a bachelor’s degree must achieve core objectives by completing the Core Curriculum. To meet the Quantitative Scholarship requirement, all candidates for a bachelor’s degree must complete at least one course in the Core Curriculum designated as a Q-course in the Schedule of Classes.

Transfer of Core Curriculum Courses

In accordance with the Texas Education Code, Chapter 61, Sub-chapter 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 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.

Students who have successfully completed the entire core curriculum at another public institution of higher education in Texas will be required to complete at least one Q-workshop to meet the Quantitative Scholarship requirement. Q-workshops will be scheduled at different times during the academic year.

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 which 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 Core Curriculum reflects the educational goals of the University. It is designed to enable students to assess the perspectives and accomplishments of the past and to move to the future with an informed and flexible outlook. It promotes intellectual adaptability, ethical awareness, and transfer among diverse modes of thought.

An essential aim of the Core Curriculum is to cultivate the verbal, numerical, and visual skills necessary to analyze and synthesize information, construct arguments, and identify and solve problems. Another essential aim is to foster understanding of the intellectual and cultural pluralism of modern society as it is reflected in natural science and mathematics; behavioral, cultural, and social science; and literature and artistic expression. By encouraging interdisciplinary study, the Core Curriculum seeks to develop critical awareness of the continuities and discontinuities of human thought, history, and culture, thus helping prepare students to meet the demands of change.

The University has recently added a quantitative scholarship requirement designed to enhance quantitative reasoning and critical thinking skills. In keeping with the educational goals of the University, this requirement will help students understand and evaluate data, assess risks and benefits, and make informed decisions in all aspects of their lives.

The University reviews Core courses for their success in promoting the goals of the Core, and it encourages students to select Core courses that will best achieve these goals. Beyond the Core, each student must fulfill the requirements of a major.

**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 the following course, for a total of 3 semester credit hours:

AIS 1203 Academic Inquiry and Scholarship (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:

WRC 1013 Freshman Composition I
WRC 1023 Freshman Composition II

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:

MAT 1023 College Algebra with Applications
MAT 1033 Algebra with Calculus for Business
MAT 1043 Introduction to Mathematics
MAT 1073 Algebra for Scientists and Engineers
MAT 1093 Precalculus
MAT 1193 Calculus for the Biosciences
MAT 1214 Calculus I
STA 1053 Basic Statistics

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:

ANT 2033 Introduction to Physical Anthropology
AST 1013 Introduction to Astronomy
AST 1033 Exploration of the Solar System
Bachelor's Degree Regulations

BIO 1233  Contemporary Biology I
BIO 1243  Contemporary Biology II
BIO 1404  Biosciences I
BIO 1413  Biosciences II
CHE 1033  Chemistry in Our Daily Lives: A Pathway
ES 2013  Introduction to Environmental Systems I
ES 2023  Introduction to Environmental Systems II
GEO 1013  The Third Planet
GEO 1123  Life Through Time
GRG 2613  Physical Geography
PHY 1013  Universes
PHY 1943  Physics for Scientists and Engineers I
PHY 1963  Physics for Scientists and Engineers II

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:

AAS 2013  Introduction to African American Studies
AAS 2113  African American Culture, Leadership and Social Issues
ANT 2063  Language, Thought, and Culture
ARA 1014  Elementary Arabic I
ARC 1113  Introduction to the Built Environment
ARC 1413  Architecture and Culture
CHN 1014  Elementary Chinese I
CLA 2013  Introduction to Ancient Greece
CLA 2023  Introduction to Ancient Rome
CLA 2323  Classical Mythology
CSH 1103  Literary Masterpieces of Western Culture I
CSH 1113  Literary Masterpieces of Western Culture II
CSH 1213  Topics in World Cultures
CSH 2113  The Foreign Film
ENG 2013  Introduction to Literature
ENG 2213  Literary Criticism and Analysis
ENG 2383  Multiethnic Literatures of the United States
ENG 2423  Literature of Texas and the Southwest
FRN 1014  Elementary French I
FRN 2333  French Literature in English Translation
GER 1014  Elementary German I
GER 2333  German Literature in English Translation
GLA 1013  U.S. in the Global Arena
GRG 1023  World Regional Geography
GRK 1114  Introductory Classical Greek I
HIS 2123  Introduction to World Civilization to the Fifteenth Century
HIS 2133  Introduction to World Civilization since the Fifteenth Century
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
HUM 2093  World Religions
ITL 1014  Elementary Italian I
ITL 2333  Italian Literature in English Translation
JPN 1014  Elementary Japanese I
LAT 1114  Introductory Latin I
MAS 2013  Introduction to Chicano(a) Studies
PHI 1043  Critical Thinking
PHI 2023  Introduction to Ancient Philosophy
PHI 2033  Introduction to Early Modern Philosophy
PHI 2123  Contemporary Moral Issues
RUS 1014  Elementary Russian I
RUS 2333  Russian Literature in English Translation
SPN 1014  Elementary Spanish I
SPN 2333  Hispanic Literature in English Translation
WS 2013  Introduction to Women’s Studies

**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:

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
ARC 1213  Design I
Great Buildings and Cities of the World
Introduction to Visual Arts
Art for Non-Art Majors
Introduction to Classical Literature
Introduction to Creative Literary Arts
Introduction to the Humanities I
Introduction to the Humanities II
History of Film
Latino Cultural Expressions
World Music in Society
Fundamentals of Music for the Non-Music Major
American Roots Music
History and Styles of Jazz
History and Styles of Rock
Masterpieces of Music
The Music of Latin America and the Caribbean
Music and Film
Philosophy of Art

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:

United States History: Pre-Columbus to Civil War Era
United States History: Civil War Era to Present
Texas History

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

Introduction to American Politics
Texas Politics and Society
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
- ANT 1013 Introduction to Anthropology
- ANT 2043 Introduction to Archaeology
- ANT 2053 Introduction to Cultural Anthropology
- BBL 2003 Language, Culture, and Society
- BBL 2243 Globalizing the Local: Bilingual Families, Communities, and Schools
- CRJ 1113 The American Criminal Justice System
- ECO 2003 Economic Principles and Issues
- ECO 2013 Introductory Macroeconomics
- ECO 2023 Introductory Microeconomics
- EGR 1343 The Impact of Modern Technologies on Society
- GRG 1013 Fundamentals of Geography
- GRG 2623 Human Geography
- HTH 2413 Introduction to Community and Public Health
- HTH 2513 Personal Health
- IDS 2113 Society and Social Issues
- PSY 1013 Introduction to Psychology
- SOC 1013 Introduction to Sociology
- SOC 2013 Social Problems
- SOC 2023 Social Context of Drug Use

Component Area Option (090) (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 competent area requirement, for a total of 3 semester credit hours:

- COM 2113 Public Speaking
- CS 1173 Data Analysis and Visualization using MATLAB
- EGR 1403 Technical Communication
- ENG 2413 Technical Writing
- PAD 1113 Public Administration in American Society
- PHI 2043 Introductory Logic
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.

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 it is in a different major (regardless of the concentration) or minor. 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 through the College Advising Center of the desired minor. Students may not formally minor in more than two fields. Descriptions of minor requirements are included in chapters 3–11 of this catalog.

**Bachelor of Applied Arts and Sciences**

The University of Texas at San Antonio offers a Bachelor of Applied Arts and Sciences (B.A.A.S.) degree for all students who have graduated from a regionally accredited community college with an Associate of Applied Science (A.A.S.) degree in one of various technical areas. The degree program has a high standard of quality and a structure of courses that will build on students’ initial two years of higher education to earn a baccalaureate degree. Students seeking a B.A.A.S. degree will be able to pursue the following professional program at UTSA:

B.A.A.S. in Infancy and Childhood Studies offered by the Department of Interdisciplinary Learning and Teaching in the College of Education and Human Development.

All prospective B.A.A.S. student inquiries should be made to the College of Education and Human Development Advising Center. The program is designed for students who have earned an Associate of Applied Science degree from a regionally accredited community college. If the A.A.S. degree does not cover related background coursework for the B.A.A.S., students may be required to take leveling or prerequisite coursework determined in consultation with a College of Education and Human Development academic advisor and the department chair. Students may transfer up to 78 semester credit hours from a community college to UTSA for the B.A.A.S. degree, upon the discretion of the college dean. However, vocational-technical coursework and community college credits in excess of 66 hours will only apply to the Bachelor of Applied Arts and Sciences degree.

The minimum number of hours required for the degree is 120. Requirements include:

1. 36 semester credit hours in an organized technical program completed at a community college
2. 42 semester credit hours of Core Curriculum courses
3. 33 semester credit hours of major courses
4. 9 semester credit hours of support courses

Students who meet UTSA admission requirements are accepted conditionally for the Bachelor of Applied Arts and Sciences program of the College of Education and Human Development. Once confirmation of the earned A.A.S. degree through an official transcript has been received and upon consultation with the college advising center, students are accepted into the Bachelor of Applied Arts and Sciences degree program.

The degree represents advanced academic education which augments and advances prior applied and technical training. Although there may be some similarity between this degree and other academic offerings, they are in actuality different programs of study. As such, the above-listed B.A.A.S. degree program does not lead directly to teacher certification (though these students would be eligible for post-baccalaureate certification programs). Students interested in teacher certification should consult an advisor in the College of Education and Human Development for specific requirements.

This degree program is not available to students who have not already completed an approved A.A.S. degree.
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).

At institutions across the state, the Texas Higher Education Coordinating Board has approved core curricula in the following areas: arts and sciences (including mathematics and natural sciences), business administration, engineering, art, and criminal justice. Although the courses in these core curricula at various institutions may not be precisely equivalent to courses in the UTSA Undergraduate Catalog, students who have successfully completed the core curricula 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 of Credit Policies and Curricula” and “Common Course Numbering System Guide.”)

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. Generally, all work transferred must be from a college or university accredited by a regional accrediting association (see section below for information about credit from a nonaccredited institution).
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 an accredited 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 accredited institution as a lower-division course, the course need not be repeated, but another upper-division course, approved by the student’s advisor, must be completed at UTSA in substitution.

*Credit by Examination.* Credit by examination awarded at another accredited 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 accredited 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 in “General Academic Regulations” of the UTSA Information Bulletin).

Credit for ROTC or military science, when awarded by another accredited college or university, is accepted by UTSA as free elective credit within the limitations of the student’s degree program (for a maximum of 9 semester credit hours). 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 Office of the Registrar’s Web site (http://utsa.edu/registrar/) and in the UTSA Veterans Certification Office (McKinney Humanities Building, Room 3.01.26).

Courses from an Institution Undergoing Accreditation or a Nonaccredited Institution. Credits earned in colleges and universities that are candidates for accreditation may be considered for transfer to UTSA on an individual basis and as applicable to the student’s degree program. 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.

UTSA reserves the right to refuse recognition of credit from a college or university that is a candidate for accreditation or from a nonaccredited institution.
Bachelor’s Degree Regulations

Not Accepted*

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.

*Exception – Vocational-Technical Credits earned as part of an Associate of Applied Science degree from a regionally accredited school 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. Approval forms are available on the Office of the Registrar’s Web site (http://utsa.edu/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.
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 Office of the Registrar’s Web site (http://utsa.edu/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.
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 Office of the Registrar’s Web site (http://utsa.edu/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 Office of the Registrar Web site (http://utsa.edu/registrar/).

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. Students must have earned at least 90 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:

- April 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 Office of the Registrar Student Web site (http://utsa.edu/registrar/), then submit the completed application to the Enrollment Services 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 in 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 college advising center 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 Enrollment Services Center prior to the last day of the semester of graduation. The application form is located on The Office of the Registrar Web site (http://utsa.edu/ 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 Information Bulletin (http://utsa.edu/infoguide/) 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 should consult an advisor at the UTSA University Health Professions Office.

As a general guide, minimum requirements are set forth below. 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 Web site. Students will find a wealth of information on law school admissions and preparation at the Law School Admission Council’s Web site (http://lsac.org) and the UTSA Institute for Law and Public Affairs Web site (http://utsa.edu/ilpa/). The Institute offers a minor in Legal Studies (LGS) and 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. To declare a Minor in Legal Studies, contact the College of Liberal and Fine Arts Undergraduate Advising Center.

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.

Preparation for Health Professions Programs

The University Health Professions Office (UHPO) provides advising and support to students interested in pursuing careers in the health professions. This includes academic preparation at the undergraduate level, as well as information about health careers, application procedures, and entrance exams. UTSA offers courses that fulfill entrance requirements to most health professions fields, including Medicine and Dentistry, Nursing, Dental Hygiene, Respiratory Therapy, Occupational Therapy, Physical Therapy, Physician Assistant, Pharmacy, Veterinary Medicine, Clinical Laboratory Sciences, Cytogenetics, Podiatry, Chiropractic, and Optometry. Admission to professional schools is highly competitive and involves a separate application process. Admission to UTSA does not
guarantee admission into health professions programs at The University of Texas Health Science Center at 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 (Multidisciplinary Studies Building, Room 3.02.10). Advising is also available at the Downtown Campus on selected days and times throughout the academic year. For more information about the UHPO, including appointment schedules, call (210) 458-5185, or visit the Web site at http://utsa.edu/healthprofessions/.

Medical and Dental Schools. In general, medical and dental school admissions committees do not state a preference about an undergraduate major field, leaving the student free to choose a degree program suited to the student’s 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 are admitted to medical or dental school after completing 90 semester credit hours.

Admission requirements for Texas medical and dental schools are representative of admission requirements for most American medical 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 calculus or statistics (not required for dental school).

Applicants to medical school must take the Medical College Admission Test (MCAT). It is to a student’s advantage to take the test early—no later than June, preceding the senior year)—and to begin preparation for the exam at least six months in advance. Similarly, applicants to dental school should take the Dental Admission Test (DAT) early—no later than June, preceding the senior year. The application cycle for both medical and dental schools begins in May for admission in August of the following year.

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/). 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 (AACPMA); 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 for most other American nursing schools. A minimum of 62 semester credit hours is required, including 6 semester credit hours of college English, 9 hours of behavioral sciences, 6 hours of 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 which must include chemistry, anatomy, physiology, microbiology, and nutrition. Students interested in nursing must seek information about these prerequisites on a regular basis because they are subject to change.

Additional information and advisement may be obtained at the UHPO.
Early Admission Programs

3-4 Dental Early Admission Program (DEAP). This is a joint program between The University of Texas at San Antonio and The University of Texas Health Science Center at 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 UTHSCSA within seven years. Students must complete no more than 30 semester credit hours of coursework to apply to the program. 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 throughout 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 by which time they 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 Web site at www.utsystem.edu/JAMP/ for additional details.
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” page.

Currently, the following undergraduate certificate programs are offered:

- Certificate in Athletic Coaching offered by the Department of Health and Kinesiology, College of Education and Human Development.
- Certificate in Business Analytics offered by the Department of Management Science and Statistics, College of Business
- Certificate in Data Center Design offered by the College of Engineering
- Certificate in Jazz Studies offered by the Department of Music, College of Liberal and Fine Arts.
- Certificate in Latin offered by the Department of Philosophy and Classics, College of Liberal and Fine Arts
- Certificate in Music Technology offered by the Department of Music, College of Liberal and Fine Arts.
- Certificate in Oil/Gas offered by the Department of Mechanical Engineering, College of Engineering
- Certificate in Operations and Supply Chain offered by the Department of Management Science and Statistics, College of Business

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—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 to the Enrollment Services Center prior to the last day of the semester of graduation. The application form is located at [http://utsa.edu/registrar/forms.html](http://utsa.edu/registrar/forms.html). Students with questions about the application should contact Graduation Coordination at graduationcoordination@utsa.edu.
3. College of Architecture

The College of Architecture 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 COA 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 COA International Studies / Signature Experience Requirement

All undergraduate students in the College of Architecture are required to participate in an approved International Studies / Signature Experience opportunity as a condition of graduation. The COA 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 primary means to satisfy the requirement. Construction Science and Management majors satisfy the requirement by completing a required internship for their degree program. In rare cases, Architecture and Interior Design majors unable to participate in an International Studies programs may petition the College, through the Department, for a waiver. Such waivers are reviewed by the Dean on a case-by-case basis and, if approved, allow participation in an alternative Signature Experience. Students are advised to consult the College website or the Associate Dean for Academic Affairs and Undergraduate Studies for up-to-date International Studies and Signature Experience opportunities, applications, waivers, approval processes and forms.

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 for their catalog year.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the Bachelor of Science 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. For a complete listing of courses that satisfy Core Curriculum requirements, see chapter 1 of this catalog.

MAT 1023\(^1\), MAT 1033, or MAT 1043\(^1\) 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, GEO 1013, GRG 2613\(^2\), or PHY 1943.

\(^1\) Students who may anticipate either a dual major with CSM or change of major to the CSM program should note that MAT 1023 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 GRG 2613 will not count toward the CSM degree and PHY 1943 will be required.
In addition to AIS 1203, ARC 1113 or ARC 1413 should be used to satisfy the core requirement in Language, Philosophy and Culture. ARC 1213 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, GRG 1013, GRG 2623, or SOC 1013 should be used to satisfy the core requirement in Social and Behavioral Sciences.

**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  3
- ARC 1151  Introduction to Architecture and Design  1
- ARC 1213  Design I  3
- ARC 1223  Design II  3
- ARC 1313  Design Visualization  3
- IDE 2413  History of Interior Architecture I  3

B. Interior Design Program sequence

1. 69 semester credit hours of required courses completed with a grade of “C-” or better in each course:

- ARC 1513  Great Buildings and Cities of the World  3
- 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 4183  Environmental Systems  3
- IDE 2143  Architecture and Interior Assemblies  3
- IDE 2153  Interior Materials and Assemblies  3
- IDE 2423  History of Interior Architecture II  3
- IDE 3133  Interior Design Topics  3
- IDE 3203  Details and Construction Graphics  3
- IDE 3236  Interior Design Studio I  6
- IDE 3246  Interior Design Studio II (Alternative Signature Experience studio)  6
- IDE 3433  Topics in Design Theory  3
- IDE 4266  Systems Integration Studio  6
- IDE 4513  Practice and Ethics  3
- IDE 4816  International Studies Studio  6

2. 6 semester credit hours of electives  6

It is recommended that these electives be satisfied as a part of the International Studies coursework.

**Total Credit Hours:** 91
### B.S. in Interior Design – Recommended Four-Year Academic Plan

<table>
<thead>
<tr>
<th>First Year</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td><strong>Fall</strong></td>
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<tr>
<td>(Pre-Interior Design/PRI)</td>
<td></td>
</tr>
<tr>
<td>AIS 1203</td>
<td>3</td>
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<tr>
<td>Academic Inquiry and Scholarship (core)</td>
<td>3</td>
</tr>
<tr>
<td>ARC 1113 or 1413</td>
<td>3</td>
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<tr>
<td>Introduction to the Built Environment (core)</td>
<td>3</td>
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<tr>
<td>ARC 1213</td>
<td>3</td>
</tr>
<tr>
<td>Design I (core)</td>
<td>3</td>
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<tr>
<td>ARC 1313</td>
<td>3</td>
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<tr>
<td>Design Visualization</td>
<td>3</td>
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<tr>
<td>WRC 1013</td>
<td>3</td>
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<tr>
<td>Freshman Composition I (core)</td>
<td>3</td>
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<tr>
<td><strong>Spring</strong></td>
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<tr>
<td>ARC 1151</td>
<td>1</td>
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<tr>
<td>Introduction to Architecture and Design</td>
<td>1</td>
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<td>ARC 1223</td>
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<tr>
<td>Design II</td>
<td>3</td>
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<td>IDE 2413</td>
<td>3</td>
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<tr>
<td>History of Interior Architecture I</td>
<td>3</td>
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<td>WRC 1023</td>
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<td>Freshman Composition II</td>
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<tr>
<td>Mathematics Core</td>
<td>3</td>
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<tr>
<td>Life &amp; Physical Sciences Core</td>
<td>3</td>
</tr>
<tr>
<td>GATEWAY TO MAJOR (Requires Application and Acceptance)</td>
<td>3</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Second Year</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fall</strong></td>
<td></td>
</tr>
<tr>
<td>ARC 1513</td>
<td>3</td>
</tr>
<tr>
<td>Great Buildings and Cities of the World</td>
<td>3</td>
</tr>
<tr>
<td>ARC 2133</td>
<td>3</td>
</tr>
<tr>
<td>Principles of Architectural Structures</td>
<td>3</td>
</tr>
<tr>
<td>ARC 2156 or 2166</td>
<td>6</td>
</tr>
<tr>
<td>Drawing and Modeling Studio</td>
<td>6</td>
</tr>
<tr>
<td>IDE 2143</td>
<td>3</td>
</tr>
<tr>
<td>Architecture and Interior Assemblies</td>
<td>3</td>
</tr>
<tr>
<td><strong>Spring</strong></td>
<td></td>
</tr>
<tr>
<td>ARC 2166 or 2156</td>
<td>6</td>
</tr>
<tr>
<td>Digital Design Studio</td>
<td>6</td>
</tr>
<tr>
<td>ARC 2233</td>
<td>3</td>
</tr>
<tr>
<td>Principles of Environmental Systems</td>
<td>3</td>
</tr>
<tr>
<td>IDE 2153</td>
<td>3</td>
</tr>
<tr>
<td>Interior Materials and Assemblies</td>
<td>3</td>
</tr>
<tr>
<td>IDE 2423</td>
<td>3</td>
</tr>
<tr>
<td>History of Interior Architecture II</td>
<td>3</td>
</tr>
<tr>
<td>Social and Behavioral Sciences Core</td>
<td>3</td>
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</tbody>
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<table>
<thead>
<tr>
<th>Third Year</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fall</strong></td>
<td></td>
</tr>
<tr>
<td>ARC 4183</td>
<td>3</td>
</tr>
<tr>
<td>Environmental Systems</td>
<td>3</td>
</tr>
<tr>
<td>IDE 3236 or 4816</td>
<td>6</td>
</tr>
<tr>
<td>Interior Design Studio I</td>
<td>6</td>
</tr>
<tr>
<td>IDE 3203</td>
<td>3</td>
</tr>
<tr>
<td>Details and Construction Graphics</td>
<td>3</td>
</tr>
<tr>
<td>IDE 3133</td>
<td>3</td>
</tr>
<tr>
<td>Interior Design Topics</td>
<td>3</td>
</tr>
<tr>
<td><strong>Spring</strong></td>
<td></td>
</tr>
<tr>
<td>IDE 4816 or 3236</td>
<td>6</td>
</tr>
<tr>
<td>International Studies Studio</td>
<td>6</td>
</tr>
<tr>
<td>Summer</td>
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<tr>
<td>--------</td>
<td></td>
</tr>
<tr>
<td>IDE 4823</td>
<td>International Studies Theory Seminar</td>
</tr>
<tr>
<td>IDE 4833</td>
<td>International Studies Drawing Seminar</td>
</tr>
</tbody>
</table>

International Studies/Signature Experience

1 International Studies courses may be taken during the summer (study abroad), if so, core courses and IDE 3246 may be taken during Third Year, Spring.

<table>
<thead>
<tr>
<th>Fourth Year</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fall</strong></td>
</tr>
<tr>
<td>IDE 3246 or 4266</td>
</tr>
<tr>
<td>IDE 3433</td>
</tr>
<tr>
<td>American History Core</td>
</tr>
<tr>
<td>Government-Political Science Core</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Spring</th>
</tr>
</thead>
<tbody>
<tr>
<td>IDE 4266 or 3246</td>
</tr>
<tr>
<td>IDE 4513</td>
</tr>
<tr>
<td>American History Core</td>
</tr>
<tr>
<td>Government-Political Science Core</td>
</tr>
<tr>
<td>Life and Physical Sciences Core</td>
</tr>
</tbody>
</table>

Total Credit Hours: 124.0
DEPARTMENT OF ARCHITECTURE

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

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. 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 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.

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 by the first Monday in May. 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 web site. 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):

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARC 1113</td>
<td>Introduction to the Built Environment</td>
<td>3</td>
</tr>
<tr>
<td>ARC 1151</td>
<td>Introduction to Architecture and Design</td>
<td>1</td>
</tr>
<tr>
<td>ARC 1213</td>
<td>Design I</td>
<td>3</td>
</tr>
<tr>
<td>ARC 1223</td>
<td>Design II</td>
<td>3</td>
</tr>
<tr>
<td>ARC 1313</td>
<td>Design Visualization</td>
<td>3</td>
</tr>
<tr>
<td>ARC 2413</td>
<td>History of Architecture I</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Credit Hours: 16

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

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIS 1203</td>
<td>Academic Inquiry and Scholarship</td>
<td>3</td>
</tr>
<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>
<tr>
<td>Math Core</td>
<td>Mathematics Core Course (MAT 1023 or MAT 1033)</td>
<td>3</td>
</tr>
<tr>
<td>Life Core</td>
<td>Life and Physical Sciences Core Course (ES 2013, GEO 1013, GRG 2613, or PHY 1943)</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Credit Hours: 15

**Laptop Program**

The Laptop program requires that students entering both the Bachelor of Science in Architecture and 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 and remains such until it is returned to the student.

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

**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 state 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 U.S. professional degree programs in architecture, recognizes two types of degrees: the Bachelor of Architecture and the Master of Architecture. A program may be granted a six-year, three-year, or two year term of accreditation, depending on its degree of conformance with established educational standards.

Master’s accredited degree programs may consist of a pre-professional undergraduate degree and a professional graduate degree, which when earned sequentially, comprise an accredited professional education. However, the pre-professional undergraduate degree is not, by itself, recognized as an accredited degree.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the Bachelor of Science 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. For a complete listing of courses that satisfy Core Curriculum requirements, see chapter 1 of this catalog.

MAT 1023, MAT 1033, MAT 1073, or MAT 1093 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, GEO 1013, GRG 2613, or PHY 1943.

In addition to AIS 1203, ARC 1113 should be used to satisfy the core requirement in Language, Philosophy and Culture. ARC 1213 should be used to satisfy the core requirement in Creative Arts. ARC 1313 should be used to satisfy the core requirement in Social and Behavioral Sciences. ANT 1013, ECO 2003, EGR 1343, GRG 1013, GRG 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 CSM or change of major to the CSM program should note that MAT 1023 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 GRG 2613 will not count toward the CSM degree and PHY 1943 will be required.

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

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARC 1113</td>
<td>Introduction to the Built Environment</td>
<td>3</td>
</tr>
<tr>
<td>ARC 1151</td>
<td>Introduction to Architecture and Design</td>
<td>1</td>
</tr>
<tr>
<td>ARC 1213</td>
<td>Design I</td>
<td>3</td>
</tr>
<tr>
<td>ARC 1223</td>
<td>Design II</td>
<td>3</td>
</tr>
<tr>
<td>ARC 1313</td>
<td>Design Visualization</td>
<td>3</td>
</tr>
<tr>
<td>ARC 2413</td>
<td>History of Architecture I</td>
<td>3</td>
</tr>
</tbody>
</table>
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 1513 Great Buildings and Cities of the World 3
- 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 2423 History of Architecture II Nineteenth Century 3
- ARC 3433 Topics in Architecture and Thought 3
- ARC 3553 Introduction to Architectural Theory 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

2. 24 semester credit hours of required upper-division design studios. Must be completed with a grade of “C-” or better in each course

- ARC 4156 Building Design Studio (repeated) 3

3. 6 semester credit hours of electives

It is recommended that these electives be satisfied as a part of the International Studies coursework

Total Credit Hours: 88

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

<table>
<thead>
<tr>
<th>First Year</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fall</strong></td>
<td></td>
</tr>
<tr>
<td>Foundation Year (Pre-Architecture/PRA)</td>
<td></td>
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<tr>
<td>AIS 1203</td>
<td>Academic Inquiry and Scholarship (core) 3</td>
</tr>
<tr>
<td>ARC 1113</td>
<td>Introduction to the Built Environment 3</td>
</tr>
<tr>
<td>ARC 1213</td>
<td>Design I 3</td>
</tr>
<tr>
<td>ARC 1313</td>
<td>Design Visualization 3</td>
</tr>
<tr>
<td>WRC 1013</td>
<td>Freshman Composition I (core) 3</td>
</tr>
<tr>
<td><strong>Spring</strong></td>
<td></td>
</tr>
<tr>
<td>ARC 1151</td>
<td>Introduction to Architecture and Design 1</td>
</tr>
<tr>
<td>ARC 1223</td>
<td>Design II 3</td>
</tr>
<tr>
<td>ARC 2413</td>
<td>History of Architecture I 3</td>
</tr>
<tr>
<td>MAT 1023 or 1033</td>
<td>College Algebra with Applications (core) 3</td>
</tr>
<tr>
<td>WRC 1023</td>
<td>Freshman Composition II 3</td>
</tr>
<tr>
<td>Life &amp; Physical Sciences Core</td>
<td>3</td>
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<tr>
<td>------------------------------</td>
<td>---</td>
</tr>
<tr>
<td>GateWay TO MAJOR (Requires Application and Acceptance)</td>
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<tr>
<td><strong>Second Year</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Fall</strong></td>
<td></td>
</tr>
<tr>
<td>ARC 1513</td>
<td>Great Buildings and Cities of the World (core)</td>
</tr>
<tr>
<td>ARC 2133</td>
<td>Principles of Architectural Structures</td>
</tr>
<tr>
<td>ARC 2156 or 2166</td>
<td>Drawing and Modeling Studio</td>
</tr>
<tr>
<td>CSM 2113</td>
<td>Construction Materials and Methods</td>
</tr>
<tr>
<td><strong>Spring</strong></td>
<td></td>
</tr>
<tr>
<td>ARC 2166 or 2156</td>
<td>Digital Design Studio</td>
</tr>
<tr>
<td>ARC 2233</td>
<td>Principles of Environmental Systems</td>
</tr>
<tr>
<td>ARC 2423</td>
<td>History of Architecture II Nineteenth Century</td>
</tr>
<tr>
<td><strong>Social and Behavioral Sciences Core</strong></td>
<td>3</td>
</tr>
<tr>
<td><strong>Third Year</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Fall</strong></td>
<td></td>
</tr>
<tr>
<td>International Studies Semester (Fall or Spring)</td>
<td></td>
</tr>
<tr>
<td>ARC 4816</td>
<td>International Studies Studio</td>
</tr>
<tr>
<td>ARC 4823</td>
<td>International Studies Theory Seminar</td>
</tr>
<tr>
<td>ARC 4833</td>
<td>International Studies Drawing Seminar</td>
</tr>
<tr>
<td>ARC 4843</td>
<td>International Studies History Seminar</td>
</tr>
<tr>
<td><strong>Spring</strong></td>
<td></td>
</tr>
<tr>
<td>Non-International Studies Semester (Fall or Spring)</td>
<td></td>
</tr>
<tr>
<td>ARC 3613</td>
<td>History of Modern Architecture</td>
</tr>
<tr>
<td>ARC 4156</td>
<td>Building Design Studio</td>
</tr>
<tr>
<td><strong>American History Core</strong></td>
<td>3</td>
</tr>
<tr>
<td><strong>Government-Political Science Core</strong></td>
<td>3</td>
</tr>
<tr>
<td><strong>Fourth Year</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Fall</strong></td>
<td></td>
</tr>
<tr>
<td>ARC 3433</td>
<td>Topics in Architecture and Thought</td>
</tr>
<tr>
<td>ARC 4156</td>
<td>Building Design Studio</td>
</tr>
<tr>
<td>ARC 4183</td>
<td>Environmental Systems</td>
</tr>
<tr>
<td><strong>Government-Political Science Core</strong></td>
<td>3</td>
</tr>
<tr>
<td><strong>Spring</strong></td>
<td></td>
</tr>
<tr>
<td>ARC 4156</td>
<td>Building Design Studio</td>
</tr>
<tr>
<td>ARC 4283</td>
<td>Architectural Structures</td>
</tr>
<tr>
<td><strong>American History Core</strong></td>
<td>3</td>
</tr>
<tr>
<td><strong>Life &amp; Physical Sciences core</strong></td>
<td>3</td>
</tr>
<tr>
<td><strong>Total Credit Hours:</strong></td>
<td>121.0</td>
</tr>
</tbody>
</table>
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 Program (second to fourth year courses) are limited and, therefore, entry is competitive. Successful applicants entering the University from high school and transfer students will be directly admitted, as a pre-major, into the University College. At the completion of 30 credit hours of coursework, students may apply to the Construction Science and Management major. Applications will be reviewed at the end of each academic semester and students will be accepted to the major based on their grade point average (GPA) and number of available seats. Students who wish to transfer from another institution, or are currently enrolled in UTSA but wish to change their major, may apply to the major directly if they have more than 30 credit hours. The transfer and change of major applications will be reviewed at the end of each academic semester and students will be accepted to the major based on their GPA and number of available seats. Pre-CSM majors will be given preference in the application review.

Laptop Program

Students must have a laptop (notebook) computer upon entering the program. The computer should be upgradeable 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 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.
Core Curriculum Requirements (42 semester credit hours)

Students seeking the Bachelor of Science 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. For a complete listing of courses that satisfy Core Curriculum requirements, see chapter 1 of this catalog.

MAT 1033 or MAT 1073 should be used to satisfy the core requirement in Mathematics. PHY 1943 should be used to satisfy one of the core requirements 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 core requirement.

Students are strongly encouraged to complete WRC 1013, WRC 1023, MAT 1033 or MAT 1073, and PHY 1943 in their first year.

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 (ECO 2023 may also be used to satisfy Core Curriculum requirements):

   ACC 2013 Principles of Accounting I 3
   BLW 3013 Business Law 3
   ECO 2023 Introductory Microeconomics 3
FIN 3003 Survey of Finance 3
GBA 2013 Social and Ethical Issues in Business 3
MGT 3013 Introduction to Organization Theory, Behavior, and Management 3

3. One course in statistics:
   STA 1053 Basic Statistics 3

B. Two prescribed electives selected from the following list with a grade of “C–” or better in each course 6
   CSM 2323 Construction Documents
   CSM 2333 Construction Culture and History
   CSM 4943 Internship I
   CSM 4953 Special Studies in Construction Science and Management
   SPN 2023 Intermediate Spanish II
   SPN 3153 Spanish for the Business/Management Fields
   MKT 3013 Principles of Marketing

C. Two physical science electives selected from the following list with a grade of “C–” or better in each course (One of the physical science electives may also be used to satisfy Core Curriculum requirements) 6
   CHE 1033 Chemistry in Our Daily Lives: A Pathway
   ES 2013 Introduction to Environmental Systems I
   ES 2023 Introduction to Environmental Systems II
   GEO 1013 The Third Planet

Total Credit Hours: 84

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

<table>
<thead>
<tr>
<th>First Year</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fall</strong></td>
<td></td>
</tr>
<tr>
<td>AIS 1203</td>
<td>Academic Inquiry and Scholarship (core) 3</td>
</tr>
<tr>
<td>MAT 1033 or 1073</td>
<td>Algebra with Calculus for Business (core) 3</td>
</tr>
<tr>
<td>WRC 1013</td>
<td>Freshman Composition I (core) 3</td>
</tr>
<tr>
<td>American History (core)</td>
<td>3</td>
</tr>
<tr>
<td>Language Philosophy and Culture (core)</td>
<td>3</td>
</tr>
<tr>
<td><strong>Spring</strong></td>
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<tr>
<td>WRC 1023</td>
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<td>PHY 1943</td>
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<td>Physical Science Elective (core)</td>
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<td>Second Year</td>
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<td>ACC 2013</td>
<td>Principles of Accounting I</td>
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<td>CSM 3123</td>
<td>Technical Communication</td>
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<td>STA 1053</td>
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<td>Construction Estimating II</td>
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<td>CSM 4533</td>
<td>Building Information Modeling for Construction Management</td>
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<td>CSM 4143</td>
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<td>CSM 4523</td>
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<td>Mechanical, Electrical and Plumbing Systems</td>
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<td>MGT 3013</td>
<td>Introduction to Organization Theory, Behavior, and Management</td>
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<td>CSM 4613</td>
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<td>FIN 3003</td>
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<td>POL 1013</td>
<td>Introduction to American Politics (core)</td>
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Architecture (ARC) Courses
Department of Architecture, College of Architecture

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.).

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.).

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.

ARC 1213. Design I. (0-8) 3 Credit Hours. (TCCN = ARCH 1303)
Prerequisites: Completion of, or concurrent enrollment in, ARC 1113 and ARC 1313. Introduction to design
through a focus on design literacy and the creative conceptualization of issues fundamental to the design of
human environments. Emphasis on the realization and experience of architectural ideas in materials. May be
applied toward the core curriculum requirement in Creative Arts. (Formerly COA 1213. Credit cannot be earned
for both ARC 1213 and COA 1213.).

ARC 1223. Design II. (1-8) 3 Credit Hours.
Prerequisites: ARC 1213 and ARC 1313. Introduction to design as a broadly creative process based on
consideration of spatial experience, context, program, building form, representation, and design
communication. (Formerly ARC 1226 and COA 1223. Credit cannot be earned for ARC 1223 and either
ARC 1226 or COA 1223.).

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

CSM 4713 Construction Capstone 3
POL 1133 Texas Politics and Society (core) 3
Prescribed Elective 3
Prescribed Elective 3

Total Credit Hours: 120.0
environment for the representation, visualization, analysis, and presentation of the designed environment. Completion of or concurrent enrollment in this course is required in order to take COA 1213. (Formerly COA 1313. Credit cannot be earned for both ARC 1313 and COA 1313.).

ARC 1413. Architecture and Culture. (3-0) 3 Credit Hours. (TCCN = ARCH 1305)
Introduces architecture by exploring its relation to culture and the dynamic interrelationship between humans and the environment. May be applied toward the core curriculum requirement in Language, Philosophy and Culture.

ARC 1513. Great Buildings and Cities of the World. (3-0) 3 Credit Hours. (TCCN = ARCH 1301)
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.

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.

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 content includes the development of design skills for the conceptualization and informed design of buildings.

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 content includes the development of design skills for the conceptualization and informed design of buildings.

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.

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.

ARC 2423. History of Architecture II Nineteenth Century. (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.
ARC 2513. Digital Design Media. (2-2) 3 Credit Hours.
Prerequisite: Enrollment as an ARC or IDE major or 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.

ARC 3113. Advanced Design Visualization. (0-6) 3 Credit Hours.
Prerequisite: Enrollment as an ARC or IDE major or consent of instructor. Advanced exploration of graphic processes and techniques utilized in the design of the built environment.

ARC 3203. Housing Planning: Design and Development. (3-0) 3 Credit Hours.
Prerequisite: Enrollment as an ARC or IDE major or consent of instructor. Survey of the evolution of housing design, planning and development that encompasses the design, location, organization, and financing of housing and community development programs and the capital and labor markets that impact such development at the local level.

ARC 3433. Topics in Architecture and Thought. (3-0) 3 Credit Hours.
Prerequisite: Enrollment as an Architecture or Interior Design major or 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.

ARC 3553. Introduction to Architectural Theory. (3-0) 3 Credit Hours.
Prerequisite: Enrollment as an ARC or IDE major or consent of instructor. A lecture/seminar course introducing theories that inform architectural design.

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.

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.

ARC 4153. Topics in International Architecture. (3-0) 3 Credit Hours.
Prerequisites: ARC 2156 and ARC 2166 or consent of instructor. An examination of current international trends and issues in architecture and urbanism. May be repeated for credit when topics vary.

ARC 4156. Building Design Studio. (0-14) 6 Credit Hours.
Prerequisites: ARC 2133, 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.
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.

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.

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.

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.).

ARC 4283. Architectural Structures. (2-2) 3 Credit Hours.
Prerequisites: ARC 2133, 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.

ARC 4333. Practicum/Internship. (0-0) 3 Credit Hours.
Prerequisites: ARC 2156 and ARC 2166 or consent of instructor. Offers students majoring in architecture, interior design, and real estate finance and development participation in a variety of design, development, and construction concerns. Students work under supervision 15 to 20 hours a week in an approved internship to gain knowledge of their respective professional fields.

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.).

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.).

ARC 4833. International Studies Drawing Seminar. (0-6) 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.).
ARC 4843. International Studies History Seminar. (0-6) 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.).

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.

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.

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.

ARC 4953. Special Studies in Architecture. (0-6) 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.

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.
Construction Science and Management (CSM) Courses
Department of Construction Science, College of Architecture

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.

CSM 2143. Construction Materials and Testing. (3-0) 3 Credit Hours.
Prerequisites: CSM 2113, PHY 1943, 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.

CSM 2323. Construction Documents. (3-0) 3 Credit Hours.
Prerequisite: Enrollment as a Construction Science and Management major or permission of instructor. Introduction to construction documents and applicable software for use in communicating building design intentions to field personnel, including an understanding of how to interpret, explain, quantify and use construction documents to bid, construct and manage construction projects.

CSM 2333. Construction Culture and History. (3-0) 3 Credit Hours.
History of construction and building technologies in Western and non-Western cultures. Emphasis on work traditions, graphical illustrations, social and political concerns.

CSM 3011. Construction Industry Contemporary Issues. (1-0) 1 Credit Hour.
Prerequisite: Enrollment as a Construction Science and Management major or permission of instructor. Exploration of various professional options and specialties across the construction industry, professional ethics and introduction to professional societies. Must be taken on a credit/no-credit basis.

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 field work. (Formerly CSM 3111. Credit Cannot be earned for both CSM 3113 and CSM 3111.)

CSM 3123. Technical Communication. (3-0) 3 Credit Hours.
Prerequisites: MAT 1033 or MAT 1073 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.

CSM 3143. Structures I. (3-0) 3 Credit Hours.
Prerequisites: PHY 1943 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.
CSM 3621. Construction Safety I. (1-0) 1 Credit Hour.
Prerequisite: Enrollment as a Construction Science and Management major or permission of instructor. Introduction to safety and safety programs, workers’ compensation, OSHA organization and structure, safety policies, standards, and record keeping. Emphasis on communication and job-site safety ethics and management.

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.).

CSM 4023. Construction Estimating II. (2-2) 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.).

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.

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.).

CSM 4523. Project Planning and Scheduling. (2-2) 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.”).

CSM 4533. Building Information Modeling for Construction Management. (2-2) 3 Credit Hours.
Prerequisite: CSM 3123. Introduction to techniques used in development and management of Building Information Models. Emphasis on constructability and management.

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.

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.
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.

CSM 4643. Mechanical, Electrical and Plumbing Systems. (2-2) 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.

CSM 4713. Construction Capstone. (2-2) 3 Credit Hours.
Prerequisites: CSM 4523, CSM 4023, 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.

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.

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.

CSM 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.

CSM 4931. Summer Internship. (0-0) 1 Credit Hour.
Prerequisites: CSM 2323, CSM 3011, CSM 3111, and CSM 3621. 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.

CSM 4932. Internship. (0-0) 2 Credit Hours.
Prerequisites: CSM 2323, CSM 3011, CSM 3111, and CSM 3621. 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.
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.

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.

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.

CSM 4951. Special Studies in Construction Science and Management. (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 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.

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.

CSM 4956. Special Studies in Construction Science and Management. (0-12) 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 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.
Interior Design (IDE) Courses

College of Architecture

IDE 2143. Architecture and Interior Assemblies. (3-0) 3 Credit Hours.
Prerequisite: COA 1133. The study of materials and assemblies as used in interior environments with an emphasis on qualities, characteristics, and production, and a focus on detail.

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.)

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.

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.”).

IDE 3013. Color and Light. (3-0) 3 Credit Hours.
Studies of psychological and physiological effects of color and light in the built environment. Light as a form determinant of interior space. Introduction to artificial illumination design.

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.

IDE 3203. Details and Construction Graphics. (0-6) 3 Credit Hours.
Prerequisites: Enrollment as an ARC or IDE major. Project driven course focusing on design and graphic documentation of interior architecture and construction.

IDE 3236. Interior Design Studio I. (0-14) 6 Credit Hours.
Prerequisites: IDE 2126 or concurrent enrollment, 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.

IDE 3246. Interior Design Studio II. (0-14) 6 Credit Hours.
Prerequisite: IDE 2423 and ARC 3343. Interior design focused on integrating mechanical, acoustical, and lighting systems through a consideration of the relationship between human activities and various interior environments.
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.)

IDE 4213. Furniture Design and Construction. (0-6) 3 Credit Hours.
Prerequisite: ARC 3216 or 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.

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.

IDE 4266. Systems Integration Studio. (0-14) 6 Credit Hours.
Prerequisites: IDE 3153, IDE 3246 and ARC 3353. 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.”)

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.

IDE 4513. Practice and Ethics. (3-0) 3 Credit Hours.
Prerequisite: IDE 2126. 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. A job shadowing component will be included when possible.

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.)

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.).

IDE 4833. International Studies Drawing Seminar. (0-6) 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.).
IDE 4843. International Studies History Seminar. (0-6) 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.).

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.

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.

IDE 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.

IDE 4953. Special Studies in Interior Architecture. (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 for IDE 4953 or 12 hours for IDE 4956, regardless of discipline, will apply to a bachelor’s degree.

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.
Urban and Regional Planning (URP) Courses
Department of Architecture, College of Architecture

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.).

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.

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.).

URP 4113. Urban Project Development. (3-0) 3 Credit Hours.
Introduction to a range of physical planning topics including land use planning, growth management, infrastructure planning, and urban design. Planning mechanisms such as codes and urban design guidelines that help regulate development of the built environment will be emphasized. Planning at different scales including municipal, comprehensive plans, specific area plans, site plans, and state and regional plans. (Formerly ARC 4113. Credit cannot be earned for both ARC 4113 and URP 4113.).

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.

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.

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.

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.
4. 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 accredited by AACSB (Association to Advance Collegiate Schools of Business) International and is one of only 75 programs internationally with separate accreditation at the undergraduate, master’s and doctoral levels in accounting. With 17 majors and 21 minors in the undergraduate program, the College of Business seeks to give students a competitive edge in obtaining and securing employment. The College offers comprehensive advising, career preparation and services provided through the Center for Professional Development and Advising offices.

The College of Business offers a wide variety of programs on campus and abroad to develop students’ international business skills. On-campus programs include the Global Business Club for networking and career development. International faculty come to campus each semester and provide lessons for success in diverse cultures. For travel study, the College offers traditional and innovative programs to fit different student needs. Traditional study abroad programs are offered for students who want to spend a semester studying in a foreign country. The College of Business faculty also takes groups of students for international immersion study at locations where they meet executives, take classes and experience an international culture for themselves. Students who participate in College of Business international programs will develop skills to help them succeed in business anywhere in the world.

The Leadership Challenge program, in partnership with the Honors College, provides high-achieving students, primarily in business-related disciplines, with an opportunity to explore and enhance their leadership skills and capacities. Admission to this program is highly competitive, based on academic achievement, extracurricular activities, faculty nominations and personal interviews. The program is housed in the College of Business’s Center for Professional Excellence. Class selection occurs each Spring Semester for the program, which spans the following Fall and Spring semesters. The program involves participation in experiential activities, dialogues, reflective writing and a community service project. Honors College students are required to register for 1 semester credit hour (HON 4941) in the Fall Semester, and for 3 semester credit hours (MGT 4953) in the Spring Semester. Non-Honors students have the option of registering for 1 semester credit hour in the Fall (MGT 4951), but are required to register for 3 semester credit hours (MGT 4953) in the Spring.

A specific B.B.A. major cannot be guaranteed and will depend on departmental resources. Changes of major must be made through the College of Business Undergraduate Advising Center and approved by the department chair.

Students in the College of Business may not enroll in specified 3000- and 4000-level courses in the College of Business before declaring a major. Students majoring in fields outside the College of Business may not take more than 27 semester credit hours in this college without approval of the Dean of the College of Business. Students with majors outside of the College of Business may not seek more than one business minor.
College of Business Undergraduate Admission Policy for the Bachelor of Business Administration Degree

Admissions Philosophy

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. Because there are many more students interested in the study of business than the College has resources for, the undergraduate admission policy gives all interested students a specified time to show they can succeed in the College of Business. Students who meet admission requirements may declare their B.B.A. major. Students who do not meet the requirements for declaration of a B.B.A. major are exited from the College but may complete requirements for any other major at UTSA for which they are eligible. A business minor is available to all UTSA students who seek a strong foundation in business.

Qualifying as a Prebusiness Student in the College of Business

All students seeking to be Prebusiness (PRB) in the College of Business must:

- have successfully completed evaluation under the Texas Success Initiative (TSI), and
- qualify for enrollment in MAT 1033 Algebra with Calculus for Business or a higher level mathematics course, and
- qualify for enrollment in WRC 1013 Freshman Composition I or higher

Students who do not meet the criteria above will be classified as undeclared (UND) until they are college-ready in math and English. Undeclared (UND) students may not register for College of Business courses until they qualify to be PRB.

Students seeking to transfer to the College of Business from another College at UTSA and who have a UTSA and/or COB grade point average below 2.0 must appeal to the College for consideration to be admitted as a PRB student.

Academic Standing for Prebusiness Students

Every semester the College of Business (COB) reviews the academic performance of its students. Prebusiness students are evaluated to ensure that they have completed the required courses for declaration of major and have not exceeded the 12-hour rule. Students in violation of this policy are subject to exit.

Students who do not maintain a UTSA and/or COB grade point average of at least 2.0 are placed on academic probation with the College of Business. Students have one semester to return to good academic standing. If they do not raise their UTSA and/or COB grade point average to at least a 2.0, they will be exited from the College of Business and classified as undeclared (UND). Exited students may not return to the College for an undergraduate degree but they may pursue other majors in the University if they meet UTSA requirements for good academic standing. They may also pursue College of Business minors for which they are eligible. Under urgent and unusual circumstances, exited students may appeal their exit. The deadline for appeal is no later than four weeks into the semester immediately following their exit. See the College of Business Undergraduate Advising Center for required forms. For further information, refer to “Academic Probation in the College of Business” in this catalog.

Admission to the College of Business as a Declared Major

As of Fall 2014, all students seeking to declare a major must follow the admission requirements of the College of Business as set forth in this catalog. To declare a B.B.A. major, prebusiness students must complete six required courses (18 semester credit hours) and meet two grade point average (GPA) requirements within a specified time. The two GPA requirements include a 2.0 in all coursework taken at UTSA and a 2.2 in all College of Business coursework taken at UTSA within a specified time.
In order to declare a B.B.A. major, students must:

1. Complete the following or equivalent nonbusiness courses (6 semester credit hours):
   - COM 1053 Business and Professional Speech
   - MAT 1033 Algebra with Calculus for Business (MAT 1214 Calculus I for majors in Actuarial Science)

2. Complete the following or equivalent business courses (12 semester credit hours), including one of the two economics courses:
   - ACC 2013 Principles of Accounting I
   - ECO 2013 Introductory Macroeconomics
   - or ECO 2023 Introductory Microeconomics
   - IS 1403 Business Information Systems Fluency
   - MS 1023 Business Statistics with Computer Applications I (STA 1053 Basic Statistics for majors in Actuarial Science)

3. Meet the following grade point average standards:
   - a grade point average of at least 2.0 for all UTSA coursework
   - a grade point average of at least 2.2 for all UTSA College of Business courses.

12-Hour Rule

Students will be evaluated according to the 12-hour rule in order to declare their major. The 12-hour rule requires that by the time students complete their 12th business hour, they must have taken the following two non-business courses (COM 1053 and MAT 1033) and the following business courses (IS 1403, MS 1023, ACC 2013, and ECO 2013 or ECO 2023) and meet the GPA requirements. If any of the required business courses have been completed prior to entering UTSA, students must take additional business courses at UTSA in order to meet the 12-semester-credit-hour requirement.

Students who do not meet the requirements to declare a B.B.A. major after completing 12 semester credit hours of business courses at UTSA will be exited from the College. Once exited, a student’s major will be changed to undeclared and students must choose a major other than a business discipline. Exited students may elect to complete a business minor approved for nonbusiness students and will only be permitted to take additional business courses that are required for these minors.

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

Students seeking a B.A. in Economics or a B.S. in Statistics must have a 2.0 UTSA GPA and transfer students must have a 2.0 transfer GPA to declare the major. Declaration of major forms may be submitted to the College of Business Undergraduate Advising Center. 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) must maintain good academic standing in the College of Business. 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
- maintain at least a 2.0 grade point average in College of Business courses taken at UTSA.

In order to graduate, all College of Business majors must be in good academic standing (i.e., students must maintain a UTSA, College of Business, and Major GPA of 2.0).

Academic Probation in the College of Business

Every semester the College of Business (COB) reviews the academic performance of its students. Students who do not maintain a UTSA and/or COB grade point average of at least 2.0 are placed on academic probation with the College of Business. Students on College academic probation have one subsequent semester (Fall, Spring or Summer) to achieve good academic standing in the College (i.e., raise their UTSA and/or COB GPA to at least 2.0).

Students who do not meet requirements for good academic standing in the College at the end of one subsequent enrolled semester will be exited from the College of Business and classified as undeclared (UND). Exited students may not return to the College for an undergraduate degree but they may pursue other majors in the University if they meet UTSA requirements for good academic standing. They may also pursue College of Business minors for which they are eligible. Under urgent and unusual circumstances, exited students may appeal their exit. The deadline for appeal is no later than four weeks into the semester immediately following their exit. See the College of Business Undergraduate Advising Center for required forms.

Business Honors

Bachelor of Business Administration (B.B.A.) majors who have been admitted to the Honors College may earn Business Honors if they maintain a minimum UTSA grade point average of 3.25 and complete an Honors section of five of the following Common Body of Knowledge courses:

- ACC 2013 Principles of Accounting I
- ACC 2033 Principles of Accounting II
- ECO 2013 Introductory Macroeconomics
- ECO 2023 Introductory Microeconomics
- FIN 3014 Principles of Business Finance
- IS 3003 Principles of Information Systems for Management
- MGT 3013 Introduction to Organization Theory, Behavior, and Management
- MGT 4893 Management Strategy
- MKT 3013 Principles of Marketing
- MS 1023 Business Statistics with Computer Applications I
- MS 3043 Business Statistics with Computer Applications II

Certain 5003-numbered courses in the M.B.A. degree program may, subject to approval, substitute for Common Body of Knowledge courses. These undergraduate courses are offered once per year, and enrollment is targeted for B.B.A. degree program majors seeking University Honors. Contingent upon available space, students with
outstanding academic records, including exceptional freshmen and transfer students, can apply for admission into these classes subject to approval by the faculty member, department chair, and Dean of the College of Business. Honors classes emphasize class discussion, presentations, and business research.

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 Web site 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 http://business.utsa.edu/undergraduate/. Other 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; Statistics; Digital Forensics; Economics; Entrepreneurship-Nonbusiness; Infrastructure Assurance and Security; Information Systems; Network and Data Center Management; and Management Science.

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

The following College of Business minors are open to B.B.A. majors only: Entrepreneurship; Finance; International Management; Management; Marketing; Real Estate; and Technology Management.

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

The following College of Business minors are open only to students pursuing the B.B.A. in Real Estate Finance and Development: Construction Management; and Facility and Property Management.

Enrollment in College of Business Courses

Enrollment in College of Business courses, with the exception of ACC 2003, and ECO 2003 (which are courses that may not be counted toward a business major), is restricted to students who have successfully completed evaluation under the Texas Success Initiative (TSI) and qualify for enrollment in MAT 1033 (Algebra with Calculus for Business or a higher level mathematics course) and WRC 1013 (Freshman Composition I or higher). Additionally ACC 2033 will be open to prebusiness and declared business majors and restricted to undeclared (UND) majors. Other majors must have departmental approval and may seek approval through the undergraduate advising center.

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, with the exception of BLW 3013, FIN 3003, MGT 3013, and MKT 3013, which are open to all students who meet course prerequisites. Enrollment in upper-division statistics courses is open to all students who meet prerequisites. Enrollment in all other 3000- and 4000-level College of Business courses may be open to nonbusiness majors with at least an overall UTSA grade point average of 2.75, contingent upon approval of the faculty member teaching the course and the department chair. Enrollment in
MGT 3003 is restricted to Prebusiness students and declared business majors only. See the College of Business Undergraduate Advising Center for the required form. In addition, 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.

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 COB requirement, students may need to take an additional course to meet the 120 hours.

**College of Business Academic Credit Internship Policy**

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 75 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/her major degree requirements for specific details.
4. Each student must meet the requirements of his/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.

**Independent Study**

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

**The Texas Higher Education Coordinating Board Field of Study Curriculum for Business**

The Texas Higher Education Coordinating Board has mandated a field of study curriculum for Business which consists of seven (7) courses with the following Texas Common Course Numbers (TCCN). UTSA courses satisfying this requirement are listed in parentheses (see Appendix B in this catalog for a list of TCCN courses).

2 courses in Accounting:
TCCN: ACCT 2301 (ACC 2013 Principles of Accounting I)
TCCN: ACCT 2302 (ACC 2033 Principles of Accounting II)

1 course in Computer Literacy:
TCCN: BCIS 1305 (IS 1403 Business Information Systems Fluency)

2 courses in Economics:
TCCN: ECON 2301 (ECO 2013 Introductory Macroeconomics)
TCCN: ECON 2302 (ECO 2023 Introductory Microeconomics)
1 course in Mathematics:
TCCN: MATH 1325 (MAT 1033 Algebra with Calculus for Business)

1 course in Speech:
TCCN: SPCH 1321 (COM 1053 Business and Professional Speech)

**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
- ACC 2033  Principles of Accounting II
- BLW 3013  Business Law
- COM 1053  Business and Professional Speech
- ECO 2013  Introductory Macroeconomics (satisfies Social and Behavioral Sciences Core Curriculum requirement)
- ECO 2023  Introductory Microeconomics
- FIN 3014  Principles of Business Finance
- GBA 2013  Social and Ethical Issues in Business
- IS 1403  Business Information Systems Fluency
- IS 3003  Principles of Information Systems for Management
- MAT 1033  Algebra with Calculus for Business (satisfies Mathematics Core Curriculum requirement, Actuarial Science majors must take MAT 1214 in lieu of MAT 1033)
- MGT 3003  Business Communication and Professional Development
- MGT 3013  Introduction to Organization Theory, Behavior, and Management
- MGT 4893  Management Strategy (taken in semester of graduation)
- MKT 3013  Principles of Marketing
- MS 1023  Business Statistics with Computer Applications I (Actuarial Science majors must take STA 1053 in lieu of MS 1023)
- MS 3043  Business Statistics with Computer Applications II (Actuarial Science majors must take STA 3003 in lieu of MS 3043)
- MS 3053  Management Science and Operations Technology

Students completing degree course requirements with fewer than 120 semester credit hours will augment their program with electives.
Bachelor of Business Administration Degree in General Business

The Bachelor of Business Administration degree in General Business is an interdisciplinary program within the College of Business. The minimum number of semester credit hours 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, the Common Body of Knowledge requirements, and the degree requirements, which are listed below.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the Bachelor of Business Administration degree in General Business 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. For a complete listing of courses that satisfy the Core Curriculum requirements, see chapter 1 of this catalog.

MAT 1033 should be used to satisfy the core requirement in Mathematics. ECO 2013 should be used to satisfy the core requirement in Social and Behavioral Sciences.

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
- ACC 2033 Principles of Accounting II
- BLW 3013 Business Law
- COM 1053 Business and Professional Speech
- ECO 2013 Introductory Macroeconomics (satisfies Social and Behavioral Sciences Core Curriculum requirement)
- ECO 2023 Introductory Microeconomics
- FIN 3014 Principles of Business Finance
- GBA 2013 Social and Ethical Issues in Business
- IS 1403 Business Information Systems Fluency
- IS 3003 Principles of Information Systems for Management
- MAT 1033 Algebra with Calculus for Business (satisfies Mathematics Core Curriculum requirement, Actuarial Science majors must take MAT 1214 in lieu of MAT 1033)
- MGT 3003 Business Communication and Professional Development
- MGT 3013 Introduction to Organization Theory, Behavior, and Management
- MGT 4893 Management Strategy (taken in semester of graduation)
- MKT 3013 Principles of Marketing
- MS 1023 Business Statistics with Computer Applications I (Actuarial Science majors must take STA 1053 in lieu of MS 1023)
MS 3043  Business Statistics with Computer Applications II (Actuarial Science majors must take STA 3003 in lieu of MS 3043)
MS 3053  Management Science and Operations Technology

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

**Degree Requirements**

A. Required courses in the major:

BLW 3023  Business Organizations and Commercial Law  3
ECO 3033  Economics of Managerial Decisions  3
FIN 3033  Principles of Investment  3
or FIN 3313  Money and Banking  3
Any upper-division management (MGT) elective  1  3
Any upper-division management (MKT) elective  1  3
3000 or 4000 level Business elective  2  3
3000 or 4000 level Business elective  2  3
4000 level Business elective  2  3

B. Technical Writing

ENG 2413  Technical Writing  3

C. Lower-division or upper-division business or non-business electives  2

Total Credit Hours: 29

1 Excludes Common Body of Knowledge (CBK) courses and FIN 3003.
2 No more than 6 semester credit hours may be chosen from the same discipline for the above electives.

**Course Sequence Guide for B.B.A. Degree in General Business**

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 an academic advisor in the College of Business Undergraduate Advising Center 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**

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<th>Term</th>
<th>Course Code</th>
<th>Course Title</th>
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<td>AIS 1203</td>
<td>Academic Inquiry and Scholarship (core)</td>
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<td>MAT 1033</td>
<td>Algebra with Calculus for Business (core and CBK)  2</td>
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<td>Creative Arts (core)</td>
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<td>COM 1053</td>
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<td></td>
<td>WRC 1023</td>
<td>Freshman Composition II (core)</td>
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<td></td>
<td>ECO 2013</td>
<td>Introductory Macroeconomics (core and CBK) 1,2</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>American History (core)</td>
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<td>3</td>
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<td></td>
<td><strong>Second Year</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ACC 2013</td>
<td>Principles of Accounting I (CBK)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>MS 1023</td>
<td>Business Statistics with Computer Applications I (CBK)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Government-Political Science (core)</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Life &amp; Physical Sciences (core)</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Language, Philosophy &amp; Culture (core)</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><strong>DECLARE MAJOR</strong></td>
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<td></td>
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<tr>
<td></td>
<td>ACC 2033</td>
<td>Principles of Accounting II (CBK)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>ECO 2023</td>
<td>Introductory Microeconomics (CBK) 1</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>MGT 3003</td>
<td>Business Communication and Professional Development (CBK)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>MS 3043</td>
<td>Business Statistics with Computer Applications II (CBK)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Life &amp; Physical Sciences (core)</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><strong>Third Year</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>GBA 2013</td>
<td>Social and Ethical Issues in Business (CBK)</td>
<td>3</td>
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<tr>
<td></td>
<td>IS 3003</td>
<td>Principles of Information Systems for Management (CBK)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>MGT 3013</td>
<td>Introduction to Organization Theory, Behavior, and Management (CBK)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>MS 3053</td>
<td>Management Science and Operations Technology (CBK)</td>
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</tr>
<tr>
<td></td>
<td>Government-Political Science (core)</td>
<td></td>
<td>3</td>
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<tr>
<td></td>
<td><strong>Spring</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>BLW 3013</td>
<td>Business Law (CBK)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>FIN 3014</td>
<td>Principles of Business Finance (CBK)</td>
<td>4</td>
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<tr>
<td></td>
<td>MKT 3013</td>
<td>Principles of Marketing (CBK)</td>
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<td></td>
<td>Component Area Option (core)</td>
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<tr>
<td></td>
<td>Any upper-division MGT course (major)</td>
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</table>
### Fourth Year

#### Fall

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BLW 3023</td>
<td>Business Organizations and Commercial Law (major)</td>
<td>3</td>
</tr>
<tr>
<td>ECO 3033</td>
<td>Economics of Managerial Decisions (major)</td>
<td>3</td>
</tr>
<tr>
<td>ENG 2413</td>
<td>Technical Writing (major)</td>
<td>3</td>
</tr>
<tr>
<td>FIN 3313 or 3033</td>
<td>Money and Banking (major)</td>
<td>3</td>
</tr>
<tr>
<td>Upper division Business elective (4xxx-level)</td>
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</tbody>
</table>

#### Spring

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MGT 4893</td>
<td>Management Strategy (CBK)</td>
<td>3</td>
</tr>
<tr>
<td>Upper-division MKT elective (3xxx or 4xxx level) (major)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Upper-division Business elective (3xxx or 4xxx level) (major)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Business or non-business elective (major)</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

Total Credit Hours: 120.0

1 ECO 2013 and ECO 2023 may be taken in either sequence.

2 College of Business students should take MAT 1033 and ECO 2013 to satisfy both Core Curriculum and 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.

### 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), except business students seeking a B.B.A. degree. Students pursuing this minor should elect to take ECO 2013 Introductory Macroeconomics (Social and Behavioral Sciences Component) as part of their Core Curriculum requirements. In addition, the following 24 semester credit hours are required in the College of Business:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 2003</td>
<td>Foundations of Accounting</td>
</tr>
<tr>
<td>or ACC 2013</td>
<td>Principles of Accounting I</td>
</tr>
<tr>
<td>BLW 3013</td>
<td>Business Law</td>
</tr>
<tr>
<td>ECO 2023</td>
<td>Introductory Microeconomics</td>
</tr>
<tr>
<td>FIN 3003</td>
<td>Survey of Finance</td>
</tr>
<tr>
<td>GBA 2013</td>
<td>Social and Ethical Issues in Business (prerequisite for BLW 3013)</td>
</tr>
<tr>
<td>IS 1403</td>
<td>Business Information Systems Fluency</td>
</tr>
<tr>
<td>MGT 3013</td>
<td>Introduction to Organization Theory, Behavior, and Management</td>
</tr>
<tr>
<td>MKT 3013</td>
<td>Principles of Marketing</td>
</tr>
</tbody>
</table>

To declare a Minor in Business Administration, obtain advice, and seek approval of substitutions for course requirements, students must consult the College of Business Undergraduate Advising Center.
General Business Administration (GBA) Courses
College of Business

GBA 2013. Social and Ethical Issues in Business. (3-0) 3 Credit Hours.
A study of the social and ethical responsibilities of business organizations and of the people who work in those organizations.

GBA 4951. Special Studies in General Business Administration. (1-0) 1 Credit Hour.
Prerequisites: MGT 3003 and 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, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree.

GBA 4952. Special Studies in General Business Administration. (2-0) 2 Credit Hours.
Prerequisites: MGT 3003 and 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, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree.

GBA 4953. Special Studies in General Business Administration. (3-0) 3 Credit Hours.
Prerequisites: MGT 3003 and 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, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor's degree.
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.

Department Honors

The Department of Accounting offers the opportunity for certain of its outstanding students to achieve the designation of Honors in Major 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 Department Undergraduate Program Committee (UPC) in consultation with the faculty of the student’s major discipline. To be eligible for the designation, 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. To enroll in honors thesis courses and to graduate with the honors designation, these minimum grade point averages must be maintained. Students applying for Honors in Major are expected to enroll in the appropriate honors thesis course during the final two semesters. The completed thesis must be approved by the supervising faculty sponsor from the student’s discipline and the UPC. Students interested in this program should contact the UPC through the Department of Accounting office for additional information. Department honors can be attained independent of, or in addition to, University Honors. In order to have departmental honors noted on the transcript, students must submit a letter of request for departmental honors to the Department Chair by Census Date of their last semester.

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.

Bachelor of Business Administration Degree in Accounting

The minimum number of semester credit hours for the Bachelor of Business Administration 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 Bachelor of Business Administration degree in Accounting 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. For a complete listing of courses that satisfy the Core Curriculum requirements, see chapter 1 of this catalog.
MAT 1033 should be used to satisfy the core requirement in Mathematics. ECO 2013 should be used to satisfy the core requirement in social and Behavioral Sciences.

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.

**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.

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 2013</td>
<td>Principles of Accounting I</td>
</tr>
<tr>
<td>ACC 2033</td>
<td>Principles of Accounting II</td>
</tr>
<tr>
<td>BLW 3013</td>
<td>Business Law</td>
</tr>
<tr>
<td>COM 1053</td>
<td>Business and Professional Speech</td>
</tr>
<tr>
<td>ECO 2013</td>
<td>Introductory Macroeconomics (satisfies Social and Behavioral Sciences Core Curriculum requirement)</td>
</tr>
<tr>
<td>ECO 2023</td>
<td>Introductory Microeconomics</td>
</tr>
<tr>
<td>FIN 3014</td>
<td>Principles of Business Finance</td>
</tr>
<tr>
<td>GBA 2013</td>
<td>Social and Ethical Issues in Business</td>
</tr>
<tr>
<td>IS 1403</td>
<td>Business Information Systems Fluency</td>
</tr>
<tr>
<td>IS 3003</td>
<td>Principles of Information Systems for Management</td>
</tr>
<tr>
<td>MAT 1033</td>
<td>Algebra with Calculus for Business (satisfies Mathematics Core Curriculum requirement, Actuarial Science majors must take MAT 1214 in lieu of MAT 1033)</td>
</tr>
<tr>
<td>MGT 3003</td>
<td>Business Communication and Professional Development</td>
</tr>
<tr>
<td>MGT 3013</td>
<td>Introduction to Organization Theory, Behavior, and Management</td>
</tr>
<tr>
<td>MGT 4893</td>
<td>Management Strategy (taken in semester of graduation)</td>
</tr>
<tr>
<td>MKT 3013</td>
<td>Principles of Marketing</td>
</tr>
<tr>
<td>MS 1023</td>
<td>Business Statistics with Computer Applications I (Actuarial Science majors must take STA 1053 in lieu of MS 1023)</td>
</tr>
<tr>
<td>MS 3043</td>
<td>Business Statistics with Computer Applications II (Actuarial Science majors must take STA 3003 in lieu of MS 3043)</td>
</tr>
<tr>
<td>MS 3053</td>
<td>Management Science and Operations Technology</td>
</tr>
</tbody>
</table>

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. Accounting courses in the major

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 3023</td>
<td>Intermediate Accounting I</td>
<td>3</td>
</tr>
<tr>
<td>ACC 3033</td>
<td>Intermediate Accounting II</td>
<td>3</td>
</tr>
<tr>
<td>ACC 3043</td>
<td>Federal Income Taxation</td>
<td>3</td>
</tr>
<tr>
<td>ACC 3113</td>
<td>Accounting Information Systems</td>
<td>3</td>
</tr>
</tbody>
</table>
ACC 3123  Cost Analysis  3
ACC 4013  Principles of Auditing  3
ACC 4163  Contemporary Issues in Accounting Practice  3

B. Electives
Lower-division or upper-division non-accounting business or non-business electives  8

Total Credit Hours: 29

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

1. Because of the topical coverage of the CPA examination, BLW 3023 Business Organizations and Commercial Law is recommended as a non-accounting elective for students who anticipate taking the CPA examination.
2. 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 Web site at www.tsbpa.state.tx.us.
3. The 21 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.
4. 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.” Students planning to sit for the CPA examination should enroll in the sections of GBA 2013 notated “Recommended for Accounting and Finance majors.”

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 an academic advisor in the College of Business Undergraduate Advising Center 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

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIS 1203 Academic Inquiry and Scholarship</td>
<td>3</td>
</tr>
<tr>
<td>MAT 1033 Algebra with Calculus for Business</td>
<td>3</td>
</tr>
<tr>
<td>WRC 1013 Freshman Composition I</td>
<td>3</td>
</tr>
<tr>
<td>American History</td>
<td>3</td>
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<td>Semester</td>
<td>Course Code</td>
</tr>
<tr>
<td>----------------</td>
<td>-------------</td>
</tr>
<tr>
<td>Creative Arts (core)</td>
<td></td>
</tr>
<tr>
<td><strong>Spring</strong></td>
<td></td>
</tr>
<tr>
<td>COM 1053</td>
<td>Business and Professional Speech (CBK)</td>
</tr>
<tr>
<td>ECO 2013</td>
<td>Introductory Macroeconomics (core and CBK)</td>
</tr>
<tr>
<td>IS 1403</td>
<td>Business Information Systems Fluency (CBK)</td>
</tr>
<tr>
<td>WRC 1023</td>
<td>Freshman Composition II (core)</td>
</tr>
<tr>
<td>American History (core)</td>
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<tr>
<td><strong>Second Year</strong></td>
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</tr>
<tr>
<td>Fall</td>
<td></td>
</tr>
<tr>
<td>ACC 2013</td>
<td>Principles of Accounting I (CBK)</td>
</tr>
<tr>
<td>MS 1023</td>
<td>Business Statistics with Computer Applications I (CBK)</td>
</tr>
<tr>
<td>Government-Political Science (core)</td>
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</tr>
<tr>
<td>Language, Philosophy &amp; Culture (core)</td>
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</tr>
<tr>
<td>Life &amp; Physical Sciences (core)</td>
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<tr>
<td>DECLARE MAJOR</td>
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<tr>
<td>Spring</td>
<td></td>
</tr>
<tr>
<td>ACC 2033</td>
<td>Principles of Accounting II (CBK)</td>
</tr>
<tr>
<td>ECO 2023</td>
<td>Introductory Microeconomics (CBK)</td>
</tr>
<tr>
<td>IS 3003</td>
<td>Principles of Information Systems for Management</td>
</tr>
<tr>
<td>MS 3043</td>
<td>Business Statistics with Computer Applications II (CBK)</td>
</tr>
<tr>
<td>Government-Political Science (core)</td>
<td></td>
</tr>
<tr>
<td><strong>Third Year</strong></td>
<td></td>
</tr>
<tr>
<td>Fall</td>
<td></td>
</tr>
<tr>
<td>ACC 3023</td>
<td>Intermediate Accounting I (major)</td>
</tr>
<tr>
<td>ACC 3113</td>
<td>Accounting Information Systems (major)</td>
</tr>
<tr>
<td>MGT 3003</td>
<td>Business Communication and Professional Development (CBK)</td>
</tr>
<tr>
<td>MS 3053</td>
<td>Management Science and Operations Technology</td>
</tr>
<tr>
<td>Life &amp; Physical Sciences (core)</td>
<td></td>
</tr>
<tr>
<td>Spring</td>
<td></td>
</tr>
<tr>
<td>ACC 3033</td>
<td>Intermediate Accounting II (major)</td>
</tr>
<tr>
<td>ACC 3123</td>
<td>Cost Analysis (major)</td>
</tr>
<tr>
<td>FIN 3014</td>
<td>Principles of Business Finance (CBK)</td>
</tr>
<tr>
<td>GBA 2013</td>
<td>Social and Ethical Issues in Business (CBK)</td>
</tr>
<tr>
<td>MGT 3013</td>
<td>Introduction to Organization Theory, Behavior, and Management (CBK)</td>
</tr>
<tr>
<td><strong>Fourth Year</strong></td>
<td></td>
</tr>
<tr>
<td>Fall</td>
<td></td>
</tr>
<tr>
<td>ACC 3043</td>
<td>Federal Income Taxation (major)</td>
</tr>
<tr>
<td>ACC 4013</td>
<td>Principles of Auditing (major)</td>
</tr>
</tbody>
</table>
BLW 3013 Business Law (CBK)  
MKT 3013 Principles of Marketing (CBK)  
Non-accounting or non-business elective (support work)  

Spring
ACC 4163 Contemporary Issues in Accounting Practice (major)  
MGT 4893 Management Strategy (CBK)  
Non-accounting or non-business elective (support work)  
Non-accounting or non-business elective (support work)  
Component Area Option (core)  

Total Credit Hours: 120.0

1 ECO 2013 and ECO 2023 may be taken in either sequence.
2 College of Business students should take MAT 1033 and ECO 2013 to satisfy both Core Curriculum and CBK requirements

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.
Accounting (ACC) Courses
Department of Accounting, College of Business

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.

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.

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.

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 Web site), and declared major in the College of Business or approval of Department Chair and dean. 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).

ACC 3033. Intermediate Accounting II. (3-0) 3 Credit Hours.
Prerequisites: A grade of “C-” or better in ACC 3023 and declared accounting major or approval of Department Chair and dean. 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).

ACC 3043. Federal Income Taxation. (3-0) 3 Credit Hours.
Prerequisites: A grade of “C-” or better in ACC 3023 and declared accounting major or approval of Department Chair and dean. A conceptual introduction to the U.S. federal income tax system. Concepts include gross income, statutory deductions, property transactions, and computation of tax liabilities.

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.
ACC 3113. Accounting Information Systems. (3-0) 3 Credit Hours.
Prerequisites: ACC 2033 with a grade of “C-” or better, IS 3003, and declared accounting major or approval of Department Chair and dean. 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.

ACC 3123. Cost Analysis. (3-0) 3 Credit Hours.
Prerequisites: A grade of “C-” or better in ACC 2033 and declared accounting major or approval of Department Chair and dean. 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.

ACC 4013. Principles of Auditing. (3-0) 3 Credit Hours.
Prerequisites: A grade of “C-” or better in both ACC 3033 and ACC 3113, and declared accounting major or approval of Department Chair and dean. 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.

ACC 4103. Business Process Management and Control. (3-0) 3 Credit Hours.
Prerequisites: ACC 3113 with a grade of “C-” or better and IS 3003. A study of business processes that support an organization and how they are controlled. This course contributes to the student’s understanding of how key business processes are managed, controlled and integrated in enterprise resource planning systems. SAP will be used to illustrate the concepts discussed in the class. (Same as IS 4103. Credit cannot be earned for both ACC 4103 and IS 4103.).

ACC 4163. Contemporary Issues in Accounting Practice. (3-0) 3 Credit Hours.
Prerequisite: A grade of “C-” or better in all preceding accounting courses; 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.

ACC 4911. Independent Study. (0-0) 1 Credit Hour.
Prerequisites: A 3.0 COB grade point average, MGT 3003, taken semester of graduation, and permission in writing from the instructor, the Department Chair, and the Dean of the College of Business. See the College of Business Undergraduate Advising Center 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.

ACC 4912. Independent Study. (0-0) 2 Credit Hours.
Prerequisites: A 3.0 COB grade point average, MGT 3003, taken semester of graduation, and permission in writing from the instructor, the Department Chair, and the Dean of the College of Business. See the College of Business Undergraduate Advising Center 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.
ACC 4913. Independent Study. (0-0) 3 Credit Hours.
Prerequisites: A 3.0 COB grade point average, MGT 3003, taken semester of graduation, and permission in writing from the instructor, the Department Chair, and the Dean of the College of Business. See the College of Business Undergraduate Advising Center 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.

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 the College of Business Undergraduate Advising Center for required forms. Provides students with on-the-job training in public, industry, not-for-profit, or governmental accounting units. ACC 4933 may be completed only once for undergraduate degree credit. Credit cannot be earned for both ACC 4933 and ACC 4963.

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.

ACC 4993. Honors Thesis. (0-0) 3 Credit Hours.
Prerequisite: Enrollment limited to students applying for Honors in Accounting. Supervised research and preparation of an honors thesis. May be repeated once for credit with advisor’s approval. No more than 3 semester credit hours can apply toward accounting major requirements.

Business Law (BLW) Courses
Department of Accounting, College of Business

BLW 3013. Business Law. (3-0) 3 Credit Hours.
Prerequisite: 60 hours of college credit including GBA 2013, or consent of instructor, Department Chair, and Dean of the College. Legal analysis of contemporary environment of business law including the common law, legal reasoning, court systems and procedures, constitutional law, torts, contracts and corresponding areas of Article 2 of the Uniform Commercial Code, agency, property, bailment, international law, and related jurisprudential topics in light of social, ethical, political, economic, and global perspectives. (Credit cannot be earned for both BLW 3013 and BLW 3003.).

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.

BLW 3523. Real Estate Law. (3-0) 3 Credit Hours.
Prerequisite: BLW 3013 or the equivalent. 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; federal, state, and local laws governing housing
discrimination; and equal opportunity and community reinvestment. (Same as RFD 3523. Credit cannot be earned for both BLW 3523 and RFD 3523.).

**BLW 4153. Tourism Law. (3-0) 3 Credit Hours.**
Prerequisites: MGT 3003 and BLW 3013 or the equivalent. An investigation of the legal aspects of the accommodation, attraction, destination management organization, restaurant, and transportation industries.

**BLW 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 the College of Business Undergraduate Advising Center 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.

**BLW 4953. Special Studies in Business Law. (3-0) 3 Credit Hours.**
Prerequisites: MGT 3003 and 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.
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.

Department Honors

The Department of Economics offers the opportunity for certain of its outstanding students to achieve the designation of Honors in Major 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 Department Undergraduate Program Committee (UPC) in consultation with the faculty of the student’s major discipline. To be eligible for the designation, 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. To enroll in honors thesis courses and to graduate with the honors designation, these minimum grade point averages must be maintained. Students applying for Honors in Major 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 from the student’s discipline and the UPC. Students interested in this program should contact the Department of Economics office for additional information. Department honors can be attained independent of, or in addition to, University Honors. In order to have departmental honors noted on the transcript, students must submit a letter of request for departmental honors to the Department Chair by Census Date of their last semester.

Bachelor of Business Administration Degree in Economics

The minimum semester credit hours for the Bachelor of Business Administration 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 Bachelor of Business Administration degree in Economics 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. For a complete listing of courses that satisfy the Core Curriculum requirements, see chapter 1 of this catalog.
MAT 1033 should be used to satisfy the core requirement in Mathematics. ECO 2013 should be used to satisfy the core requirement in Social and Behavioral Sciences.

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.

**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
- ACC 2033 Principles of Accounting II
- BLW 3013 Business Law
- COM 1053 Business and Professional Speech
- ECO 2013 Introductory Macroeconomics (satisfies Social and Behavioral Sciences Core Curriculum requirement)
- ECO 2023 Introductory Microeconomics
- FIN 3014 Principles of Business Finance
- GBA 2013 Social and Ethical Issues in Business
- IS 1403 Business Information Systems Fluency
- IS 3003 Principles of Information Systems for Management
- MAT 1033 Algebra with Calculus for Business (satisfies Mathematics Core Curriculum requirement, Actuarial Science majors must take MAT 1214 in lieu of MAT 1033)
- MGT 3003 Business Communication and Professional Development
- MGT 3013 Introduction to Organization Theory, Behavior, and Management
- MGT 4893 Management Strategy (taken in semester of graduation)
- MKT 3013 Principles of Marketing
- MS 1023 Business Statistics with Computer Applications I (Actuarial Science majors must take STA 1053 in lieu of MS 1023)
- MS 3043 Business Statistics with Computer Applications II (Actuarial Science majors must take STA 3003 in lieu of MS 3043)
- MS 3053 Management Science and Operations Technology

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. Upper-division semester credit hours in the major:

- ECO 3033 Economics of Managerial Decisions 3
- ECO 3053 Aggregate Economic Analysis 3
- ECO 3113 Introduction to Mathematical Economics 3
- ECO 3123 Introduction to Econometrics and Business Forecasting 3
Upper-division electives in Economics. Students are strongly encouraged to complete the specified required courses before enrolling in upper-division electives. Additional information on degree plans under the Bachelor of Business Administration degree is available in the College of Business Undergraduate Advising Center and the Department of Economics.

B. Upper-division, non-economics electives
Select 3 semester credit hours of upper-division, non-economics electives within the College of Business 3

C. Lower-division or upper-division business or non-business electives
Select 5 semester credit hours of lower-division or upper-division business or non-business electives 5

Total Credit Hours: 29

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 an academic advisor in the College of Business Undergraduate Advising Center 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 1033 Algebra with Calculus for Business (core and CBK) 2 3
WRC 1013 Freshman Composition I (core) 3
American History (core) 3
Creative Arts (core) 3

Spring
COM 1053 Business and Professional Speech (CBK) 3
ECO 2013 Introductory Macroeconomics (core and CBK) 1,2 3
IS 1403 Business Information Systems Fluency (CBK) 3
WRC 1023 Freshman Composition II (core) 3
American History (core) 3

Second Year

Fall
ACC 2013 Principles of Accounting I (CBK) 3
ECO 2023 Introductory Microeconomics (CBK) 1 3
MS 1023 Business Statistics with Computer Applications I (CBK) 3
Language, Philosophy & Culture (core) 3
Life & Physical Sciences (core) 3

**DECLARE MAJOR**

**Spring**
- ACC 2033 Principles of Accounting II (CBK) 3
- MGT 3003 Business Communication and Professional Development (CBK) 3
- MS 3043 Business Statistics with Computer Applications II (CBK) 3

Government-Political Science (core) 3
Life & Physical Sciences (core) 3

**Third Year**

**Fall**
- ECO 3033 Economics of Managerial Decisions (major) 3
- ECO 3053 Aggregate Economic Analysis (major) 3
- IS 3003 Principles of Information Systems for Management (CBK) 3
- MS 3053 Management Science and Operations Technology (CBK) 3

Government-Political Science (core) 3

**Spring**
- ECO 3113 Introduction to Mathematical Economics (major) 3
- ECO 3123 Introduction to Econometrics and Business Forecasting (major) 3
- FIN 3014 Principles of Business Finance (CBK) 4
- GBA 2013 Social and Ethical Issues in Business (CBK) 3
- MGT 3013 Introduction to Organization Theory, Behavior, and Management (CBK) 3

**Fourth Year**

**Fall**
- BLW 3013 Business Law (CBK) 3
- MKT 3013 Principles of Marketing (CBK) 3

Upper-division business elective (3xxx or 4xxx level) (major) 3
Upper-division ECO elective (3xxx or 4xxx level) (major) 3
Business or non-business elective (support work) 2

**Spring**
- MGT 4893 Management Strategy (CBK) 3

Business or non-business elective (support work) 3
Upper-division ECO elective (3xxx or 4xxx level) (major) 3
Upper-division ECO elective (3xxx or 4xxx level) (major) 3
Component Area Option (core) 3

Total Credit Hours: 120.0

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1 ECO 2013 and ECO 2023 may be taken in either sequence
2 College of Business students should take MAT 1033 and ECO 2013 to satisfy both Core Curriculum and CBK requirements.
Bachelor of Arts Degree in Economics

The minimum semester credit hours for the Bachelor of Arts 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 Bachelor of Arts degree in Economics 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. For a complete listing of courses that satisfy the Core Curriculum requirements, see chapter 1 of this catalog.

MAT 1033 should be used to satisfy the core requirement in Mathematics. ECO 2013 should be used to satisfy the core requirement in Social and Behavioral Sciences.

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

Degree Requirements

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

A. Required courses in the major

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>COM 1053</td>
<td>Business and Professional Speech</td>
<td>3</td>
</tr>
<tr>
<td>ECO 2013</td>
<td>Introductory Macroeconomics (satisfies Social and Behavioral Sciences Core Curriculum requirement)</td>
<td>3</td>
</tr>
<tr>
<td>ECO 2023</td>
<td>Introductory Microeconomics</td>
<td>3</td>
</tr>
<tr>
<td>ECO 3013</td>
<td>Theory of Price</td>
<td>3</td>
</tr>
<tr>
<td>ECO 3053</td>
<td>Aggregate Economic Analysis</td>
<td>3</td>
</tr>
<tr>
<td>STA 1053</td>
<td>Basic Statistics</td>
<td>3</td>
</tr>
</tbody>
</table>

Upper-division economics courses. Students are strongly encouraged to complete the specified required courses before enrolling in upper-division electives. Additional information on degree plans under the Bachelor of Arts degree in Economics is available in the College of Business Undergraduate Advising Center and the Department of Economics.

B. Social science electives

Select from American studies (AMS), anthropology (ANT), bicultural-bilingual studies (BBL), criminal justice (CRJ), geography (GRG), history (HIS), legal studies (LGS), philosophy (PHI), political science (POL), psychology (PSY), or sociology (SOC).

C. Lower-division or upper-division business or non-business electives

Select 30 additional semester credit hours of lower-division or upper-division business or non-business
electives which ensures that at least 39 semester credit hours of upper-division credit are earned.

Total Credit Hours: 81

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 an academic advisor in the College of Business Undergraduate Advising Center 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**

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIS 1203</td>
<td>Academic Inquiry and Scholarship (core)</td>
</tr>
<tr>
<td>MAT 1033</td>
<td>Algebra with Calculus for Business (core)</td>
</tr>
<tr>
<td>WRC 1013</td>
<td>Freshman Composition I (core)</td>
</tr>
<tr>
<td>American History (core)</td>
<td>3</td>
</tr>
<tr>
<td>Creative Arts (core)</td>
<td>3</td>
</tr>
</tbody>
</table>

**Spring**

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>COM 1053</td>
<td>Business and Professional Speech (major)</td>
</tr>
<tr>
<td>STA 1053</td>
<td>Basic Statistics (major)</td>
</tr>
<tr>
<td>WRC 1023</td>
<td>Freshman Composition II (core)</td>
</tr>
<tr>
<td>American History (core)</td>
<td>3</td>
</tr>
<tr>
<td>Life &amp; Physical Sciences (core)</td>
<td>3</td>
</tr>
</tbody>
</table>

**Second Year**

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>ECO 2013</td>
<td>Introductory Macroeconomics (core and major)</td>
</tr>
<tr>
<td>Government-Political Science (core)</td>
<td>3</td>
</tr>
<tr>
<td>Language, Philosophy &amp; Culture (core)</td>
<td>3</td>
</tr>
<tr>
<td>Life &amp; Physical Sciences (core)</td>
<td>3</td>
</tr>
<tr>
<td>Support coursework</td>
<td>3</td>
</tr>
<tr>
<td>DECLARE MAJOR</td>
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</table>

**Spring**

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>ECO 2023</td>
<td>Introductory Microeconomics (major)</td>
</tr>
<tr>
<td>Business or non-business elective (support work)</td>
<td>3</td>
</tr>
<tr>
<td>Support coursework</td>
<td>3</td>
</tr>
<tr>
<td>Component Area Option (core)</td>
<td>3</td>
</tr>
<tr>
<td>Government-Political Science (core)</td>
<td>3</td>
</tr>
</tbody>
</table>
Third Year

Fall
ECO 3013  Theory of Price (major)  3
ECO 3053  Aggregate Economic Analysis (major)  3
Business or non-business elective (support work)  3
Upper-division ECO elective (3xxx or 4xxx level) (major)  3
Support coursework  3

Spring
Business or non-business elective (support work)  3
Upper-division business or non-business elective (3xxx or 4xxx level) (support work)  3
Upper-division ECO elective (3xxx or 4xxx level) (major)  3
Support coursework  3

Fourth Year

Fall
Business or non-business elective (support work)  3
Upper-division business or non-business elective (3xxx or 4xxx level) (support work)  3
Upper-division business or non-business elective (3xxx or 4xxx level) (support work)  3
Upper-division ECO elective (3xxx or 4xxx level) (major)  3
Upper-division ECO elective (3xxx or 4xxx level) (major)  3

Spring
Business or non-business elective (support work)  3
Business or non-business elective (support work)  3
Upper-division business or non-business elective (3xxx or 4xxx level) (support work)  3
Upper-division ECO elective (3xxx or 4xxx level) (major)  3
Upper-division ECO elective (3xxx or 4xxx level) (major)  3

Total Credit Hours: 120.0

1 ECO 2013 and ECO 2023 may be taken in either sequence.
2 College of Business students should take MAT 1033 and ECO 2013 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
ECO 2013  Introductory Macroeconomics  3
ECO 2023  Introductory Microeconomics  3
B. Upper-division economics courses
Select 12 additional semester credit hours of upper-division economics courses 12
Total Credit Hours: 18

To declare a Minor in Economics, obtain advice, and seek approval of substitutions for course requirements, students must consult the College of Business Undergraduate Advising Center.

Economics (ECO) Courses
Department of Economics, College of Business

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.”).

ECO 2013. Introductory Macroeconomics. (3-0) 3 Credit Hours. (TCCN = ECON 2301)
Prerequisite: Placement into a college-level mathematics course. 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. May be applied toward the core curriculum requirement in Social and Behavioral Sciences.

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.

ECO 3013. Theory of Price. (3-0) 3 Credit Hours.
Prerequisites: Completion of ECO 2013, ECO 2023, and MAT 1033, or their equivalents, with a grade of “C-“ or better. Operations of individual markets, market structure, theory of the firm, theory of production, demand theory, general equilibrium, and welfare economics.

ECO 3033. Economics of Managerial Decisions. (3-0) 3 Credit Hours.
Prerequisites: Completion of ECO 2013, ECO 2023, and MAT 1033, 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.
ECO 3053. Aggregate Economic Analysis. (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; the monetary system in relation to income and employment; short-term income fluctuations; and long-term growth.

ECO 3113. Introduction to Mathematical Economics. (3-0) 3 Credit Hours.
Prerequisites: Completion of ECO 2013, ECO 2023, and MAT 1033, or their equivalents, with a grade of “C-” or better, or consent of instructor, Department Chair, and Dean of the College. 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.

ECO 3123. Introduction to Econometrics and Business Forecasting. (3-0) 3 Credit Hours.
Prerequisites: Completion of MAT 1033, and STA 1053 or MS 1023, or their equivalents, with a grade of “C–” or better, or consent of instructor, Department Chair, and Dean of the College. 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.

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, or consent of instructor, Department Chair, and Dean of the College. 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.

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, or consent of instructor, Department Chair, and Dean of the College. 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.

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, or consent of instructor, Department Chair, and Dean of the College. 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.”).

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.

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.

**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.

**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.

**ECO 3283. Labor 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, or consent of instructor, Department Chair, and Dean of the College. Theories of wages and employment determination; U.S. labor history, comparative labor movements, and contemporary labor problems.

**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.

**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, or consent of instructor, Department Chair, and Dean of the College. 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.”).

**ECO 4543. Economics of School System Reform. (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, or consent of instructor, Department Chair, and Dean of the College. Nontechnical applications of basic economic principles to issues facing school systems at the primary and secondary levels worldwide; including background on the evolution of current systems, analysis of critical policy issues such as inefficiencies and inequities; examination of scholars’ and policymakers’ proposals for transformative reform; and consideration of opportunities for research on the issues.

**ECO 4911. Independent Study. (0-0) 1 Credit Hour.**
Prerequisites: A 3.0 COB 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.
ECO 4912. Independent Study. (0-0) 2 Credit Hours.
Prerequisites: A 3.0 COB 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.

ECO 4913. Independent Study. (0-0) 3 Credit Hours.
Prerequisites: A 3.0 COB 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.

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 the College of Business Undergraduate Advising Center 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.

ECO 4951. Special Studies in Economics. (1-0) 1 Credit Hour.
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.

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.

ECO 4993. Honors Thesis. (0-0) 3 Credit Hours.
Prerequisite: Enrollment limited to students applying for Honors in Economics. Supervised research and preparation of an honors thesis. May be repeated once for credit with advisor’s approval.
DEPARTMENT OF ENTREPRENEURSHIP AND TECHNOLOGY MANAGEMENT

The Department of Entrepreneurship and Technology Management offers an undergraduate degree program in Entrepreneurship and minors in Entrepreneurship and Technology Management which are open to both business and non-business majors.

Bachelor of Business Administration Degree in Entrepreneurship

The minimum number of semester credit hours for the Bachelor of Business Administration degree in Entrepreneurship 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 Bachelor of Business Administration degree in Entrepreneurship 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. For a complete listing of courses that satisfy the Core Curriculum requirements, see chapter 1 of this catalog.

MAT 1033 should be used to satisfy the core requirement in Mathematics. ECO 2013 should be used to satisfy the core requirement in Social and Behavioral Sciences.

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.

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
- ACC 2033 Principles of Accounting II
- BLW 3013 Business Law
- COM 1053 Business and Professional Speech
- ECO 2013 Introductory Macroeconomics (satisfies Social and Behavioral Sciences Core Curriculum requirement)
- ECO 2023 Introductory Microeconomics
- FIN 3014 Principles of Business Finance
- GBA 2013 Social and Ethical Issues in Business
- IS 1403 Business Information Systems Fluency
- IS 3003 Principles of Information Systems for Management
- MAT 1033 Algebra with Calculus for Business (satisfies Mathematics Core Curriculum requirement, Actuarial Science majors must take MAT 1214 in lieu of MAT 1033)
- MGT 3003 Business Communication and Professional Development
MGT 3013  Introduction to Organization Theory, Behavior, and Management
MGT 4893  Management Strategy (taken in semester of graduation)
MKT 3013  Principles of Marketing
MS 1023  Business Statistics with Computer Applications I (Actuarial Science majors must take STA 1053 in lieu of MS 1023)
MS 3043  Business Statistics with Computer Applications II (Actuarial Science majors must take STA 3003 in lieu of MS 3043)
MS 3053  Management Science and Operations Technology

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.

Degree Requirements

A. Required courses in the major
ENT 4123  Commercialization and Enterprise Planning  3
ENT 4873  Entrepreneurship  3
ENT 4883  Small Business Management  3
ENT 4903  Practicum in Small Business and Entrepreneurship  3
MGT 3023  Understanding People and Organizations  3

B. Required support work
FIN 4333  Business Finance for Entrepreneurs  3

C. Support work from upper-division entrepreneurship or management of technology courses
Select two of the following:  6
ENT 4223  Managing the Entrepreneurial Team
ENT 4523  Microlending Entrepreneurial Startups
ENT 4623  Tools and Objectives of the Social Enterprise
ENT 4723  Essentials of Global Entrepreneurship
ENT 4933  Internship in Entrepreneurship
ENT 4953  Special Studies in Entrepreneurship
MOT 4023  Essentials of Technology Management
MOT 4143  Introduction to Project Management
MOT 4203  Strategic Management of Technology and Innovation
MOT 4313  Disruptive Innovations
MOT 4953  Special Studies in Management of Technology

D. Directed electives
Select one of the following:  3
COM 2113  Public Speaking
COM 3633  Professional Presentation  
ENG 2413  Technical Writing

E. Lower-division or upper-division business or non-business elective
Elective  
Total Credit Hours: 29

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

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 an academic advisor in the College of Business Undergraduate Advising Center 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

<table>
<thead>
<tr>
<th>First Year</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fall</strong></td>
<td></td>
</tr>
<tr>
<td>AIS 1203</td>
<td>Academic Inquiry and Scholarship (core)</td>
</tr>
<tr>
<td>MAT 1033</td>
<td>Algebra with Calculus for Business (core and CBK)</td>
</tr>
<tr>
<td>WRC 1013</td>
<td>Freshman Composition I (core)</td>
</tr>
<tr>
<td>American History (core)</td>
<td>3</td>
</tr>
<tr>
<td>Creative Arts (core)</td>
<td>3</td>
</tr>
<tr>
<td><strong>Spring</strong></td>
<td></td>
</tr>
<tr>
<td>COM 1053</td>
<td>Business and Professional Speech (CBK)</td>
</tr>
<tr>
<td>IS 1403</td>
<td>Business Information Systems Fluency (CBK)</td>
</tr>
<tr>
<td>WRC 1023</td>
<td>Freshman Composition II (core)</td>
</tr>
<tr>
<td>ECO 2013</td>
<td>Introductory Macroeconomics (core and CBK)</td>
</tr>
<tr>
<td>American History (core)</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Second Year</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fall</strong></td>
<td></td>
</tr>
<tr>
<td>ACC 2013</td>
<td>Principles of Accounting I (CBK)</td>
</tr>
<tr>
<td>MS 1023</td>
<td>Business Statistics with Computer Applications I (CBK)</td>
</tr>
<tr>
<td>Language, Philosophy &amp; Culture (core)</td>
<td>3</td>
</tr>
<tr>
<td>Life &amp; Physical Sciences (core)</td>
<td>3</td>
</tr>
<tr>
<td>Government-Political Science (core)</td>
<td>3</td>
</tr>
<tr>
<td>DECLARE MAJOR</td>
<td></td>
</tr>
<tr>
<td><strong>Spring</strong></td>
<td></td>
</tr>
<tr>
<td>ACC 2033</td>
<td>Principles of Accounting II (CBK)</td>
</tr>
</tbody>
</table>
ECO 2023  Introductory Microeconomics (CBK)  
FIN 3014  Principles of Business Finance (CBK)  
MS 3043  Business Statistics with Computer Applications II (CBK)  
Government-Political Science (core)  

### Third Year

#### Fall

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>GBA 2013</td>
<td>Social and Ethical Issues in Business (CBK)</td>
<td>3</td>
</tr>
<tr>
<td>FIN 4333</td>
<td>Business Finance for Entrepreneurs (support work)</td>
<td>3</td>
</tr>
<tr>
<td>MGT 3003</td>
<td>Business Communication and Professional Development (CBK)</td>
<td>3</td>
</tr>
<tr>
<td>MGT 3013</td>
<td>Introduction to Organization Theory, Behavior, and Management (CBK)</td>
<td>3</td>
</tr>
<tr>
<td>MS 3053</td>
<td>Management Science and Operations Technology (CBK)</td>
<td>3</td>
</tr>
</tbody>
</table>

#### Spring

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>BLW 3013</td>
<td>Business Law (CBK)</td>
<td>3</td>
</tr>
<tr>
<td>ENT 4123</td>
<td>Commercialization and Enterprise Planning (major)</td>
<td>3</td>
</tr>
<tr>
<td>IS 3003</td>
<td>Principles of Information Systems for Management (CBK)</td>
<td>3</td>
</tr>
<tr>
<td>MGT 3023</td>
<td>Understanding People and Organizations (major)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Life &amp; Physical Sciences (core)</td>
<td>3</td>
</tr>
</tbody>
</table>

### Fourth Year

#### Fall

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENT 4873</td>
<td>Entrepreneurship (major)</td>
<td>3</td>
</tr>
<tr>
<td>ENT 4883</td>
<td>Small Business Management (major)</td>
<td>3</td>
</tr>
<tr>
<td>MKT 3013</td>
<td>Principles of Marketing (CBK)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Directed elective (support work)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Upper-division ENT or MOT course option in major (support work)</td>
<td>3</td>
</tr>
</tbody>
</table>

#### Spring

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENT 4903</td>
<td>Practicum in Small Business and Entrepreneurship (major)</td>
<td>3</td>
</tr>
<tr>
<td>MGT 4893</td>
<td>Management Strategy (CBK)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Business or non-business elective (support work)</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Upper-division ENT or MOT course option in major (support work)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Component Area Option (core)</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Credit Hours: 120.0

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1. ECO 2013 and ECO 2023 may be taken in either sequence.
2. College of Business students should take MAT 1033 and ECO 2013 to satisfy both Core Curriculum and CBK requirements.
Minor in Entrepreneurship for Business Majors

The Minor in Entrepreneurship for Business Majors is only open to declared B.B.A majors in the College of Business. The number of required semester credit hours for this minor is 22.

A. Required Courses

ACC 2013  Principles of Accounting I  3
FIN 3014  Principles of Business Finance  4
ENT 4123  Commercialization and Enterprise Planning  3
ENT 4873  Entrepreneurship  3
MOT 4143  Introduction to Project Management  3
MOT 4203  Strategic Management of Technology and Innovation  3

B. Elective

Select one of the following:  3

ENT 4523  Microlending Entrepreneurial Startups
ENT 4623  Tools and Objectives of the Social Enterprise
ENT 4883  Small Business Management

Total Credit Hours: 22

In order to qualify for the Minor in Entrepreneurship for Business Majors, students must be in good academic standing and be a declared B.B.A. major in the College of Business.

To declare a Minor in Entrepreneurship for Business Majors, and obtain a minor degree plan, students must consult the College of Business Undergraduate Advising Center.

Minor in Entrepreneurship for Nonbusiness Majors

The Minor in Entrepreneurship for Nonbusiness Majors is available to any declared major at UTSA except Multidisciplinary Studies (MDST) majors or B.B.A. majors in the College of Business. Students seeking a B.B.A in the College of Business may pursue the Minor in Entrepreneurship for Business Majors. Students seeking a B.S. in Statistics and B.A. in Economics are eligible for the Minor in Entrepreneurship for Nonbusiness Majors.

The number of required semester credit hours for this minor is 21.

A. Required Courses

ACC 2003  Foundations of Accounting  3
FIN 3003  Survey of Finance  3
ENT 4123  Commercialization and Enterprise Planning (prerequisites MGT 3003 and MGT 3013 are waived for nonbusiness ENT minors)  3
ENT 4873  Entrepreneurship  3
ENT 4523  Microlending Entrepreneurial Startups  3
ENT 4623  Tools and Objectives of the Social Enterprise  3
B. Elective
Select one of the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENT 4883</td>
<td>Small Business Management</td>
<td>3</td>
</tr>
<tr>
<td>MOT 4143</td>
<td>Introduction to Project Management</td>
<td>3</td>
</tr>
<tr>
<td>MOT 4203</td>
<td>Strategic Management of Technology and Innovation</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Credit Hours: 21

In order to qualify for the Minor in Entrepreneurship for Nonbusiness Majors, students must be in good academic standing and be a declared major outside of the College of Business. Students seeking a B.A. in Economics or a B.S. in Statistics are eligible for the Minor in Entrepreneurship for Nonbusiness Majors.

To declare a Minor in Entrepreneurship for Nonbusiness Majors, and obtain a minor degree plan, students must consult the College of Business Undergraduate Advising Center.

**Minor in Technology Management for Business Majors**

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

A. Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MOT 4023</td>
<td>Essentials of Technology Management</td>
<td>3</td>
</tr>
<tr>
<td>MOT 4143</td>
<td>Introduction to Project Management</td>
<td>3</td>
</tr>
<tr>
<td>MOT 4203</td>
<td>Strategic Management of Technology and Innovation</td>
<td>3</td>
</tr>
<tr>
<td>MOT 4313</td>
<td>Disruptive Innovations</td>
<td>3</td>
</tr>
</tbody>
</table>

B. Electives
Select two of the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENT 4123</td>
<td>Commercialization and Enterprise Planning</td>
<td>3</td>
</tr>
<tr>
<td>ENT 4223</td>
<td>Managing the Entrepreneurial Team</td>
<td></td>
</tr>
<tr>
<td>ENT 4873</td>
<td>Entrepreneurship</td>
<td></td>
</tr>
<tr>
<td>MS 3403</td>
<td>Logistics Management</td>
<td></td>
</tr>
<tr>
<td>MS 4313</td>
<td>Six Sigma and Lean Operations</td>
<td></td>
</tr>
<tr>
<td>MS 4343</td>
<td>Production/Operations Management</td>
<td></td>
</tr>
</tbody>
</table>

Total Credit Hours: 18

**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

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 2003</td>
<td>Foundations of Accounting</td>
<td>3</td>
</tr>
</tbody>
</table>
FIN 3003  Survey of Finance  3
MKT 3013  Principles of Marketing  3
MOT 4023  Essentials of Technology Management  3
MOT 4143  Introduction to Project Management  3

B. Elective
Select one of the following:
MGT 3013  Introduction to Organization Theory, Behavior, and Management  3
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 for either nonbusiness or business majors, obtain advice, and seek approval of course substitutions for course requirements, students must consult the College of Business Undergraduate Advising Center.

Entrepreneurship (ENT) Courses
Department of Entrepreneurship and Technology Management, College of Business

ENT 4123. Commercialization and Enterprise Planning. (3-0) 3 Credit Hours.
Prerequisites: MGT 3003, MGT 3013, and a declared major in the College of Business or approval of Department Chair and Dean of the College. 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.

ENT 4223. Managing the Entrepreneurial Team. (3-0) 3 Credit Hours.
Prerequisites: MGT 3003, ENT 4123, and a declared major in the College of Business or approval of Department Chair and Dean of the College. This course examines how to recruit, manage and lead an entrepreneurial team. Particular emphasis will be placed on improving students communications and collaboration skills in a cross-functional team context. Students will also explore evolving, collaborative approaches employed by companies to accelerate innovations by using customers, suppliers, partners and other organizations outside the four walls of a company.

ENT 4523. Microlending Entrepreneurial Startups. (3-0) 3 Credit Hours.
Prerequisite: Declared major in the College of Business or approval of Department Chair and Dean of the College. This course focuses on access to capital in the United States as it relates to the financing of startups and the role microlending has played in this financing. Discusses the history of microlending in the entrepreneurship environment, the microlending industry, and factors leading to success or failure of microlenders.
ENT 4623. Tools and Objectives of the Social Enterprise. (3-0) 3 Credit Hours.
Prerequisite: Declared major in the College of Business or approval of Department Chair and Dean of the College. 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.

ENT 4723. Essentials of Global Entrepreneurship. (3-0) 3 Credit Hours.
Prerequisite: Declared major in the College of Business or approval of Department Chair and Dean of the College. 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.

ENT 4873. Entrepreneurship. (3-0) 3 Credit Hours.
Prerequisites: MGT 3003, ENT 4123, and a declared major in the College of Business or approval of Department Chair and Dean of the College. 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 MGT 4873. Credit cannot be earned for both ENT 4873 and MGT 4873.).

ENT 4883. Small Business Management. (3-0) 3 Credit Hours.
Prerequisites: MKT 3013, ENT 4123, and a declared major in the College of Business or approval of Department Chair and Dean of the College. Focuses on the start up 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.).

ENT 4903. Practicum in Small Business and Entrepreneurship. (3-0) 3 Credit Hours.
Prerequisites: ENT 4123, FIN 4333, ENT 4873, ENT 4883, a declared major in the College of Business and permission from the instructor. This practicum will allow students to gain valuable experience. Drawing on the resources of the Colleges of Business and Engineering, local businesses, and entrepreneurs, the practicum provides students with the opportunity to examine real-world business problems, and thus gain insight into the challenges of starting a small business. Students will select from specific business problems or projects and participate in the Center for Innovation and Technology Entrepreneurship business plan competition. (Formerly MGT 4903. Credit cannot be earned for both ENT 4903 and MGT 4903.).

ENT 4911. Independent Study. (0-0) 1 Credit Hour.
Prerequisites: ENT 4873, a 3.0 COB grade point average and permission in writing from the instructor, the Department Chair, and the Dean of the College of Business. See the College of Business Undergraduate Advising Center 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.

ENT 4912. Independent Study. (0-0) 2 Credit Hours.
Prerequisites: ENT 4873, a 3.0 COB grade point average and permission in writing from the instructor, the Department Chair, and the Dean of the College of Business. See the College of Business Undergraduate
Advising Center 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.

**ENT 4913. Independent Study. (0-0) 3 Credit Hours.**
Prerequisites: ENT 4873, a 3.0 COB grade point average and permission in writing from the instructor, the Department Chair, and the Dean of the College of Business. See the College of Business Undergraduate Advising Center 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.

**ENT 4933. Internship in Entrepreneurship. (0-0) 3 Credit Hours.**
Prerequisites: ENT 4873 and 9 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 the College of Business Undergraduate Advising Center 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.

**ENT 4951. Special Studies in Entrepreneurship. (1-0) 1 Credit Hour.**
Prerequisites: ENT 4873 and 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.

**ENT 4952. Special Studies in Entrepreneurship. (2-0) 2 Credit Hours.**
Prerequisites: ENT 4873 and 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.

**ENT 4953. Special Studies in Entrepreneurship. (3-0) 3 Credit Hours.**
Prerequisites: ENT 4873 and 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.
Management of Technology (MOT) Courses
Department of Entrepreneurship and Technology Management, College of Business

MOT 4023. Essentials of Technology Management. (3-0) 3 Credit Hours.
Prerequisite: MGT 3003 or approval of the Department Chair and the Dean of the College. MGT 3003 is waived for nonbusiness students declaring Technology Management as a minor. 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.”).

MOT 4143. Introduction to Project Management. (3-0) 3 Credit Hours.
Prerequisite: MGT 3003 or approval of the Department Chair and the Dean of the College. MGT 3003 is waived for nonbusiness students declaring Technology Management as a minor. 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.

MOT 4203. Strategic Management of Technology and Innovation. (3-0) 3 Credit Hours.
Prerequisite: MOT 4023 or approval of the Department Chair and the Dean of the College. 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.

MOT 4313. Disruptive Innovations. (3-0) 3 Credit Hours.
Prerequisite: MOT 4023 or approval of the Department Chair and the Dean of the College. 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.

MOT 4911. Independent Study. (0-0) 1 Credit Hour.
Prerequisites: A 3.0 COB grade point average, MOT 4023 and permission in writing from the instructor, the Department Chair, and the Dean of the College of Business. See the College of Business Undergraduate Advising Center 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.

MOT 4912. Independent Study. (0-0) 2 Credit Hours.
Prerequisites: A 3.0 COB grade point average, MOT 4023 and permission in writing from the instructor, the Department Chair, and the Dean of the College of Business. See the College of Business Undergraduate Advising Center 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.

**MOT 4913. Independent Study. (0-0) 3 Credit Hours.**
Prerequisites: A 3.0 COB grade point average, MOT 4023 and permission in writing from the instructor, the Department Chair, and the Dean of the College of Business. See the College of Business Undergraduate Advising Center 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.

**MOT 4951. Special Studies in Management of Technology. (1-0) 1 Credit Hour.**
Prerequisites: MOT 4023 and approval of the Department Chair and the Dean of the College. 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.

**MOT 4952. Special Studies in Management of Technology. (2-0) 2 Credit Hours.**
Prerequisites: MOT 4023 and approval of the Department Chair and the Dean of the College. 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.

**MOT 4953. Special Studies in Management of Technology. (3-0) 3 Credit Hours.**
Prerequisites: MOT 4023 and approval of the Department Chair and the Dean of the College. 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.
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 degree in Finance and a Bachelor of Business Administration 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 and a Minor in Real Estate that are available only to students pursuing a Bachelor of Business Administration (B.B.A.) degree. Minors in Construction Management and in Facility and Property Management are only available to students pursuing a Real Estate Finance and Development degree.

Department Honors

The Department of Finance offers the opportunity for certain of its outstanding students to achieve the designation of Honors in Major 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 Department Undergraduate Program Committee (UPC) in consultation with the faculty of the student’s major discipline. To be eligible for the designation, 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. To enroll in honors thesis courses and to graduate with the honors designation, these minimum grade point averages must be maintained. Students applying for Honors in Major 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 from the student’s discipline and the UPC. Students interested in this program should contact the Department of Finance office for additional information. Department honors can be attained independent of, or in addition to, University Honors. In order to have departmental honors noted on the transcript, students must submit a letter of request for departmental honors to the Department Chair by Census Date of their last semester.

Bachelor of Business Administration Degree in Finance

The minimum number of semester credit hours for the Bachelor of Business Administration 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 Bachelor of Business Administration degree in Finance 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. For a complete listing of courses that satisfy the Core Curriculum requirements, see chapter 1 of this catalog.

MAT 1033 should be used to satisfy the core requirement in Mathematics. ECO 2013 should be used to satisfy the core requirement in Social and Behavioral Sciences.

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.

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
ACC 2033 Principles of Accounting II
BLW 3013 Business Law
COM 1053 Business and Professional Speech
ECO 2013 Introductory Macroeconomics (satisfies Social and Behavioral Sciences Core Curriculum requirement)
ECO 2023 Introductory Microeconomics
FIN 3014 Principles of Business Finance
GBA 2013 Social and Ethical Issues in Business
IS 1403 Business Information Systems Fluency
IS 3003 Principles of Information Systems for Management
MAT 1033 Algebra with Calculus for Business (satisfies Mathematics Core Curriculum requirement, Actuarial Science majors must take MAT 1214 in lieu of MAT 1033)
MGT 3003 Business Communication and Professional Development
MGT 3013 Introduction to Organization Theory, Behavior, and Management
MGT 4893 Management Strategy (taken in semester of graduation)
MKT 3013 Principles of Marketing
MS 1023 Business Statistics with Computer Applications I (Actuarial Science majors must take STA 1053 in lieu of MS 1023)
MS 3043 Business Statistics with Computer Applications II (Actuarial Science majors must take STA 3003 in lieu of MS 3043)
MS 3053 Management Science and Operations Technology

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. Upper-division credit hours in the major and supporting area
   ACC 3023 Intermediate Accounting I 3
   ACC 3033 Intermediate Accounting II 3
   FIN 3023 Intermediate Corporate Finance 3
   FIN 3033 Principles of Investment 3
   FIN 3313 Money and Banking 3
   FIN 4893 Cases and Problems in Finance 3
   Finance electives (FIN 3003 Survey of Finance may not be applied to meeting this requirement.) 9
   FIN 4873 Computer Modeling of Financial Applications (Recommended as one of these finance electives.)

Finance majors may take ACC 3053 in lieu of ACC 3023 and ACC 3033. Students choosing to take ACC 3053 must take 3 additional semester credit hours of finance electives for a total of 12 hours of finance electives. FIN 3003 Survey of Finance may not be applied to meeting this requirement.

B. Lower-division or upper-division business or non-business electives
   Select 2 semester credit hours of lower-division or upper-division business or non-business electives 2
   Total Credit Hours: 29

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 an academic advisor in the College of Business Undergraduate Advising Center 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

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIS 1203 Academic Inquiry and Scholarship (core)</td>
<td>3</td>
</tr>
<tr>
<td>MAT 1033 Algebra with Calculus for Business (core and CBK) ²</td>
<td>3</td>
</tr>
<tr>
<td>WRC 1013 Freshman Composition I (core)</td>
<td>3</td>
</tr>
<tr>
<td>American History (core)</td>
<td>3</td>
</tr>
<tr>
<td>Creative Arts (core)</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Spring</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>COM 1053 Business and Professional Speech (CBK)</td>
<td>3</td>
</tr>
<tr>
<td>ECO 2013 Introductory Macroeconomics (core and CBK) ¹,²</td>
<td>3</td>
</tr>
</tbody>
</table>
### Second Year

#### Fall
- **ACC 2013**  
  Principles of Accounting I (CBK)  
  3
- **MS 1023**  
  Business Statistics with Computer Applications I (CBK)  
  3
- Government-Political Science (core)  
  3
- Language, Philosophy & Culture (core)  
  3
- Life & Physical Sciences (core)  
  3

#### Spring
- **ACC 2033**  
  Principles of Accounting II (CBK)  
  3
- **ECO 2023**  
  Introductory Microeconomics (CBK)  
  3
- **FIN 3014**  
  Principles of Business Finance (CBK)  
  4
- **MS 3043**  
  Business Statistics with Computer Applications II (CBK)  
  3
- Government-Political Science (core)  
  3

### Third Year

#### Fall
- **ACC 3023 or 3053**  
  Intermediate Accounting I (major)  
  3
- **FIN 3023**  
  Intermediate Corporate Finance (major)  
  3
- **MGT 3003**  
  Business Communication and Professional Development (CBK)  
  3
- **MS 3053**  
  Management Science and Operations Technology (CBK)  
  3
- Life & Physical Sciences (core)  
  3

#### Spring
- **ACC 3033 or upper-division FIN elective**  
  Intermediate Accounting II (major)  
  3
- **FIN 3033**  
  Principles of Investment (major)  
  3
- **FIN 3313**  
  Money and Banking (major)  
  3
- **GBA 2013**  
  Social and Ethical Issues in Business (CBK)  
  3
- **IS 3003**  
  Principles of Information Systems for Management (CBK)  
  3

### Fourth Year

#### Fall
- **BLW 3013**  
  Business Law (CBK)  
  3
- **MGT 3013**  
  Introduction to Organization Theory, Behavior, and Management (CBK)  
  3
- **MKT 3013**  
  Principles of Marketing (CBK)  
  3
- Upper-division FIN elective (3xxx or 4xxx level) (support work)  
  3
- Upper-division FIN elective (3xxx or 4xxx level) (support work)  
  3
### Spring

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIN 4893</td>
<td>Cases and Problems in Finance (major)</td>
<td>3</td>
</tr>
<tr>
<td>MGT 4893</td>
<td>Management Strategy (CBK)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Business or non-business elective (support work)</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Component Area Option (core)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Upper-division FIN elective (3xxx or 4xxx level)</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total Credit Hours: 120.0**

1. ECO 2013 and ECO 2023 may be taken in either sequence.
2. College of Business students should take MAT 1033 and ECO 2013 to satisfy both Core Curriculum and CBK requirements.

### Bachelor of Business Administration Degree in Real Estate Finance and Development

The Bachelor of Business Administration degree in Real Estate Finance and Development offers students the opportunity to minor in Construction Management, Facility and Property Management, or Finance. The Construction Management minor is offered by the College of Business with support from the Architecture program. Architecture and Construction Science and Management courses are described under the College of Architecture.

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. The minimum number of hours with the minor in Construction Management is 124, the minimum number of hours with the minor in Facility and Property Management is 121, and the minimum number of hours with the minor in Finance is 120.

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 Bachelor of Business Administration degree in Real Estate Finance and Development 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. For a complete listing of courses that satisfy the Core Curriculum requirements, see chapter 1 of this catalog.

MAT 1033 should be used to satisfy the core requirement in Mathematics. ECO 2013 should be used to satisfy the core requirement in Social and Behavioral Sciences.

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.

### 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
ACC 2033  Principles of Accounting II
BLW 3013  Business Law
COM 1053  Business and Professional Speech
ECO 2013  Introductory Macroeconomics (satisfies Social and Behavioral Sciences Core Curriculum requirement)
ECO 2023  Introductory Microeconomics
FIN 3014  Principles of Business Finance
GBA 2013  Social and Ethical Issues in Business
IS 1403  Business Information Systems Fluency
IS 3003  Principles of Information Systems for Management
MAT 1033  Algebra with Calculus for Business (satisfies Mathematics Core Curriculum requirement, Actuarial Science majors must take MAT 1214 in lieu of MAT 1033)
MGT 3003  Business Communication and Professional Development
MGT 3013  Introduction to Organization Theory, Behavior, and Management
MGT 4893  Management Strategy (taken in semester of graduation)
MKT 3013  Principles of Marketing
MS 1023  Business Statistics with Computer Applications I (Actuarial Science majors must take STA 1053 in lieu of MS 1023)
MS 3043  Business Statistics with Computer Applications II (Actuarial Science majors must take STA 3003 in lieu of MS 3043)
MS 3053  Management Science and Operations Technology

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. Required courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIN 3433</td>
<td>Principles of Real Estate</td>
<td>3</td>
</tr>
<tr>
<td>FIN 4713</td>
<td>Mortgage Banking and Real Estate Finance</td>
<td>3</td>
</tr>
<tr>
<td>FIN 4723</td>
<td>Principles of Real Estate Investment</td>
<td>3</td>
</tr>
<tr>
<td>RFD 3523</td>
<td>Real Estate Law (Students completing the Construction Management minor may substitute CSM 4633 Construction Law.)</td>
<td>3</td>
</tr>
<tr>
<td>RFD 3533</td>
<td>Principles of Construction for Real Estate Professionals (Students completing the Construction Management minor must take ARC 1133 in lieu of RFD 3533.)</td>
<td>3</td>
</tr>
<tr>
<td>RFD 4733</td>
<td>Principles of Sustainable Real Estate Development</td>
<td>3</td>
</tr>
</tbody>
</table>

B. Completion of Option 1 or Option 2

Select one of the following: 11-18

Option 1: 6 semester credit hours of additional real estate (RFD) or facility and property management (FM)
courses, and 5 semester credit hours of lower-division or upper-division business or non-business electives

Options 2: Completion of a Minor in Construction Management, a Minor in Facility and Property Management, or a Minor in Finance.

Total Credit Hours: 29-36

**Course Sequence Guide for B.B.A. Degree in Real Estate Finance and Development – Option 1**

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 an academic advisor in the College of Business Undergraduate Advising Center 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**

<table>
<thead>
<tr>
<th>Term</th>
<th>Course</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Fall</td>
<td>AIS 1203 Academic Inquiry and Scholarship (core)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>MAT 1033 Algebra with Calculus for Business (core and CBK)</td>
<td>3</td>
</tr>
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<td>3</td>
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<tr>
<td></td>
<td>American History (core)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Creative Arts (core)</td>
<td>3</td>
</tr>
<tr>
<td>Spring</td>
<td>COM 1053 Business and Professional Speech (CBK)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>ECO 2013 Introductory Macroeconomics (core and CBK)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>IS 1403 Business Information Systems Fluency (CBK)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>WRC 1023 Freshman Composition II (core)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>American History (core)</td>
<td>3</td>
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</table>

**Second Year**

<table>
<thead>
<tr>
<th>Term</th>
<th>Course</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>Fall</td>
<td>ACC 2013 Principles of Accounting I (CBK)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>MS 1023 Business Statistics with Computer Applications I (CBK)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Government-Political Science (core)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Language, Philosophy &amp; Culture (core)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Life &amp; Physical Sciences (core)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>DECLARE MAJOR</td>
<td></td>
</tr>
<tr>
<td>Spring</td>
<td>ACC 2033 Principles of Accounting II (CBK)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>ECO 2023 Introductory Microeconomics</td>
<td>3</td>
</tr>
<tr>
<td>Course Code</td>
<td>Course Title</td>
<td>Credits</td>
</tr>
<tr>
<td>------------</td>
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</tr>
<tr>
<td>FIN 3014</td>
<td>Principles of Business Finance (CBK)</td>
<td>4</td>
</tr>
<tr>
<td>GBA 2013</td>
<td>Social and Ethical Issues in Business (CBK)</td>
<td>3</td>
</tr>
<tr>
<td>MS 3043</td>
<td>Business Statistics with Computer Applications II (CBK)</td>
<td>3</td>
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**Third Year**

<table>
<thead>
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<th>Term</th>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Fall</td>
<td>BLW 3013</td>
<td>Business Law (CBK)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>FIN 3433</td>
<td>Principles of Real Estate (major)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>MGT 3003</td>
<td>Business Communication and Professional Development (CBK)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>MS 3053</td>
<td>Management Science and Operations Technology (CBK)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Government-Political Science (core)</td>
<td>3</td>
</tr>
<tr>
<td>Spring</td>
<td>FIN 4723</td>
<td>Principles of Real Estate Investment (major)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>MGT 3013</td>
<td>Introduction to Organization Theory, Behavior, and Management (CBK)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>MKT 3013</td>
<td>Principles of Marketing (CBK)</td>
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<tr>
<td></td>
<td>RFD 3523</td>
<td>Real Estate Law (major)</td>
<td>3</td>
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<td></td>
<td></td>
<td>Upper-division RFD or FM elective (3xxx or 4xxx level) (support work)</td>
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**Fourth Year**

<table>
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<th>Term</th>
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<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Fall</td>
<td>FIN 4713</td>
<td>Mortgage Banking and Real Estate Finance (major)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>IS 3003</td>
<td>Principles of Information Systems for Management (CBK)</td>
<td>3</td>
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<tr>
<td></td>
<td>RFD 3533</td>
<td>Principles of Construction for Real Estate Professionals (major)</td>
<td>3</td>
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<td>Business or non-business elective (support work)</td>
<td>3</td>
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<td>Life &amp; Physical Sciences (core)</td>
<td>3</td>
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<td>Spring</td>
<td>MGT 4893</td>
<td>Management Strategy (CBK)</td>
<td>3</td>
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<td>RFD 4733</td>
<td>Principles of Sustainable Real Estate Development (major)</td>
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<td>Business or non-business elective (support work)</td>
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<td>Upper-division RFD or FM elective (3xxx or 4xxx level) (support work)</td>
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<td></td>
<td>Component Area Option (core)</td>
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<td></td>
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<td><strong>Total Credit Hours:</strong> 120.0</td>
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</table>

1 ECO 2013 and ECO 2023 may be taken in either sequence.

2 College of Business students should take MAT 1033 and ECO 2013 to satisfy both Core Curriculum and CBK requirements.
Minor in Construction Management

The minor in Construction Management is available only to students pursuing a B.B.A. in Real Estate Finance and Development. All students pursuing the minor in Construction Management must complete the following 18 semester credit hours as well as the Core, the CBK, and B.B.A. in Real Estate Finance and Development major requirements listed in part A of the degree requirements:

A. Required courses
   - BLW 3013 Business Law 3
   - CSM 2323 Construction Documents 3
   - CSM 4013 Construction Estimating I 3
   - CSM 4513 Project Management 3
   - RFD 4903 Internship in Construction Management 3

B. Additional course
   Select one of the following: 3
   - CSM 4023 Construction Estimating II 1
   - CSM 4523 Project Planning and Scheduling 1
   - CSM 4613 Sustainable Building Practice

Total Credit Hours: 18

1 Space may be limited in these classes. Students must obtain permission from the coordinator of the Construction Science and Management program to enroll.

To declare a Minor in Construction Management and to obtain advice, students must consult the College of Business Undergraduate Advising Center.

Minor in Facility and Property Management

The minor in Facility and Property Management is available only to students pursuing a B.B.A. in Real Estate Finance and Development degree. All students pursuing the minor in Facility and Property Management must complete the following 18 semester credit hours as well as the Core, the CBK, and B.B.A. in Real Estate Finance and Development major requirements listed in part A of the degree requirements:

A. Required courses
   - BLW 3013 Business Law 3
   - FM 4303 Facility and Property Management Policies and Procedures 3
   - FM 4313 Facility and Property Management Practices 3

B. Additional courses
   Select two of the following: 6
   - FM 4233 Sport and Event Facility Management
   - MGT 3613 Managing Human Resources
   - MOT 4143 Introduction to Project Management
or MS 4333  Project Management

C. Support work
ES 2013  Introduction to Environmental Systems I (this course also satisfies Life & Physical Sciences core curriculum requirement)

Total Credit Hours: 18

To declare a Minor in Facility and Property Management and to obtain advice, students must consult the College of Business Undergraduate Advising Center.

**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 19 semester credit hours of coursework.

A. Required courses
FIN 3014  Principles of Business Finance  4
FIN 3033  Principles of Investment  3
FIN 3313  Money and Banking  3

B. Upper-division finance electives
Select 9 additional semester credit hours of upper-division finance electives. FIN 3003 Survey of Finance may not be applied to meeting this requirement.

Total Credit Hours: 19

To declare a Minor in Finance and obtain advice, students must consult the College of Business Undergraduate Advising Center.

**Minor in Real Estate**

The Minor in Real Estate is available to students pursuing a B.B.A. degree. All students pursuing the Minor in Real Estate must complete 19 semester credit hours of coursework.

A. Required courses
FIN 3014  Principles of Business Finance  4
FIN 3433  Principles of Real Estate  3

B. Real Estate Electives
Select 12 additional semester credit hours of real estate courses

Total Credit Hours: 19

To declare a Minor in Real Estate and obtain advice, students must consult the College of Business Undergraduate Advising Center.
Facility and Property Management (FM) Courses
Department of Finance, College of Business

FM 4213. Power and Air Conditioning. (3-0) 3 Credit Hours.
Prerequisite: IS 4033 with a grade of “C-“ or better or consent of instructor, the Department Chair and Dean of the College. 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 uninterruptable 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. (Same as IS 4213. Credit cannot be earned for both FM 4213 and IS 4213.).

FM 4233. Sport and Event Facility Management. (3-0) 3 Credit Hours.
Prerequisites: MGT 3003 and MGT 3013. This course provides an overview of managing a facility used for sports, conventions, and entertainment events. Some of the topics are conducting feasibility studies, market research, facility design and layout, event bidding, quality assurance, risk management, and event staffing. Real Estate Finance and Development majors cannot take SET 4233 for the degree requirements but can take FM 4233. (Same as SET 4233. Credit cannot be earned for both FM 4233 and SET 4233.).

FM 4303. Facility and Property Management Policies and Procedures. (3-0) 3 Credit Hours.
Prerequisites: MGT 3003 and 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 MGT 4303. Credit cannot be earned for both FM 4303 and MGT 4303.).

FM 4313. Facility and Property Management Practices. (3-0) 3 Credit Hours.
Prerequisites: MGT 3003 and 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 MGT 4313. Credit cannot be earned for both FM 4313 and MGT 4313.).
Finance (FIN) Courses
Department of Finance, College of Business

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.

FIN 3014. Principles of Business Finance. (4-0) 4 Credit Hours.
Prerequisites: MAT 1033, MS 1023, ACC 2013, and ECO 2013 or their equivalents. Corequisite: 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. One-hour laboratory included. (Formerly FIN 3013. Credit cannot be earned for both FIN 3014 and FIN 3013.).

FIN 3023. Intermediate Corporate Finance. (3-0) 3 Credit Hours.
FIN 3014, or the equivalent, with a grade of “C-” or better and successful completion of the Finance Assessment of Competency Test (FACT). Corequisite: ACC 3053 or ACC 3023. 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.

FIN 3033. Principles of Investment. (3-0) 3 Credit Hours.
Prerequisite: FIN 3014, 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.

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.

FIN 3413. Introduction to Financial Markets. (3-0) 3 Credit Hours.
Prerequisite: FIN 3313 or the equivalent. This course addresses the development of financial markets and market pricing of debt, equity, and foreign exchange. Special emphasis is placed on current and historical events to discuss these topics.

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.
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; federal, state, and local laws governing housing discrimination, equal credit opportunity, and community reinvestment.

FIN 3443. Technical Analysis. (3-0) 3 Credit Hours.
Prerequisite: FIN 3014 with a grade of “C-” or better. Introduction to technical analysis of financial markets. Topics include trend analysis, charting techniques, measures of market sentiment, Dow theory, and cycle theories. Security selection, trading system management, and risk management are explored.

FIN 4323. Financial Institutions Management. (3-0) 3 Credit Hours.
Prerequisite: FIN 3014 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.

FIN 4333. Business Finance for Entrepreneurs. (3-0) 3 Credit Hours.
Prerequisite: FIN 3014 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.

FIN 4413. Trading and Analysis of Financial Instruments. (3-0) 3 Credit Hours.
Prerequisites: FIN 3033 and consent of instructor and approval of the Department Chair and the Dean of the College. Theoretical concepts in investments analysis and trading applications with real-time and historical data are developed. Topics include technical and fundamental analysis of equity portfolios, fixed income valuation, and credit risk analysis. Computer applications include Bloomberg Professional® software.

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.

FIN 4523. Introduction to Risk Management. (3-0) 3 Credit Hours.
Prerequisites: MGT 3003 and FIN 3014 or consent of instructor and approval of the Department Chair and the Dean of the College. Analysis of risk management tools as an integral part of corporate financial decisions; alternatives for spreading risk such as insurance, retention funds, and external funds.

FIN 4613. Introduction to International Finance. (3-0) 3 Credit Hours.
Prerequisites: MGT 3003 and FIN 3014 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.

FIN 4713. Mortgage Banking and Real Estate Finance. (3-0) 3 Credit Hours.
Prerequisites: MGT 3003, FIN 3014, and FIN 3433, or consent of instructor, approval of the Department Chair and the Dean of the College. 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.

FIN 4723. Principles of Real Estate Investment. (3-0) 3 Credit Hours.
Prerequisites: MGT 3003, FIN 3014, and FIN 3433, or consent of instructor, approval of the Department Chair and the Dean of the College. 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.

FIN 4733. Principles of Sustainable Real Estate Development. (3-0) 3 Credit Hours.
Prerequisites: MGT 3003, FIN 3014, FIN 3433, and FIN 4713 or FIN 4723, or consent of instructor, approval of the Department Chair and Dean of the College. 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.).

FIN 4813. Property-Liability Insurance Finance. (3-0) 3 Credit Hours.
Prerequisites: MGT 3003 and FIN 3014 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.

FIN 4823. Life and Health Insurance Finance. (3-0) 3 Credit Hours.
Prerequisites: MGT 3003 and FIN 3014 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.

FIN 4853. Real Estate Appraisal. (3-0) 3 Credit Hours.
Prerequisites: MGT 3003, FIN 3014, and FIN 3433, their equivalents, or consent of instructor, approval of the Department Chair and the Dean of the College. 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.).

FIN 4873. Computer Modeling of Financial Applications. (3-0) 3 Credit Hours.
Prerequisites: MGT 3003, IS 3003, and FIN 3014 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.

FIN 4893. Cases and Problems in Finance. (3-0) 3 Credit Hours.
Prerequisites: FIN 3023, FIN 3033, FIN 3313, ACC 3013 or ACC 3023, 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 in the College of Business Undergraduate Advising Center. 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.

FIN 4911. Independent Study. (0-0) 1 Credit Hour.
Prerequisites: A 3.0 COB grade point average, MGT 3003 and permission in writing from the instructor, the Department Chair, and the Dean of the College of Business. See the College of Business Undergraduate Advising Center 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.

FIN 4912. Independent Study. (0-0) 2 Credit Hours.
Prerequisites: A 3.0 COB grade point average, MGT 3003 and permission in writing from the instructor, the Department Chair, and the Dean of the College of Business. See the College of Business Undergraduate Advising Center 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.

FIN 4913. Independent Study. (0-0) 3 Credit Hours.
Prerequisites: A 3.0 COB grade point average, MGT 3003 and permission in writing from the instructor, the Department Chair, and the Dean of the College of Business. See the College of Business Undergraduate Advising Center 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.

FIN 4933. Internship in Finance. (0-0) 3 Credit Hours.
Prerequisites: MGT 3003, 9 semester credit hours of upper-division finance 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 the College of Business Undergraduate Advising Center for required forms. The opportunity for professional work experience in research of financial operations, including real estate and insurance, and may be undertaken in either private business or a public agency. Opportunities are developed in consultation with the faculty advisor and 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, but only 3 hours may count toward the 21 hours of finance required for the major.

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.

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.
FIN 4993. Honors Thesis. (0-0) 3 Credit Hours.
Prerequisite: MGT 3003. Enrollment limited to students applying for Honors in Finance. Supervised research and preparation of an honors thesis. May be repeated once for credit with advisor’s approval.

Real Estate (RFD) Courses
Department of Finance, College of Business

RFD 3523. Real Estate Law. (3-0) 3 Credit Hours.
Prerequisite: BLW 3013 or the equivalent. 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; federal, state, and local laws governing housing discrimination; and equal opportunity and community reinvestment. (Same as BLW 3523. Credit cannot be earned for both RFD 3523 and BLW 3523.).

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.

RFD 3571. Real Estate Seminar. (1-0) 1 Credit Hour.
Prerequisites: Enrollment as real estate major or minor and consent of instructor, and approval of the Department chair and the Dean of the College. Weekly presentations of current topics in real estate. This seminar may be repeated one time for a total of two semester credit hours.

RFD 4303. Facility and Property Management Policies and Procedures. (3-0) 3 Credit Hours.
Prerequisites: MGT 3003 and 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 MGT 4303. Credit cannot be earned for both MGT 4303 and RFD 4303.).

RFD 4313. Facility and Property Management Practices. (3-0) 3 Credit Hours.
Prerequisites: MGT 3003 and 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 MGT 4313. Credit cannot be earned for both MGT 4313 and RFD 4313.).

RFD 4733. Principles of Sustainable Real Estate Development. (3-0) 3 Credit Hours.
Prerequisites: MGT 3003, FIN 3014, FIN 3433, and FIN 4713 or FIN 4723, or consent of instructor, and approval of the Department chair and the Dean of the College. 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.).

RFD 4763. Real Estate Marketing. (3-0) 3 Credit Hours.
Prerequisites: MGT 3003 and 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.).

RFD 4853. Real Estate Appraisal. (3-0) 3 Credit Hours.
Prerequisites: MGT 3003, FIN 3014, and FIN 3433, their equivalents, or consent of instructor, and approval of the Department chair and the Dean of the College. 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.).

RFD 4903. Internship in Construction Management. (0-0) 3 Credit Hours.
Prerequisites: MGT 3003; completion of 9 semester credit hours consisting of any combination; FIN 3014, and/or courses with a CSM or RFD prefix. May only be taken by students in the B.B.A. degree in Real Estate Finance and Development with a Minor in Construction Management, with permission in writing from the instructor, the Department Chair, and the Dean of the College. See the College of Business Undergraduate Advising Center for required forms. This internship, as a required course in the Construction Management minor, is limited to the business and financial aspects of construction and will allow students to gain valuable experience in the field. The internship facilitates an integrative experience through interaction with entrepreneurs and building development business owners. Students engage in research projects, examine relevant issues and problems that builders and developers confront, and have the opportunity to engage in managerial work experience. Internship may not be repeated. (Formerly FIN 4903. Credit cannot be earned for both RFD 4903 and FIN 4903.).

RFD 4911. Independent Study. (0-0) 1 Credit Hour.
Prerequisites: A 3.0 grade point average, MGT 3003 and permission in writing from the instructor, the Department Chair, and the Dean of the College. See the College of Business Undergraduate Advising Center 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.

RFD 4912. Independent Study. (0-0) 2 Credit Hours.
Prerequisites: A 3.0 grade point average, MGT 3003 and permission in writing from the instructor, the Department Chair, and the Dean of the College. See the College of Business Undergraduate Advising Center 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.
RFD 4913. Independent Study. (0-0) 3 Credit Hours.
Prerequisites: A 3.0 grade point average, MGT 3003 and permission in writing from the instructor, the Department Chair, and the Dean of the College. See the College of Business Undergraduate Advising Center 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.

RFD 4923. Internship in Real Estate. (0-0) 3 Credit Hours.
Prerequisites: MGT 3003, declared major in Real Estate Finance and Development with 9 semester credit hours of real estate or finance courses, a 2.5 UTSA grade point average, and permission in writing from the instructor, the Department Chair, and the Dean of the College. See the College of Business Undergraduate Advising Center for required forms. The internship provides students the opportunity for professional work experience in a real estate related enterprise in either a private business or a public agency. The scope of the internship is developed in consultation with the sponsoring organization, the faculty advisor and Department Chair. This internship may be repeated once (for a total of 6 semester credit hours) provided the internships are with different organizations. (Formerly FIN 4923.).

RFD 4951. Special Studies in Real Estate. (1-0) 1 Credit Hour.
Prerequisites: MGT 3003 and consent of instructor, 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.

RFD 4952. Special Studies in Real Estate. (2-0) 2 Credit Hours.
Prerequisites: MGT 3003 and consent of instructor, 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.

RFD 4953. Special Studies in Real Estate. (3-0) 3 Credit Hours.
Prerequisites: MGT 3003 and consent of instructor, 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.
DEPARTMENT OF INFORMATION SYSTEMS AND CYBER SECURITY

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 Infrastructure Assurance. The Department offers minors in Digital Forensics, Information Systems, Infrastructure Assurance and Security, and Network and Data Center Management which are open to all majors in the University.

Department Honors

The Department of Information Systems and Cyber Security offers the opportunity for certain of its outstanding students to achieve the designation of Honors in Major 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 Department Undergraduate Program Committee (UPC) in consultation with the faculty of the student’s major discipline. To be eligible for the designation, 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. To enroll in honors thesis courses and to graduate with the Honors designation, these minimum grade point averages must be maintained. Students applying for Honors in Major are expected to enroll in the appropriate honors thesis course during the final two semesters. The completed honors thesis must be approved by the supervising faculty sponsor from the student’s discipline and the UPC. Students interested in this program should contact the Department Chair for additional information. Major honors can be obtained independent of, or in addition to, University Honors. In order to have departmental honors noted on the transcript, students must submit a letter of request for departmental honors to the Department Chair by Census Date of their last semester.

Bachelor of Business Administration Degree in Information Systems

The minimum number of semester credit hours for the Bachelor of Business Administration 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 Bachelor of Business Administration degree in Information Systems 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. For a complete listing of courses that satisfy the Core Curriculum requirements, see chapter 1 of this catalog.

MAT 1033 should be used to satisfy the core requirement in Mathematics. ECO 2013 should be used to satisfy the core requirement in Social and Behavioral Sciences. 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.

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
ACC 2033 Principles of Accounting II
BLW 3013 Business Law
COM 1053 Business and Professional Speech
ECO 2013 Introductory Macroeconomics (satisfies Social and Behavioral Sciences Core Curriculum requirement)
ECO 2023 Introductory Microeconomics
FIN 3014 Principles of Business Finance
GBA 2013 Social and Ethical Issues in Business
IS 1403 Business Information Systems Fluency
IS 3003 Principles of Information Systems for Management
MAT 1033 Algebra with Calculus for Business (satisfies Mathematics Core Curriculum requirement, Actuarial Science majors must take MAT 1214 in lieu of MAT 1033)
MGT 3003 Business Communication and Professional Development
MGT 3013 Introduction to Organization Theory, Behavior, and Management
MKT 3013 Principles of Marketing
MS 1023 Business Statistics with Computer Applications I (Actuarial Science majors must take STA 1053 in lieu of MS 1023)
MS 3043 Business Statistics with Computer Applications II (Actuarial Science majors must take STA 3003 in lieu of MS 3043)
MS 3053 Management Science and Operations Technology

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.

**Degree Requirements**

A. Information systems courses in the major

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>IS 3063</td>
<td>Database Management for Information Systems</td>
<td>3</td>
</tr>
<tr>
<td>IS 3073</td>
<td>Application Development</td>
<td>3</td>
</tr>
<tr>
<td>IS 3413</td>
<td>Introduction to Telecommunications for Business</td>
<td>3</td>
</tr>
<tr>
<td>IS 4053</td>
<td>Systems Analysis and Design</td>
<td>3</td>
</tr>
<tr>
<td>IS 4063</td>
<td>Advanced Topics in Information Systems</td>
<td>3</td>
</tr>
</tbody>
</table>

Additional upper-division information systems coursework. Students may also select one of the following as 3 hours of the additional 6 hours of information systems electives:

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

B. Information systems support work

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>IS 2031</td>
<td>Introduction to Programming Concepts Laboratory Systems Laboratory</td>
<td>1</td>
</tr>
</tbody>
</table>
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 an academic advisor in the College of Business Undergraduate Advising Center 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

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIS 1203</td>
<td>3</td>
</tr>
<tr>
<td>MAT 1033</td>
<td>3</td>
</tr>
<tr>
<td>WRC 1013</td>
<td>3</td>
</tr>
<tr>
<td>American History (core)</td>
<td>3</td>
</tr>
<tr>
<td>Creative Arts (core)</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Spring</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>COM 1053</td>
<td>3</td>
</tr>
<tr>
<td>ECO 2013</td>
<td>3</td>
</tr>
<tr>
<td>MS 1023</td>
<td>3</td>
</tr>
<tr>
<td>American History (core)</td>
<td>3</td>
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</table>

### Second Year

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 2013</td>
<td>3</td>
</tr>
<tr>
<td>IS 2031</td>
<td>1</td>
</tr>
<tr>
<td>IS 2033</td>
<td>3</td>
</tr>
<tr>
<td>MS 1023</td>
<td>3</td>
</tr>
<tr>
<td>Government-Political Science (core)</td>
<td>3</td>
</tr>
<tr>
<td>Language, Philosophy &amp; Culture (core)</td>
<td>3</td>
</tr>
</tbody>
</table>

**DECLARE MAJOR**

<table>
<thead>
<tr>
<th>Spring</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 2033</td>
<td>3</td>
</tr>
<tr>
<td>Course</td>
<td>Title</td>
</tr>
<tr>
<td>----------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>ECO 2023</td>
<td>Introductory Microeconomics (CBK)</td>
</tr>
<tr>
<td>IS 2041</td>
<td>Intermediate Object-Oriented Programming Laboratory (support work)</td>
</tr>
<tr>
<td>IS 2043</td>
<td>Intermediate Object-Oriented Programming (support work)</td>
</tr>
<tr>
<td>IS 3003</td>
<td>Principles of Information Systems for Management (CBK)</td>
</tr>
<tr>
<td>MS 3043</td>
<td>Business Statistics with Computer Applications II (CBK)</td>
</tr>
</tbody>
</table>

**Third Year**

<table>
<thead>
<tr>
<th>Term</th>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall</td>
<td>IS 3063</td>
<td>Database Management for Information Systems (major)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>IS 3073</td>
<td>Application Development (major)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>MS 3053</td>
<td>Management Science and Operations Technology (CBK)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Government-Political Science (core)</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Life &amp; Physical Sciences (core)</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Spring</td>
<td>FIN 3014</td>
<td>Principles of Business Finance (CBK)</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>IS 3413</td>
<td>Introduction to Telecommunications for Business (major)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>MGT 3003</td>
<td>Business Communication and Professional Development (CBK)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>MGT 3013</td>
<td>Introduction to Organization Theory, Behavior, and Management (CBK)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Life &amp; Physical Sciences (core)</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Maximization subject to constraints.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Linear programming.</td>
<td>3</td>
</tr>
</tbody>
</table>

**Fourth Year**

<table>
<thead>
<tr>
<th>Term</th>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall</td>
<td>GBA 2013</td>
<td>Social and Ethical Issues in Business (CBK)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>IS 4053</td>
<td>Systems Analysis and Design (major)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>MKT 3013</td>
<td>Principles of Marketing (CBK)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Component Area Option (core)</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Upper-division IS elective (3xx or 4xxx level) (major))</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Spring</td>
<td>BLW 3013</td>
<td>Business Law (CBK)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>IS 4063</td>
<td>Advanced Topics in Information Systems (major)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>MGT 4893</td>
<td>Management Strategy (CBK)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Upper-division IS elective (3xx or 4xxx level) (major))</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

**Total Credit Hours: 120.0**

---

1 ECO 2013 and ECO 2023 may be taken in either sequence.
2 College of Business students should take MAT 1033 and ECO 2013 to satisfy both Core Curriculum and CBK requirements.
Bachelor of Business Administration Degree in Infrastructure Assurance

The minimum number of semester credit hours for the Bachelor of Business Administration degree in Infrastructure Assurance 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 Bachelor of Business Administration degree in Infrastructure Assurance 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. For a complete listing of courses that satisfy the Core Curriculum requirements, see chapter 1 of this catalog.

MAT 1033 should be used to satisfy the core requirement in Mathematics. ECO 2013 should be used to satisfy the core requirement in Social and Behavioral Sciences.

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
- ACC 2033 Principles of Accounting II
- BLW 3013 Business Law
- COM 1053 Business and Professional Speech
- ECO 2013 Introductory Macroeconomics (satisfies Social and Behavioral Sciences Core Curriculum requirement)
- ECO 2023 Introductory Microeconomics
- FIN 3014 Principles of Business Finance
- GBA 2013 Social and Ethical Issues in Business
- IS 1403 Business Information Systems Fluency
- IS 3003 Principles of Information Systems for Management
- MAT 1033 Algebra with Calculus for Business (satisfies Mathematics Core Curriculum requirement, Actuarial Science majors must take MAT 1214 in lieu of MAT 1033)
- MGT 3003 Business Communication and Professional Development
- MGT 3013 Introduction to Organization Theory, Behavior, and Management
- MGT 4893 Management Strategy (taken in semester of graduation)
- MKT 3013 Principles of Marketing
- MS 1023 Business Statistics with Computer Applications I (Actuarial Science majors must take STA 1053 in lieu of MS 1023)
- MS 3043 Business Statistics with Computer Applications II (Actuarial Science majors must take STA 3003 in lieu of MS 3043)
MS 3053  Management Science and Operations Technology

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.

**Degree Requirements**

A. Information systems courses in the major

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>IS 3033</td>
<td>Operating Systems</td>
<td>3</td>
</tr>
<tr>
<td>IS 3413</td>
<td>Introduction to Telecommunications for Business</td>
<td>3</td>
</tr>
<tr>
<td>IS 3423</td>
<td>Network Security</td>
<td>3</td>
</tr>
<tr>
<td>IS 3513</td>
<td>Information Assurance and Security</td>
<td>3</td>
</tr>
</tbody>
</table>

Select three from the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>IS 3453</td>
<td>Networking Fundamentals</td>
<td>3</td>
</tr>
<tr>
<td>IS 3523</td>
<td>Intrusion Detection and Incident Response</td>
<td>3</td>
</tr>
<tr>
<td>IS 3533</td>
<td>Cyber Law</td>
<td>3</td>
</tr>
<tr>
<td>IS 4033</td>
<td>Network Operations</td>
<td>3</td>
</tr>
<tr>
<td>IS 4143</td>
<td>Wide Area Networks</td>
<td>3</td>
</tr>
<tr>
<td>IS 4223</td>
<td>Emerging Network Technologies</td>
<td>3</td>
</tr>
<tr>
<td>IS 4463</td>
<td>Secure Electronic Commerce</td>
<td>3</td>
</tr>
<tr>
<td>IS 4473</td>
<td>Information Assurance Policy</td>
<td>3</td>
</tr>
<tr>
<td>IS 4483</td>
<td>Digital Forensic Analysis I</td>
<td>3</td>
</tr>
<tr>
<td>IS 4513</td>
<td>Cyber and Physical Systems</td>
<td>3</td>
</tr>
<tr>
<td>IS 4523</td>
<td>Digital Forensic Analysis II</td>
<td>3</td>
</tr>
<tr>
<td>MOT 4023</td>
<td>Essentials of Technology Management</td>
<td>3</td>
</tr>
<tr>
<td>or MOT 4143</td>
<td>Introduction to Project Management</td>
<td>3</td>
</tr>
</tbody>
</table>

B. Information systems support work

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>IS 2031</td>
<td>Introduction to Programming Concepts Laboratory Systems Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>IS 2033</td>
<td>Introduction to Programming Concepts</td>
<td>3</td>
</tr>
<tr>
<td>IS 2041</td>
<td>Intermediate Object-Oriented Programming Laboratory</td>
<td>3</td>
</tr>
<tr>
<td>IS 2043</td>
<td>Intermediate Object-Oriented Programming</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total Credit Hours: 29**

**Course Sequence Guide for B.B.A. Degree in Infrastructure Assurance**

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 an academic advisor in the College of Business Undergraduate Advising Center 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**
<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIS 1203</td>
<td>Academic Inquiry and Scholarship (core)</td>
<td>3</td>
</tr>
<tr>
<td>MAT 1033</td>
<td>Algebra with Calculus for Business (core and CBK)</td>
<td>3</td>
</tr>
<tr>
<td>WRC 1013</td>
<td>Freshman Composition I (core)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>American History (core)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Creative Arts (core)</td>
<td>3</td>
</tr>
</tbody>
</table>

**Spring**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>COM 1053</td>
<td>Business and Professional Speech (CBK)</td>
<td>3</td>
</tr>
<tr>
<td>ECO 2013</td>
<td>Introductory Macroeconomics (core and CBK)</td>
<td>3</td>
</tr>
<tr>
<td>IS 1403</td>
<td>Business Information Systems Fluency (CBK)</td>
<td>3</td>
</tr>
<tr>
<td>WRC 1023</td>
<td>Freshman Composition II (core)</td>
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<tr>
<td></td>
<td>American History (core)</td>
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</table>

**Second Year**

**Fall**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 2013</td>
<td>Principles of Accounting I (CBK)</td>
<td>3</td>
</tr>
<tr>
<td>IS 2031</td>
<td>Introduction to Programming Concepts Laboratory Systems Laboratory (support work)</td>
<td>1</td>
</tr>
<tr>
<td>IS 2033</td>
<td>Introduction to Programming Concepts (support work)</td>
<td>3</td>
</tr>
<tr>
<td>MS 1023</td>
<td>Business Statistics with Computer Applications I (CBK)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Government-Political Science (core)</td>
<td>3</td>
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<tr>
<td></td>
<td>Language, Philosophy &amp; Culture (core)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>DECLARE MAJOR</td>
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</tr>
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**Spring**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 2033</td>
<td>Principles of Accounting II (CBK)</td>
<td>3</td>
</tr>
<tr>
<td>IS 2041</td>
<td>Intermediate Object-Oriented Programming Laboratory (support work)</td>
<td>1</td>
</tr>
<tr>
<td>IS 2043</td>
<td>Intermediate Object-Oriented Programming (support work)</td>
<td>3</td>
</tr>
<tr>
<td>IS 3003</td>
<td>Principles of Information Systems for Management (CBK)</td>
<td>3</td>
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<tr>
<td>MS 3043</td>
<td>Business Statistics with Computer Applications II (CBK)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Life &amp; Physical Sciences (core)</td>
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**Third Year**

**Fall**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECO 2023</td>
<td>Introductory Microeconomics (CBK)</td>
<td>3</td>
</tr>
<tr>
<td>IS 3033</td>
<td>Operating Systems (major)</td>
<td>3</td>
</tr>
<tr>
<td>IS 3413</td>
<td>Introduction to Telecommunications for Business (major)</td>
<td>3</td>
</tr>
<tr>
<td>MS 3053</td>
<td>Management Science and Operations Technology (CBK)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Government-Political Science (core)</td>
<td>3</td>
</tr>
</tbody>
</table>
### Minor in Digital Forensics

The Minor in Digital Forensics 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.

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>IS 3433</td>
<td>Introduction to Digital Forensics</td>
<td>3</td>
</tr>
<tr>
<td>IS 3513</td>
<td>Information Assurance and Security</td>
<td>3</td>
</tr>
<tr>
<td>IS 3523</td>
<td>Intrusion Detection and Incident Response</td>
<td>3</td>
</tr>
<tr>
<td>IS 3533</td>
<td>Cyber Law</td>
<td>3</td>
</tr>
<tr>
<td>IS 4483</td>
<td>Digital Forensic Analysis I</td>
<td>3</td>
</tr>
<tr>
<td>IS 4523</td>
<td>Digital Forensic Analysis II</td>
<td>3</td>
</tr>
</tbody>
</table>

**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 the College of Business Undergraduate Advising Center.
**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 19. Other students may be required to take additional hours depending on their academic background.

A. Required courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>IS 2041</td>
<td>Intermediate Object-Oriented Programming Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>IS 2043</td>
<td>Intermediate Object-Oriented Programming</td>
<td>3</td>
</tr>
<tr>
<td>IS 3003</td>
<td>Principles of Information Systems for Management</td>
<td>3</td>
</tr>
<tr>
<td>IS 3063</td>
<td>Database Management for Information Systems</td>
<td>3</td>
</tr>
<tr>
<td>IS 3413</td>
<td>Introduction to Telecommunications for Business</td>
<td>3</td>
</tr>
<tr>
<td>IS 4053</td>
<td>Systems Analysis and Design</td>
<td>3</td>
</tr>
</tbody>
</table>

B. Elective course

Select one of the following: 3

- MOT 4023 Essentials of Technology Management
- MOT 4143 Introduction to Project Management
- Any IS junior- or senior-level course that counts for the IS major

**Total Credit Hours: 19**

To declare a Minor in Information Systems, obtain advice, or seek approval of course substitutions for course requirements, students must consult the College of Business Undergraduate Advising Center.

**Minor in Infrastructure Assurance and Security**

The Minor in Infrastructure Assurance and 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

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>IS 3413</td>
<td>Introduction to Telecommunications for Business</td>
<td>3</td>
</tr>
<tr>
<td>IS 3423</td>
<td>Network Security</td>
<td>3</td>
</tr>
<tr>
<td>IS 3513</td>
<td>Information Assurance and Security</td>
<td>3</td>
</tr>
<tr>
<td>IS 3523</td>
<td>Intrusion Detection and Incident Response</td>
<td>3</td>
</tr>
</tbody>
</table>

B. Elective courses

Select two of the following: 6

- IS 3033 Operating Systems
- IS 3453 Networking Fundamentals
- IS 3533 Cyber Law
- IS 4033 Network Operations
IS 4143  Wide Area Networks  
IS 4223  Emerging Network Technologies  
IS 4463  Secure Electronic Commerce  
IS 4473  Information Assurance Policy  
IS 4483  Digital Forensic Analysis I  
IS 4513  Cyber and Physical Systems  
IS 4523  Digital Forensic Analysis II  

Total Credit Hours: 18

To declare a Minor in Infrastructure Assurance and Security, obtain advice, or seek approval of course substitutions for course requirements, students must consult the College of Business Undergraduate Advising Center.

**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 Infrastructure Assurance 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.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>IS 3453</td>
<td>Networking Fundamentals</td>
<td>3</td>
</tr>
<tr>
<td>IS 3513</td>
<td>Information Assurance and Security</td>
<td>3</td>
</tr>
<tr>
<td>IS 3523</td>
<td>Intrusion Detection and Incident Response</td>
<td>3</td>
</tr>
<tr>
<td>IS 4033</td>
<td>Network Operations</td>
<td>3</td>
</tr>
<tr>
<td>IS 4213</td>
<td>Power and Air Conditioning</td>
<td>3</td>
</tr>
<tr>
<td>IS 4223</td>
<td>Emerging Network Technologies</td>
<td>3</td>
</tr>
<tr>
<td>MOT 4143</td>
<td>Introduction to Project Management</td>
<td>3</td>
</tr>
</tbody>
</table>

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 the College of Business Undergraduate Advising Center.
Information Systems (IS) Courses
Department of Information Systems and Cyber Security, College of Business

IS 1022. Programming and Formal Logic. (2-0) 2 Credit Hours.
An introduction to the elements of modern formal logic and program semantics. Modern formal logic uses
symbolic techniques for an analysis of validity, and related notations such as grammatical form and truth.
This course addresses logical notations (syntax) and how to assign meaning to them (semantics), which are
essential for an understanding of many aspects of contemporary philosophy, mathematics, and informal
processing. (Formerly IS 1023. Credit cannot be earned for both IS 1022 and IS 1023.)

IS 1403. Business Information Systems Fluency. (3-0) 3 Credit Hours. (TCCN = BCIS 1305)
Required course for all students majoring in Business at UTSA. This three-unit 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. This
is a Web-based course. Instructions and exams are accomplished through the use of a computer.

IS 1503. Introduction to Cyber Security. (3-0) 3 Credit Hours.
An introduction to the principles and best practices for cyber security. This course addresses the fundamental
aspects of computer and network security. Issues concerning home computer security, internet security,
privacy, viruses and worms, spam, and ethics will be included in this course. Public Component software will
be used to illustrate the principles discussed in the class.

IS 2031. Introduction to Programming Concepts Laboratory Systems Laboratory. (0-2) 1 Credit Hour.
Prerequisite: Concurrent enrollment in IS 2033, or completion of an IS 2033 equivalent with a grade of “C-
”or better. Laboratory accompanies IS 2033. Uses object-oriented programming language and software
development tools to develop basic applications that underline the concepts learned in IS 2033. (Formerly
titled “Introduction to Computer Concepts for Information Systems Laboratory.”).

IS 2033. Introduction to Programming Concepts. (3-0) 3 Credit Hours.
Prerequisites: IS 1403 with a grade of "C-" or better and concurrent enrollment in IS 2031. An introduction to
programming with an object-oriented language. Addresses basic elements of OOP (object-oriented
programming), including control structures, classes and objects, class behavior, arrays, GUIs (graphical user
interfaces), file input/output, exception handling, and object-oriented design. (Formerly titled “Introduction to
Computer Concepts for Information Systems.”).

IS 2041. Intermediate Object-Oriented Programming Laboratory. (0-2) 1 Credit Hour.
Prerequisite: Concurrent enrollment in IS 2043, or completion of an IS 2043 equivalent with a grade of “C-
or better. Laboratory accompanies IS 2043. Laboratory uses object-oriented programming language and
software development tools to develop basic applications that underline the concepts learned in IS 2043.
(Formerly titled “Data Structures and File Processing Laboratory.”).

IS 2043. Intermediate Object-Oriented Programming. (3-0) 3 Credit Hours.
Prerequisites: IS 2033 with a grade of “C-” or better and concurrent enrollment in IS 2041. An object-
oriented programming course designed to enforce introductory object-oriented principles learned in IS 2033
and focus on concepts including exception handling, data structures, searching and sorting, recursion, generic
collections, file processing, and GUIs (graphical user interfaces). An object-oriented language like Java will
be used to develop applications using these concepts. (Formerly titled “Data Structures and File Processing.”).

**IS 3003. Principles of Information Systems for Management. (3-0) 3 Credit Hours.**
Prerequisite: IS 1403 with a grade of "C-" or better. An analysis of managerial/organizational information needs. Systematic procedures for developing information systems are covered. Includes coverage of hardware and software tools, information structures, and formal problem-solving techniques. Issues related to organizational controls, security, and globalization as a result of changing technologies are discussed. Cases will be assigned to illustrate the use of specific tools and techniques for problem solving.

**IS 3033. Operating Systems. (3-0) 3 Credit Hours.**
Prerequisites: IS 2041 and IS 2043 with a grade of "C-" or better, or consent of instructor, Department Chair, and Dean of the College. This course examines the role of computer operating systems in the overall vulnerability of the network. A comparison of the more popular operating systems will be used to illustrate the concepts to the class.

**IS 3063. Database Management for Information Systems. (3-0) 3 Credit Hours.**
Prerequisites: IS 2041 and IS 2043 with a grade of "C-" or better. 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.

**IS 3073. Application Development. (3-0) 3 Credit Hours.**
Prerequisites: IS 2041 and IS 2043 with a grade of "C-" or better. A study of the use of information systems techniques to solve managerial problems. Includes cases where students are asked to design and implement information systems that address various classes of analytic problems. Principles of decision theory are addressed.

**IS 3413. Introduction to Telecommunications for Business. (3-0) 3 Credit Hours.**
Prerequisites: IS 3003 and 6 hours of IS coursework with a grade of "C-" or better, or consent of instructor, Department Chair, and Dean of the College. 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. Frame relay, X.25, and ATM packet technologies are introduced. Network security fundamentals are explored.

**IS 3423. Network Security. (3-0) 3 Credit Hours.**
Prerequisite: IS 3413 with a grade of "C-" or better or consent of instructor, Department Chair, and Dean of the College. 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.”).

**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 fundamental legal issues related to digital forensics.

**IS 3453. Networking Fundamentals. (3-0) 3 Credit Hours.**
Prerequisite: IS 3413 with a grade of "C-" or better or consent of instructor, Department Chair, and Dean of the College. 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.

**IS 3503. Attack and Defend – An Introduction to Information Assurance. (3-0) 3 Credit Hours.**
An introduction to information assurance. This survey course will present common ways that hackers attack a network and how to defend against the attacks. It will also include related subjects such as how to protect data, encryption, physical security, and hiding data. The course is a “hands-on” class and students will gain experience with readily available software packages. This course is intended for non-Infrastructure Assurance majors. Information Systems and Infrastructure Assurance majors cannot use IS 3503 toward their degree requirements.

**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, Department Chair, and Dean of the College. This course provides an in-depth presentation of information assurance topics such as fraud, eavesdropping, traffic analysis, intrusion detection and prevention, hacking, viruses, and cryptography. Risk management will also be discussed. (Formerly IS 4453. Credit cannot be earned for both IS 3513 and IS 4453.).

**IS 3523. Intrusion Detection and Incident Response. (3-0) 3 Credit Hours.**
Prerequisite: IS 3513 with a grade of "C-" or better. This course provides an in-depth look at intrusion detection methodologies and tools and the approaches to handling intrusions when they occur; examines the laws that address cybercrime 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.

**IS 3533. Cyber Law. (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.

**IS 4033. Network Operations. (3-0) 3 Credit Hours.**
Prerequisite: IS 3453 with a grade of "C-" or better or consent of instructor, Department Chair, and Dean of the College. 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.
IS 4053. Systems Analysis and Design. (3-0) 3 Credit Hours.
Prerequisites: IS 3063 with a grade of "C-" or better and MGT 3003. 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.

IS 4063. Advanced Topics in Information Systems. (3-0) 3 Credit Hours.
Prerequisites: MGT 3003 and 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.

IS 4073. The Information Resource. (3-0) 3 Credit Hours.
Prerequisites: IS 3003 with a grade of "C-" or better, MGT 3003, and MGT 3013. A study of the principles and concepts involved in the management of organizational information systems resources. Topics include project control, CIO functions, information systems planning, and strategic impact of information systems, multinational organizations, and relevant legal, professional, and ethical issues.

IS 4103. Business Process Management and Control. (3-0) 3 Credit Hours.
Business professionals are frequently responsible for designing, implementing, supporting and managing technology-based business processes in organizations. In order to accomplish those tasks, these professionals must understand the business processes that support an organization and how they are controlled. This course contributes to the student's understanding of how key business processes are managed, controlled and integrated in enterprise resource planning systems. SAP will be used to illustrate the concepts discussed in the class. (Same as ACC 4103. Credit cannot be earned for both IS 4103 and ACC 4103.)

IS 4143. Wide Area Networks. (3-0) 3 Credit Hours.
Prerequisites: IS 3413 with a grade of "C-" or better and MGT 3003 or consent of instructor, Department Chair, and Dean of the College. This course explores the telecommunication technologies used in wide area networks. Technologies such as frame relay, ATM, TCP/IP, and voice over IP will be studied. The role of the common carriers will also be discussed. Secure network traffic over TCP/IP will be included.

IS 4153. Web Site Development. (3-0) 3 Credit Hours.
Prerequisites: IS 3073 with a grade of "C-" or better and MGT 3003 or consent of instructor, Department Chair, and Dean of the College. A study of issues related to the use of electronic networks to facilitate inter- and intra-organizational business activities. The principles of Web site design from the consumer and the information systems points of view will be presented. The course will also include the development of a Web site. (Formerly titled “Electronic Commerce.”).

IS 4183. Advanced Database Concepts. (3-0) 3 Credit Hours.
Prerequisites: IS 3063 with a grade of "C-" or better and MGT 3003. In-depth consideration of concepts governing the design and management of database systems. Topics include database design, distributed databases, database administration, object-oriented data modeling, and performance evaluation.

IS 4213. Power and Air Conditioning. (3-0) 3 Credit Hours.
Prerequisite: IS 4033 with a grade of “C-” or better or consent of instructor, Department Chair, and Dean of the College. 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 uninterruptable 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. (Same as FM 4213. Credit cannot be earned for both IS 4213 and FM 4213.).

**IS 4223. Emerging Network Technologies. (3-0) 3 Credit Hours.**
Prerequisite: IS 3453 with a grade of "C-" or better or consent of instructor, Department Chair, and Dean of the College. Cloud computing has become popular in industry. This class will look at what it is and how it works. How cloud computing interfaces with current networks, computing ability and storage requirements will be discussed. Security issues will be an important part of the course. Other topics include virtual machines, storage area networks and remote systems management.

**IS 4463. Secure Electronic Commerce. (3-0) 3 Credit Hours.**
Prerequisites: IS 3513 with a grade of "C-" or better and MGT 3003 or consent of instructor, Department Chair, and Dean of the College. The security issues related to electronic commerce will be discussed in this course. The legal environment of e-commerce, public and private key encryption, digital signatures, authentication, and third party certificates are topics that will be included.

**IS 4473. Information Assurance Policy. (3-0) 3 Credit Hours.**
Prerequisites: IS 3413 with a grade of "C-" or better, MGT 3003, and one 3-semester-credit-hour security course, or consent of instructor, Department Chair, and Dean of the College. 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.

**IS 4483. Digital Forensic Analysis I. (3-0) 3 Credit Hours.**
Prerequisites: IS 3513 with a grade of "C-" or better and MGT 3003. An introductory course in collecting, examining, and preserving evidence of computer crimes. 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 e-crimes will be examined. (Formerly titled "Cyber Forensics.").

**IS 4513. Cyber and Physical Systems. (3-0) 3 Credit Hours.**
Prerequisites: IS 3513 with a grade of “C-” or better and MGT 3003 or consent of instructor, Department Chair, and Dean of the College. Many of the critical infrastructure systems contain a system control and data acquisition (SCADA) component. Frequently, the control systems are remotely accessed and therefore becomes the focal point for attack. This course examines the control system components from the standpoint of vulnerability and protection. (Formerly titled “System Control and Data Acquisition.”).

**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.

**IS 4911. Independent Study. (0-0) 1 Credit Hour.**
Prerequisites: MGT 3003, a 3.0 COB grade point average, and permission in writing from the instructor, the Department Chair, and the Dean of the College of Business. See the College of Business Undergraduate Advising Center 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.

**IS 4912. Independent Study. (0-0) 2 Credit Hours.**
Prerequisites: MGT 3003, a 3.0 COB grade point average, and permission in writing from the instructor, the Department Chair, and the Dean of the College of Business. See the College of Business Undergraduate Advising Center 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.

**IS 4913. Independent Study. (0-0) 3 Credit Hours.**
Prerequisites: MGT 3003, a 3.0 COB grade point average, and permission in writing from the instructor, the Department Chair, and the Dean of the College of Business. See the College of Business Undergraduate Advising Center 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.

**IS 4933. Internship in Information Systems. (0-0) 3 Credit Hours.**
Prerequisites: MGT 3003, 9 semester credit hours of information systems courses (excluding IS 1403 and IS 3003), a 2.5 UTSA grade point average, and permission in writing from the instructor, the Department Chair, and the Dean of the College. See the College of Business Undergraduate Advising Center for required forms. The opportunity to gain knowledge through experiential activities in professional life. Joint cooperation with business and governmental institutions in structuring and monitoring work experience aimed at supplementing the classroom learning process. May not be repeated for credit.

**IS 4943. Internship in Information Assurance. (0-0) 3 Credit Hours.**
Prerequisites: MGT 3003, 9 semester credit hours of information systems courses (excluding IS 1403 and IS 3003), a 2.5 UTSA grade point average, and permission in writing from the instructor, the Department Chair, and the Dean of the College. See the College of Business Undergraduate Advising Center for required forms. The opportunity to gain knowledge through experiential activities in professional life. Joint cooperation with business and governmental institutions in structuring and monitoring work experience aimed at supplementing the classroom learning process. May not be repeated for credit.

**IS 4951. Special Studies in Information Systems. (1-0) 1 Credit Hour.**
Prerequisites: MGT 3003 and 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.
IS 4952. Special Studies in Information Systems. (2-0) 2 Credit Hours.
Prerequisites: MGT 3003 and 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.

IS 4953. Special Studies in Information Systems. (3-0) 3 Credit Hours.
Prerequisites: MGT 3003 and 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.

IS 4993. Honors Thesis. (0-0) 3 Credit Hours.
Prerequisite: MGT 3003. Enrollment limited to students applying for Honors in Information Systems. Supervised research and preparation of an honors thesis. May be repeated once for credit with advisor’s approval. No more than 3 semester credit hours may apply toward information systems major requirements.
DEPARTMENT OF MANAGEMENT

The Department of Management offers an undergraduate degree program with a major in management. A concentration within management in international business may also be pursued. The Department also offers an undergraduate degree program with a major in human resource management. The Department offers minors in international management and management available only to students pursuing a Bachelor of Business Administration (B.B.A.) degree. The management major and the management major with a concentration in international business cannot be combined into a double major.

Department Honors

The Department of Management offers the opportunity for certain of its outstanding students to achieve the designation of Honors in Major and provides the opportunity for advanced study under close faculty supervision.

The Department Undergraduate Programs Committee (UPC) bases selection for honors designation on the student’s academic performance and recommendation. To be eligible for the designation, 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. To enroll in honors thesis courses and to graduate with the honors designation, these minimum grade point averages must be maintained. Students applying for Honors in Major are expected to enroll in the appropriate honors thesis course during their final two semesters. The supervising faculty sponsor from the student’s discipline and the UPC must approve the completed thesis. Students interested in this program should contact the Department Chair for additional information. Department honors can be attained independent of, or in addition to, University Honors. In order to have departmental honors noted on the transcript, students must submit a letter of request for departmental honors to the Department Chair by Census Date of their last semester.

Bachelor of Business Administration Degree in Management

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, 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 Bachelor of Business Administration degree in 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. For a complete listing of courses that satisfy the Core Curriculum requirements, see chapter 1 of this catalog.

MAT 1033 should be used to satisfy the core requirement in Mathematics. ECO 2013 should be used to satisfy the core requirement in Social and Behavioral Sciences.

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.

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
ACC 2033  Principles of Accounting II
BLW 3013  Business Law
COM 1053  Business and Professional Speech
ECO 2013  Introductory Macroeconomics (satisfies Social and Behavioral Sciences Core Curriculum requirement)
ECO 2023  Introductory Microeconomics
FIN 3014  Principles of Business Finance
GBA 2013  Social and Ethical Issues in Business
IS 1403  Business Information Systems Fluency
IS 3003  Principles of Information Systems for Management
MAT 1033  Algebra with Calculus for Business (satisfies Mathematics Core Curriculum requirement, Actuarial Science majors must take MAT 1214 in lieu of MAT 1033)
MGT 3003  Business Communication and Professional Development
MGT 3013  Introduction to Organization Theory, Behavior, and Management
MGT 4893  Management Strategy (taken in semester of graduation)
MKT 3013  Principles of Marketing
MS 1023  Business Statistics with Computer Applications I (Actuarial Science majors must take STA 1053 in lieu of MS 1023)
MS 3043  Business Statistics with Computer Applications II (Actuarial Science majors must take STA 3003 in lieu of MS 3043)
MS 3053  Management Science and Operations Technology

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. Upper-division semester credit hours in the major

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>MGT 3023</td>
<td>Understanding People and Organizations</td>
<td>3</td>
</tr>
<tr>
<td>MGT 3613</td>
<td>Managing Human Resources</td>
<td>3</td>
</tr>
<tr>
<td>MGT 4213</td>
<td>Designing Organizations</td>
<td>3</td>
</tr>
<tr>
<td>MGT 4923</td>
<td>Leading Organizations and Making Decisions</td>
<td>3</td>
</tr>
<tr>
<td>MGT 4943</td>
<td>Managing Effective Teams and Resolving Conflict</td>
<td>3</td>
</tr>
</tbody>
</table>

B. Support work in upper-division Management electives

Select 3 semester credit hours of support work in upper-division Management electives 3

C. Support work selected from College of Business upper-division electives, in addition to the Core Curriculum and CBK requirements

Select 6 semester credit hours. FIN 3003 may not be used as an upper-division elective. 6
D. Upper-division electives from outside the College of Business, which must have international content
Select 3 semester credit hours, which could include, but are not limited to, the following examples. Many different types of courses can satisfy the requirement.
- GRG 3123 Geography of Latin America
- GRG 3133 Geography of Europe
- HIS 3303 History of Mexico
- HIS 3353 Latin America since Independence
- HIS 3523 European Cultural History
- POL 3393 Latin American Politics
- POL 3403 European Governments
- POL 3453 The Politics of Mexico

E. Lower-division or upper-division business or non-business electives
Select 2 semester credit hours

Total Credit Hours: 29

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 an academic advisor in the College of Business Undergraduate Advising Center 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 1033 | Algebra with Calculus for Business (core and CBK) | 3
WRC 1013 | Freshman Composition I (core) | 3
American History (core) | 3
Creative Arts (core) | 3

Spring

COM 1053 | Business and Professional Speech (CBK) | 3
ECO 2013 | Introductory Macroeconomics (core and CBK) | 3
IS 1403 | Business Information Systems Fluency (CBK) | 3
WRC 1023 | Freshman Composition II (core) | 3
American History (core) | 3
## Second Year

### Fall
- ACC 2013 Principles of Accounting I (CBK) 3
- MS 1023 Business Statistics with Computer Applications I (CBK) 3
- Government-Political Science (core) 3
- Language, Philosophy & Culture (core) 3
- Life & Physical Sciences (core) 3
- **DECLARE MAJOR**

### Spring
- ACC 2033 Principles of Accounting II (CBK) 3
- ECO 2023 Introductory Microeconomics (CBK) 3
- MGT 3003 Business Communication and Professional Development (CBK) 3
- MS 3043 Business Statistics with Computer Applications II (CBK) 3
- Life & Physical Sciences (core) 3

## Third Year

### Fall
- GBA 2013 Social and Ethical Issues in Business (CBK) 3
- MGT 3013 Introduction to Organization Theory, Behavior, and Management (CBK) 3
- MKT 3013 Principles of Marketing (CBK) 3
- MS 3053 Management Science and Operations Technology (CBK) 3
- Government-Political Science (core) 3

### Spring
- BLW 3013 Business Law (CBK) 3
- FIN 3014 Principles of Business Finance (CBK) 4
- 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

## Fourth Year

### Fall
- MGT 4213 Designing Organizations (major) 3
- MGT 4923 Leading Organizations and Making Decisions (major) 3
- Component Area Option (core) 3
- Upper-division Business elective (3xxx or 4xxx level) (support work) 3
- Upper-division non-business elective (support work) 3

### Spring
- MGT 4893 Management Strategy (CBK) 3
- MGT 4943 Managing Effective Teams and Resolving Conflict (major) 3
- Business or non-business elective (support work) 2
Bachelor of Business Administration Degree in Management with an International Business 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, 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 Bachelor of Business Administration degree in Management with an International Business Concentration 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. For a complete listing of courses that satisfy the Core Curriculum requirements, see chapter 1 of this catalog.

MAT 1033 should be used to satisfy the core requirement in Mathematics. ECO 2013 should be used to satisfy the core requirement in Social and Behavioral Sciences.

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.

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
- ACC 2033 Principles of Accounting II
- BLW 3013 Business Law
- COM 1053 Business and Professional Speech
- ECO 2013 Introductory Macroeconomics (satisfies Social and Behavioral Sciences Core Curriculum requirement)
- ECO 2023 Introductory Microeconomics
- FIN 3014 Principles of Business Finance
- GBA 2013 Social and Ethical Issues in Business

Total Credit Hours: 120.0

1 ECO 2013 and ECO 2023 may be taken in either sequence.
2 College of Business students should take MAT 1033 and ECO 2013 to satisfy both Core Curriculum and CBK requirements.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<td>MAT 1033</td>
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<td>Introduction to Organization Theory, Behavior, and Management</td>
</tr>
<tr>
<td>MGT 4893</td>
<td>Management Strategy (taken in semester of graduation)</td>
</tr>
<tr>
<td>MS 1023</td>
<td>Business Statistics with Computer Applications I (Actuarial Science majors must take STA 1053 in lieu of MS 1023)</td>
</tr>
<tr>
<td>MS 3043</td>
<td>Business Statistics with Computer Applications II (Actuarial Science majors must take STA 3003 in lieu of MS 3043)</td>
</tr>
<tr>
<td>MS 3053</td>
<td>Management Science and Operations Technology</td>
</tr>
</tbody>
</table>

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. International courses in the major**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MGT 4073</td>
<td>International Management</td>
<td>3</td>
</tr>
<tr>
<td>MGT 4083</td>
<td>Comparative International Management Practices</td>
<td>3</td>
</tr>
<tr>
<td>MKT 4073</td>
<td>International Marketing</td>
<td>3</td>
</tr>
</tbody>
</table>

**B. Additional courses**

Select three of the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECO 3193</td>
<td>International Economics</td>
<td></td>
</tr>
<tr>
<td>ECO 4303</td>
<td>Economics of Developing Countries</td>
<td></td>
</tr>
<tr>
<td>ECO 4953</td>
<td>Special Studies in Economics (international topics only)</td>
<td></td>
</tr>
<tr>
<td>FIN 4613</td>
<td>Introduction to International Finance</td>
<td></td>
</tr>
<tr>
<td>MGT 3023</td>
<td>Understanding People and Organizations</td>
<td></td>
</tr>
<tr>
<td>MGT 4933</td>
<td>Internship in Management</td>
<td></td>
</tr>
<tr>
<td>MKT 4953</td>
<td>Special Studies in Marketing (international topics only)</td>
<td></td>
</tr>
</tbody>
</table>

Other international business electives as approved by Department of Management faculty through the College of Business Undergraduate Advising Center.

**C. Directed elective support work outside the College of Business**

1. Select one of the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GRG 1023</td>
<td>World Regional Geography</td>
<td>3</td>
</tr>
<tr>
<td>GRG 3123</td>
<td>Geography of Latin America</td>
<td></td>
</tr>
<tr>
<td>GRG 3133</td>
<td>Geography of Europe</td>
<td></td>
</tr>
</tbody>
</table>
GRG 3213  Cultural Geography
GRG 3613  Conservation of Resources
GRG 3633  Geography of Development

2. Select one of the following:  
   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
   HIS 3283  Twentieth-Century Europe
   HIS 3303  History of Mexico
   HIS 3353  Latin America since Independence
   HIS 3523  European Cultural History
   HIS 3823  History of American Foreign Relations

3. Select one of the following:  
   POL 2603  International Politics
   POL 2633  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  The Politics of Mexico
   POL 3493  Politics of the Middle East
   POL 3563  Current Issues in World Politics

D. Lower-division or upper-division business or non-business electives
Select 2 semester credit hours of lower-division or upper-division business or non-business electives  
Total Credit Hours: 29

1 These courses may be taken to fulfill Core Curriculum requirements; if so, non-business electives must be taken to fulfill the minimum 120 credit hours required for the degree.

Course Sequence Guide for B.B.A. Degree in Management with an International Business Concentration

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 an academic advisor in the College of Business Undergraduate Advising Center 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**

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIS 1203 Academic Inquiry and Scholarship (core)</td>
<td>3</td>
</tr>
<tr>
<td>MAT 1033 Algebra with Calculus for Business (core and major)</td>
<td>3</td>
</tr>
<tr>
<td>WRC 1013 Freshman Composition I (core)</td>
<td>3</td>
</tr>
<tr>
<td>American History (core)</td>
<td>3</td>
</tr>
<tr>
<td>Creative Arts (core)</td>
<td>3</td>
</tr>
</tbody>
</table>

**Spring**

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>COM 1053 Business and Professional Speech (CBK)</td>
<td>3</td>
</tr>
<tr>
<td>ECO 2013 Introductory Macroeconomics (core and CBK)</td>
<td>3</td>
</tr>
<tr>
<td>IS 1403 Business Information Systems Fluency (CBK)</td>
<td>3</td>
</tr>
<tr>
<td>WRC 1023 Freshman Composition II (core)</td>
<td>3</td>
</tr>
<tr>
<td>American History (core)</td>
<td>3</td>
</tr>
</tbody>
</table>

**Second Year**

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 2013 Principles of Accounting I (CBK)</td>
<td>3</td>
</tr>
<tr>
<td>MS 1023 Business Statistics with Computer Applications I (CBK)</td>
<td>3</td>
</tr>
<tr>
<td>Government-Political Science (core)</td>
<td>3</td>
</tr>
<tr>
<td>Language, Philosophy &amp; Culture (core)</td>
<td>3</td>
</tr>
<tr>
<td>Life &amp; Physical Sciences (core)</td>
<td>3</td>
</tr>
</tbody>
</table>

**Third Year**

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>GBA 2013 Social and Ethical Issues in Business (CBK)</td>
<td>3</td>
</tr>
<tr>
<td>MGT 3013 Introduction to Organization Theory, Behavior, and Management (CBK)</td>
<td>3</td>
</tr>
<tr>
<td>MKT 3013 Principles of Marketing (CBK)</td>
<td>3</td>
</tr>
<tr>
<td>MS 3053 Management Science and Operations Technology (CBK)</td>
<td>3</td>
</tr>
<tr>
<td>Government-Political Science (core)</td>
<td>3</td>
</tr>
</tbody>
</table>

**Spring**

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BLW 3013 Business Law (CBK)</td>
<td>3</td>
</tr>
<tr>
<td>FIN 3014 Principles of Business Finance (CBK)</td>
<td>4</td>
</tr>
</tbody>
</table>
IS 3003  Principles of Information Systems for Management (CBK)  3
MGT 4073  International Management (major)  3
MKT 4073  International Marketing (major)  3

**Fourth Year**

**Fall**
MGT 4083  Comparative International Management Practices (major)  3
Component Area Option (core)  3
Directed elective - GRG (support work)  3
International course major  3
International course in major  3

**Spring**
MGT 4893  Management Strategy (CBK)  3
Business or non-business elective (support work)  2
Directed elective - HIS (support work)  3
Directed elective - POL (support work)  3
International course in major  3

Total Credit Hours: 120.0

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1 ECO 2013 Introductory Macroeconomics and ECO 2023 Introductory Microeconomics may be taken in either sequence.

2 College of Business students should take MAT 1033 and ECO 2013 to satisfy both Core Curriculum and CBK requirements.

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**Bachelor of Business Administration Degree in Human Resource Management**

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, 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 Bachelor of Business Administration degree in Human Resource 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. For a complete listing of courses that satisfy the Core Curriculum requirements, see chapter 1 of this catalog.

MAT 1033 should be used to satisfy the core requirement in Mathematics. ECO 2013 should be used to satisfy the core requirement in Social and Behavioral Sciences.
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.

**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
- ACC 2033 Principles of Accounting II
- BLW 3013 Business Law
- COM 1053 Business and Professional Speech
- ECO 2013 Introductory Macroeconomics (satisfies Social and Behavioral Sciences Core Curriculum requirement)
- ECO 2023 Introductory Microeconomics
- FIN 3014 Principles of Business Finance
- GBA 2013 Social and Ethical Issues in Business
- IS 1403 Business Information Systems Fluency
- IS 3003 Principles of Information Systems for Management
- MAT 1033 Algebra with Calculus for Business (satisfies Mathematics Core Curriculum requirement, Actuarial Science majors must take MAT 1214 in lieu of MAT 1033)
- MGT 3003 Business Communication and Professional Development
- MGT 3013 Introduction to Organization Theory, Behavior, and Management
- MGT 4893 Management Strategy (taken in semester of graduation)
- MKT 3013 Principles of Marketing
- MS 1023 Business Statistics with Computer Applications I (Actuarial Science majors must take STA 1053 in lieu of MS 1023)
- MS 3043 Business Statistics with Computer Applications II (Actuarial Science majors must take STA 3003 in lieu of MS 3043)
- MS 3053 Management Science and Operations Technology

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. Upper-division courses in the major

- MGT 3613 Managing Human Resources 3
- MGT 4613 Compensating Employees 3
- MGT 4623 Staffing Organizations 3
- MGT 4663 Training and Developing Employees 3
- MGT 4803 Managing Human Resources for Competitive Advantage 3
B. Human resource electives
Select three of the following: 9

MGT 3023  Understanding People and Organizations
MGT 3123  Organizational Communication
MGT 3253  Interpersonal Communication
MGT 4213  Designing Organizations
MGT 4643  Human Resources Law
MGT 4923  Leading Organizations and Making Decisions
MGT 4933  Internship in Management (HR internship)

To substitute another course for one of these human resource electives, a student must submit a petition to the College of Business Undergraduate Advising Center and receive approval from a Human Resource Management full-time faculty member before registering for the course.

C. Support work
COM 2113  Public Speaking 3
or ENG 2413  Technical Writing

D. Lower-division or upper-division business or non-business electives
Select 2 semester credit hours of lower-division or upper-division business or non-business electives 2

Total Credit Hours: 29

Course Sequence Guide for B.B.A. Degree in Human Resource 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 an academic advisor in the College of Business Undergraduate Advising Center 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

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIS 1203</td>
<td>3</td>
</tr>
<tr>
<td>MAT 1033</td>
<td>3</td>
</tr>
<tr>
<td>WRC 1013</td>
<td>3</td>
</tr>
<tr>
<td>American History (core)</td>
<td>3</td>
</tr>
<tr>
<td>Creative Arts (core)</td>
<td>3</td>
</tr>
</tbody>
</table>

Spring

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>COM 1053</td>
<td>3</td>
</tr>
<tr>
<td>ECO 2013</td>
<td>3</td>
</tr>
<tr>
<td>Course</td>
<td>Title</td>
</tr>
<tr>
<td>----------</td>
<td>-------------------------------------------------</td>
</tr>
<tr>
<td>IS 1403</td>
<td>Business Information Systems Fluency (CBK)</td>
</tr>
<tr>
<td>WRC 1023</td>
<td>Freshman Composition II (core)</td>
</tr>
<tr>
<td></td>
<td>American History (core)</td>
</tr>
</tbody>
</table>

### Second Year

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall</td>
<td>ACC 2013</td>
<td>Principles of Accounting I (CBK)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>MS 1023</td>
<td>Business Statistics with Computer Applications I (CBK)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Government-Political Science (core)</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Language, Philosophy &amp; Culture (core)</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Life &amp; Physical Sciences (core)</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>DECLARE MAJOR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spring</td>
<td>ACC 2033</td>
<td>Principles of Accounting II (CBK)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>ECO 2023</td>
<td>Introductory Microeconomics</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>MGT 3003</td>
<td>Business Communication and Professional Development (CBK)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>MS 3043</td>
<td>Business Statistics with Computer Applications II (CBK)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Life &amp; Physical Sciences (core)</td>
<td></td>
<td>3</td>
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</table>

### Third Year

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall</td>
<td>GBA 2013</td>
<td>Social and Ethical Issues in Business (CBK)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>IS 3003</td>
<td>Principles of Information Systems for Management (CBK)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>MGT 3013</td>
<td>Introduction to Organization Theory, Behavior, and Management (CBK)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>MS 3053</td>
<td>Management Science and Operations Technology (CBK)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Government-Political Science (core)</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Spring</td>
<td>BLW 3013</td>
<td>Business Law (CBK)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>FIN 3014</td>
<td>Principles of Business Finance (CBK)</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>MGT 3613</td>
<td>Managing Human Resources (major)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>MKT 3013</td>
<td>Principles of Marketing (CBK)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Business or non-business elective (support work)</td>
<td></td>
<td>2</td>
</tr>
</tbody>
</table>

### Fourth Year

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall</td>
<td>COM 2113 or ENG 2413</td>
<td>Public Speaking (support work)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>MGT 4613</td>
<td>Compensating Employees (major)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>MGT 4623</td>
<td>Staffing Organizations (major)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Upper-division HR elective (major)</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Upper-division HR elective (major)</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Spring</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
MGT 4663  Training and Developing Employees (major)  3
MGT 4803  Managing Human Resources for Competitive Advantage (major)  3
MGT 4893  Management Strategy (CBK)  3
Upper-division HR elective (major)  3
Component Area Option (core)  3

Total Credit Hours: 120.0

1 ECO 2013 and ECO 2023 may be taken in either sequence.
2 College of Business students should take MAT 1033 and ECO 2013 to satisfy both Core Curriculum and CBK requirements.

Minor in International Management

The Minor in International Management is available only to students pursuing a B.B.A. degree. All students pursuing the minor must take the following 18 semester credit hours:

ECO 2013  Introductory Macroeconomics  3
MGT 3013  Introduction to Organization Theory, Behavior, and Management  3
MGT 4073  International Management  3
MGT 4083  Comparative International Management Practices  3
MKT 3013  Principles of Marketing  3
MKT 4073  International Marketing  3

Total Credit Hours: 18

To declare a Minor in International Management, obtain advice, and seek approval of substitutions for course requirements, students must consult the College of Business Undergraduate Advising Center.

Minor in Management

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

A. Required courses
MGT 3003  Business Communication and Professional Development  3
MGT 3013  Introduction to Organization Theory, Behavior, and Management  3
MGT 3023  Understanding People and Organizations  3

B. Upper-division Management courses
Select 9 semester credit hours of upper-division Management courses that are not part of the Common Body of Knowledge (CBK)

Total Credit Hours: 18
To declare a Minor in Management, obtain advice, and seek approval of substitutions for course requirements, students must consult the College of Business Undergraduate Advising Center.

Management (MGT) Courses
Department of Management, College of Business

MGT 3003. Business Communication and Professional Development. (3-0) 3 Credit Hours.
Prerequisites: COM 1043 or COM 1053, WRC 1023, and classified as a prebusiness or declared major in the College of Business or approval of Department Chair and Dean of the College. This course examines basic interpersonal communication processes within written and oral channels, with practical applications for the business environment. Issues regarding cross-cultural communication, crisis communication, and ethical considerations in business are discussed. The course emphasizes three areas: 1) planning, researching, organizing, writing, editing, and revising business-related documents; 2) planning, organizing, and delivering oral presentations in a business setting; and 3) preparing for professional success in the business world, including career planning, networking, job searching, résumé preparation, and job application and interviewing. Written assignments and oral presentations are required. (Formerly MGT 3043. Credit cannot be earned for both MGT 3003 and MGT 3043.).

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.

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.

MGT 3123. Organizational Communication. (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. 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.).

MGT 3253. Interpersonal Communication. (3-0) 3 Credit Hours.
Prerequisites: 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. 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.).
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.

MGT 4023. Business Plan. (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 course requires students to work in a team where they propose a new business and develop a business plan for the business. The teams will learn to present and defend their plan and will compete in a business plan competition at the end of the semester. The course emphasizes development of the skills necessary to identify, value, and exploit entrepreneurial opportunities for the creation of wealth.

MGT 4073. International Management. (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. 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.

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 department approval. 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.

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.

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.

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.).

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.

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.

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.

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.”).

MGT 4893. Management Strategy. (3-0) 3 Credit Hours.
Prerequisites: FIN 3014 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 College of Business Undergraduate Advising Center 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.
MGT 4911. Independent Study. (0-0) 1 Credit Hour.
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 the College of Business Undergraduate Advising Center 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.

MGT 4912. Independent Study. (0-0) 2 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 the College of Business Undergraduate Advising Center 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.

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 the College of Business Undergraduate Advising Center 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.

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.

MGT 4933. Internship in Management. (0-0) 3 Credit Hours.
Prerequisites: MGT 3003, a 2.5 UTSA grade point average, 9 semester credit hours of management courses, and permission in writing from the instructor, the Department Chair, and the Dean of the College of Business. See the College of Business Undergraduate Advising Center for additional requirements and required forms. The opportunity for managerial work experience. Requires a semester-long experience in private business or a public agency 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.

MGT 4943. Managing Effective Teams and Resolving Conflict. (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. 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.

MGT 4951. Special Studies in Management. (1-0) 1 Credit Hour.
Prerequisites: 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 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.

**MGT 4953. Special Studies in Management. (3-0) 3 Credit Hours.**
Prerequisites: 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 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.

**MGT 4993. Honors Thesis. (0-0) 3 Credit Hours.**
Prerequisite: MGT 3003. Enrollment limited to students applying for Honors in Management. Supervised research and preparation of an honors thesis. May be repeated once for credit with advisor’s approval.
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 Management Science 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 degree in Management Science, a Bachelor of Business Administration degree in Actuarial Science, and a Bachelor of Science degree in Statistics. The department also offers minors in Actuarial Science, Adaptive Decision Models for Business, Statistics, and Management Science, which are open to all majors in the University. In addition, certificates are offered in Business Analytics, and Operations and Supply Chain Management.

Department Honors
The Department of Management Science and Statistics offers the opportunity for certain of its outstanding students to achieve the designation of Honors in Major 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 Department Undergraduate Program Committee (UPC) in consultation with the faculty of the student’s major discipline. To be eligible for the designation, 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. To enroll in honors thesis courses and to graduate with the honors designation, these minimum grade point averages must be maintained. Students applying for Honors in Major are expected to enroll in the appropriate honors thesis course during their final two semesters. The completed honors thesis must be approved by the supervising faculty sponsor from the student’s discipline and the UPC. Students interested in this program should contact the Department of Management Science and Statistics office for additional information. Department honors can be attained independent of, or in addition to, University Honors. In order to have departmental honors noted on the transcript, students must submit a letter of request for departmental honors to the Department Chair by Census Date of their last semester.
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 requirements, and the degree requirements, which are listed below.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the Bachelor of Business Administration degree in Actuarial Science 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 the degree. For a complete listing of courses that satisfy the Core Curriculum requirements, see chapter 1 of this catalog.

MAT 1214 should be used to satisfy the core requirement in Mathematics. ECO 2013 should be used to satisfy the core requirement in Social and Behavioral Sciences.

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.

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.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 2013</td>
<td>Principles of Accounting I</td>
</tr>
<tr>
<td>ACC 2033</td>
<td>Principles of Accounting II</td>
</tr>
<tr>
<td>BLW 3013</td>
<td>Business Law</td>
</tr>
<tr>
<td>COM 1053</td>
<td>Business and Professional Speech</td>
</tr>
<tr>
<td>ECO 2013</td>
<td>Introductory Macroeconomics (satisfies Social and Behavioral Sciences Core Curriculum requirement)</td>
</tr>
<tr>
<td>ECO 2023</td>
<td>Introductory Microeconomics</td>
</tr>
<tr>
<td>FIN 3014</td>
<td>Principles of Business Finance</td>
</tr>
<tr>
<td>GBA 2013</td>
<td>Social and Ethical Issues in Business</td>
</tr>
<tr>
<td>IS 1403</td>
<td>Business Information Systems Fluency</td>
</tr>
<tr>
<td>IS 3003</td>
<td>Principles of Information Systems for Management</td>
</tr>
<tr>
<td>MAT 1033</td>
<td>Algebra with Calculus for Business (satisfies Mathematics Core Curriculum requirement, Actuarial Science majors must take MAT 1214 in lieu of MAT 1033)</td>
</tr>
<tr>
<td>MGT 3003</td>
<td>Business Communication and Professional Development</td>
</tr>
</tbody>
</table>
MGT 3013  Introduction to Organization Theory, Behavior, and Management  
MGT 4893  Management Strategy (taken in semester of graduation)  
MKT 3013  Principles of Marketing  
MS 1023  Business Statistics with Computer Applications I (Actuarial Science majors must take STA 1053 in lieu of MS 1023)  
MS 3043  Business Statistics with Computer Applications II (Actuarial Science majors must take STA 3003 in lieu of MS 3043)  
MS 3053  Management Science and Operations Technology

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. Required Mathematics and Statistics courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAT 1224</td>
<td>Calculus II</td>
<td>4</td>
</tr>
<tr>
<td>MAT 2214</td>
<td>Calculus III</td>
<td>4</td>
</tr>
<tr>
<td>STA 3513</td>
<td>Probability and Statistics</td>
<td>3</td>
</tr>
<tr>
<td>STA 3523</td>
<td>Mathematical Statistics</td>
<td>3</td>
</tr>
<tr>
<td>STA 4713</td>
<td>Applied Regression Analysis</td>
<td>3</td>
</tr>
<tr>
<td>STA 4753</td>
<td>Time-Series Analysis</td>
<td>3</td>
</tr>
</tbody>
</table>

B. Additional Courses

Select two courses from the following:  

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIN 4523</td>
<td>Introduction to Risk Management</td>
<td></td>
</tr>
<tr>
<td>FIN 4813</td>
<td>Property-Liability Insurance Finance</td>
<td></td>
</tr>
<tr>
<td>FIN 4823</td>
<td>Life and Health Insurance Finance</td>
<td></td>
</tr>
<tr>
<td>MS 3073</td>
<td>Business Analytics</td>
<td></td>
</tr>
<tr>
<td>STA 3023</td>
<td>Statistical Mathematics</td>
<td></td>
</tr>
<tr>
<td>STA 4133</td>
<td>Introduction to Programming and Data Management in SAS</td>
<td></td>
</tr>
<tr>
<td>STA 4643</td>
<td>Introduction to Stochastic Processes</td>
<td></td>
</tr>
<tr>
<td>STA 4933</td>
<td>Internship in Statistics</td>
<td></td>
</tr>
</tbody>
</table>

C. Examination Preparation

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>STA 4961</td>
<td>Actuarial Science Examination Preparation (to be taken two semesters)</td>
<td></td>
</tr>
</tbody>
</table>

Total Credit Hours: 28

**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 an academic advisor in the College of Business Undergraduate Advising Center 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

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIS 1203</td>
<td>Academic Inquiry and Scholarship (core) 3</td>
</tr>
<tr>
<td>IS 1403</td>
<td>Business Information Systems Fluency (CBK) 3</td>
</tr>
<tr>
<td>MAT 1214</td>
<td>Calculus I (core and CBK) 2 4</td>
</tr>
<tr>
<td>WRC 1013</td>
<td>Freshman Composition I (core) 3</td>
</tr>
<tr>
<td>American History (core)</td>
<td>3</td>
</tr>
</tbody>
</table>

### Spring

| ACC 2013 | Principles of Accounting I (CBK) 3 |
| COM 1053 | Business and Professional Speech (CBK) 3 |
| MAT 1224 | Calculus II (major) 4 |
| STA 3023 | Statistical Mathematics (CBK) 3 |
| WRC 1023 | Freshman Composition II (core) 3 |

### Second Year

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 2033</td>
<td>Principles of Accounting II (CBK) 3</td>
</tr>
<tr>
<td>ECO 2013</td>
<td>Introductory Macroeconomics (core and CBK) 1,2 3</td>
</tr>
<tr>
<td>MAT 2214</td>
<td>Calculus III [TCCN: MATH 2415.] (major) 4</td>
</tr>
<tr>
<td>STA 3003</td>
<td>Applied Statistics (CBK) 3</td>
</tr>
<tr>
<td>Language, Philosophy &amp; Culture (core)</td>
<td>3</td>
</tr>
<tr>
<td>DECLARE MAJOR</td>
<td></td>
</tr>
</tbody>
</table>

### Spring

| ECO 2023 | Introductory Microeconomics (CBK) 1 3 |
| FIN 3014 | Principles of Business Finance (CBK) 4 |
| STA 3513 | Probability and Statistics (major) 3 |
| American History (core) | 3 |
| Life & Physical Sciences (core) | 3 |

### Third Year

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MGT 3003</td>
<td>Business Communication and Professional Development (CBK) 3</td>
</tr>
<tr>
<td>STA 3523</td>
<td>Mathematical Statistics (major) 3</td>
</tr>
<tr>
<td>MS 3053</td>
<td>Management Science and Operations Technology (CBK) 3</td>
</tr>
<tr>
<td>Government-Political Science (core)</td>
<td>3</td>
</tr>
<tr>
<td>Upper-division FIN or STA Directed Elective (support work)</td>
<td>3</td>
</tr>
</tbody>
</table>
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 4713  Applied Regression Analysis (major)  3
Upper-division FIN or STA Directed Elective (support work)  3

Fourth Year
Fall
GBA 2013  Social and Ethical Issues in Business (CBK)  3
STA 4753  Time-Series Analysis (major)  3
STA 4961  Actuarial Science Examination Preparation (support work)  1
Component Area Option (core)  3
Government-Political Science (core)  3

Spring
BLW 3013  Business Law (CBK)  3
MGT 4893  Management Strategy (CBK)  3
STA 4961  Actuarial Science Examination Preparation (support work)  1
Creative Arts (core)  3
Life & Physical Sciences (core)  3

Total Credit Hours: 120.0

1 ECO 2013 and ECO 2023 may be taken in either sequence.
2 College of Business students should take MAT 1214 and ECO 2013 satisfy both Core Curriculum and CBK requirements.

Bachelor of Business Administration Degree in Management Science

Solving problems and making decisions are integral parts of every organization's daily operations. The discipline of Management Science 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 in Management 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 Bachelor of Business Administration degree in Management 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; 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. For a complete listing of courses that satisfy the Core Curriculum requirements, see chapter 1 of this catalog.

MAT 1033 should be used to satisfy the core requirement in Mathematics. ECO 2013 should be used to satisfy the core requirement in Social and Behavioral Sciences.

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.

**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
- ACC 2033 Principles of Accounting II
- BLW 3013 Business Law
- COM 1053 Business and Professional Speech
- ECO 2013 Introductory Macroeconomics (satisfies Social and Behavioral Sciences Core Curriculum requirement)
- ECO 2023 Introductory Microeconomics
- FIN 3014 Principles of Business Finance
- GBA 2013 Social and Ethical Issues in Business
- IS 1403 Business Information Systems Fluency
- IS 3003 Principles of Information Systems for Management
- MAT 1033 Algebra with Calculus for Business (satisfies Mathematics Core Curriculum requirement, Actuarial Science majors must take MAT 1214 in lieu of MAT 1033)
- MGT 3003 Business Communication and Professional Development
- MGT 3013 Introduction to Organization Theory, Behavior, and Management
- MGT 4893 Management Strategy (taken in semester of graduation)
- MKT 3013 Principles of Marketing
- MS 1023 Business Statistics with Computer Applications I (Actuarial Science majors must take STA 1053 in lieu of MS 1023)
MS 3043  Business Statistics with Computer Applications II (Actuarial Science majors must take STA 3003 in lieu of MS 3043)
MS 3053  Management Science and Operations Technology

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. Required Management Science courses
   - MS 3403  Logistics Management  
   - MS 4333  Project Management  
   - MS 4343  Production/Operations Management

B. Business upper-division electives
   Select 5 of the following:
   - 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 Analytics
   - 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  Applied Forecasting in Operations
   - 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

To substitute another course for one of the above electives, a student should submit a petition to the College of Business Undergraduate Advising Center and receive approval from the chair of the Management Science and Statistics department of department designee before registering for the course.
C. Lower-division or upper-division business or non-business electives
Select 5 semester credit hours of lower-division or upper-division business or non-business electives 5
Total Credit Hours: 29

Course Sequence Guide for B.B.A. Degree in 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 an academic advisor in the College of Business Undergraduate Advising Center 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

<table>
<thead>
<tr>
<th>First Year</th>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AIS 1203</td>
<td>Academic Inquiry and Scholarship (core) 3</td>
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<td>IS 1403</td>
<td>Business Information Systems Fluency (CBK) 3</td>
</tr>
<tr>
<td></td>
<td>MAT 1033</td>
<td>Algebra with Calculus for Business (core and CBK) 2 3</td>
</tr>
<tr>
<td></td>
<td>WRC 1013</td>
<td>Freshman Composition I (core) 3</td>
</tr>
<tr>
<td></td>
<td>American History (core)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Spring</td>
<td></td>
</tr>
<tr>
<td></td>
<td>COM 1053</td>
<td>Business and Professional Speech (CBK) 3</td>
</tr>
<tr>
<td></td>
<td>ECO 2013</td>
<td>Introductory Macroeconomics (core and CBK) 1,2 3</td>
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<td></td>
<td>MS 1023</td>
<td>Business Statistics with Computer Applications I (CBK) 3</td>
</tr>
<tr>
<td></td>
<td>WRC 1023</td>
<td>Freshman Composition II (core) 3</td>
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<td></td>
<td>American History (core)</td>
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</table>

<table>
<thead>
<tr>
<th>Second Year</th>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ACC 2013</td>
<td>Principles of Accounting I (CBK) 3</td>
</tr>
<tr>
<td></td>
<td>MS 3043</td>
<td>Business Statistics with Computer Applications II (CBK) 3</td>
</tr>
<tr>
<td></td>
<td>Government-Political Science (core) 3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Language, Philosophy &amp; Culture (core) 3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Life &amp; Physical Sciences (core) 3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DECLARE MAJOR</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Spring</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ACC 2033</td>
<td>Principles of Accounting II (CBK) 3</td>
</tr>
<tr>
<td>Course</td>
<td>Title</td>
<td>Credits</td>
</tr>
<tr>
<td>--------</td>
<td>----------------------------------------------------------------------</td>
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</tr>
<tr>
<td>ECO 2023</td>
<td>Introductory Microeconomics (CBK) ¹</td>
<td>3</td>
</tr>
<tr>
<td>MS 3053</td>
<td>Management Science and Operations Technology (CBK)</td>
<td>3</td>
</tr>
<tr>
<td>Government-Political Science (core)</td>
<td></td>
<td>3</td>
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<tr>
<td>Life &amp; Physical Sciences (core)</td>
<td></td>
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</table>

**Third Year**

**Fall**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
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<tbody>
<tr>
<td>GBA 2013</td>
<td>Social and Ethical Issues in Business (CBK)</td>
<td>3</td>
</tr>
<tr>
<td>MGT 3003</td>
<td>Business Communication and Professional Development (CBK)</td>
<td>3</td>
</tr>
<tr>
<td>MGT 3013</td>
<td>Introduction to Organization Theory, Behavior, and Management (CBK)</td>
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</tr>
<tr>
<td>MS 4343</td>
<td>Production/Operations Management (major)</td>
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</tr>
<tr>
<td></td>
<td>Upper-division Business elective (support work)</td>
<td>3</td>
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</table>

**Spring**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>BLW 3013</td>
<td>Business Law (CBK)</td>
<td>3</td>
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<tr>
<td>FIN 3014</td>
<td>Principles of Business Finance (CBK)</td>
<td>4</td>
</tr>
<tr>
<td>IS 3003</td>
<td>Principles of Information Systems for Management (CBK)</td>
<td>3</td>
</tr>
<tr>
<td>MS 3403</td>
<td>Logistics Management (major)</td>
<td>3</td>
</tr>
<tr>
<td>MS 4333</td>
<td>Project Management (major)</td>
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</table>

**Fourth Year**

**Fall**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>MKT 3013</td>
<td>Principles of Marketing (CBK)</td>
<td>3</td>
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<tr>
<td></td>
<td>Business or non-business elective (support work)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Upper-division Business elective (support work)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Upper-division Business elective (support work)</td>
<td>3</td>
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<tr>
<td></td>
<td>Creative Arts (core)</td>
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</table>

**Spring**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>MGT 4893</td>
<td>Management Strategy (CBK)</td>
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<td>Business or non-business elective (support work)</td>
<td>2</td>
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<td>Upper-division Business elective (support work)</td>
<td>3</td>
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<tr>
<td></td>
<td>Upper-division Business elective (support work)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Component Area Option (core)</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total Credit Hours:** 120.0

¹ ECO 2013 and ECO 2023 may be taken in either sequence.

² College of Business students should take MAT 1033 and ECO 2013 satisfy both Core Curriculum and CBK requirements.
**Bachelor of Science Degree in Statistics**

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 degree in Statistics 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 is 120, at least 39 of which must be at the upper-division level.

**Core Curriculum Requirements (42 semester credit hours)**

Students seeking the Bachelor of Science degree in Statistics 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. For a complete listing of courses that satisfy the Core Curriculum requirements, see chapter 1 of this catalog.

MAT 1214 should be used to satisfy the core requirement in Mathematics. ECO 2013 should be used to satisfy the core requirement in Social and Behavioral Sciences.

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.

**Degree Requirements**

A. Required courses in the computational and mathematical sciences

- MAT 1214  Calculus I  4
- MAT 1224  Calculus II  4
- MAT 2214  Calculus III  4

B. Courses required for the major

1. Required Statistic courses

- STA 3003  Applied Statistics  3
- STA 3013  Multivariate Analysis for the Life and Social Sciences  3
- STA 3023  Statistical Mathematics  3
- STA 3313  Experiments and Sampling  3
- STA 3513  Probability and Statistics  3
- STA 3523  Mathematical Statistics  3
- STA 4133  Introduction to Programming and Data Management in SAS  3
- STA 4233  Statistical Applications Using SAS Software  3
- STA 4713  Applied Regression Analysis  3
STA 4723  Introduction to the Design of Experiments  3

2. Select four of the following:  12
MS 3073  Business Analytics
MS 4363  Quality Management and Control
STA 3813  Discrete Data Analysis
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 practiced.  18
Nine 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.

1. Specialization in Actuarial Science
ACC 2013  Principles of Accounting I
ECO 2013  Introductory Macroeconomics
ECO 2023  Introductory Microeconomics
FIN 3014  Principles of Business Finance
FIN 3023  Intermediate Corporate Finance
or FIN 4873  Computer Modeling of Financial Applications
STA 4961  Actuarial Science Examination Preparation (to be taken two semesters)

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 Diversity in a Pluralistic Society
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
or MAT 4313 Applied Combinatorics

6. Specialization in Psychology
PSY 1013    Introduction to Psychology
PSY 2503    Developmental Psychology
PSY 3403    Experimental Psychology
PSY 3413    Experimental Psychology 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.
Select 6 semester credit hours of lower-division or upper-division business or non-business electives.  

Total Credit Hours: 78
Course Sequence Guide for B.S. Degree in Statistics

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 an academic advisor in the College of Business Undergraduate Advising Center 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

<table>
<thead>
<tr>
<th>First Year</th>
<th>Fall</th>
<th></th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIS 1203</td>
<td>Academic Inquiry and Scholarship (core)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>MAT 1214</td>
<td>Calculus I (core and support work)</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>STA 3003</td>
<td>Applied Statistics (major)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>STA 3023</td>
<td>Statistical Mathematics (major)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>WRC 1013</td>
<td>Freshman Composition I (core)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Spring</td>
<td>STA 3513</td>
<td>Probability and Statistics (major)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>WRC 1023</td>
<td>Freshman Composition II (core)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>MAT 1224</td>
<td>Calculus II (support work)</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>American History (core)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Life &amp; Physical Sciences (core)</td>
<td>3</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Second Year</th>
<th>Fall</th>
<th></th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECO 2013</td>
<td>Introductory Macroeconomics (core)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>MAT 2214</td>
<td>Calculus III [TCCN: MATH 2415.] (support work)</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>STA 3313</td>
<td>Experiments and Sampling (major)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>STA 3523</td>
<td>Mathematical Statistics (major)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>STA 4133</td>
<td>Introduction to Programming and Data Management in SAS (major)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>DECLARE MAJOR</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Spring | STA 3013 | Multivariate Analysis for the Life and Social Sciences (major) | 3 |
| | STA 4233 | Statistical Applications Using SAS Software (major) | 3 |
| | American History (core) | 3 |
| | Government-Political Science (core) | 3 |
| | Life & Physical Sciences (core) | 3 |

<table>
<thead>
<tr>
<th>Third Year</th>
<th>Fall</th>
<th></th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>STA 4713</td>
<td>Applied Regression Analysis (major)</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>
STA 4753  Time-Series Analysis (support work)  3
Course option in specialization track  3
Course option in specialization track  3
Language, Philosophy & Culture (core)  3

**Spring**

STA 4723  Introduction to the Design of Experiments (major)  3
Business or non-business elective (support work)  3
Course option in specialization track (support work)  3
Course option in major  3
Government-Political Science (core)  3

**Fourth Year**

**Fall**

Course option in major (support work)  3
Course option in major (support work)  3
Course option in specialization track (support work)  3
Course option in specialization track (support work)  3
Course option in specialization track (support work)  3

**Spring**

Business or non-business elective (support work)  3
Course option in major (support work)  3
Creative Arts (core)  3
Component Area Option (core)  3

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Total Credit Hours: 120.0

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1 Students must take Math Placement Test to register for MAT 1214. Beginning math course will be determined by Math Placement Test scores.

2 STA 3003 is prerequisite for other required courses.

---

**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

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECO 2013</td>
<td>Introductory Macroeconomics 3</td>
</tr>
<tr>
<td>ECO 2023</td>
<td>Introductory Microeconomics 3</td>
</tr>
</tbody>
</table>

B. Select four of the following courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>STA 3513</td>
<td>Probability and Statistics 12</td>
</tr>
</tbody>
</table>
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: 3
CS 3333 Mathematical Foundations of Computer Science
ME 3113 Measurements and Instrumentation
MS 3053 Management Science and Operations Technology

B. Additional courses
ACC 2013 Principles of Accounting I 3
FIN 3003 Survey of Finance 3
or FIN 3014 Principles of Business Finance

C. Models
Select 6 semester credit hours of the following: 6
Analytical Models
MS 3063 Decision Support Systems
MS 3073 Business Analytics
MS 3313 Business Applications of Statistics
MS 4323 Simulation Applications in Business
MS 4333 Project Management
MS 4383 Applied Forecasting in Operations
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
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 the College of Business Undergraduate Advising Center or the designated management science faculty member.

**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
Select two courses from one of the following four options: 6

1. Option 1
   STA 1403  Probability and Statistics for the Biosciences
   STA 3003  Applied Statistics

2. Option 2
   POL 2703  Scope and 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
   Select one of the following:
   STA 2303  Applied Probability and Statistics for Engineers
   STA 3513  Probability and Statistics
   STA 3533  Probability and Random Processes

B. Select four of the following courses 12
MS 3073  Business Analytics
STA 3013  Multivariate Analysis for the Life and Social Sciences
STA 3023  Statistical Mathematics
STA 3313  Experiments and Sampling
STA 3433  Applied Nonparametric Statistics
STA 3813  Discrete Data Analysis
STA 4133  Introduction to Programming and Data Management in SAS
STA 4143  Data Mining
STA 4233  Statistical Applications Using SAS Software
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 the College of Business Undergraduate Advising Center or the designated Statistics 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

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>MS 3053</td>
<td>Management Science and Operations Technology</td>
<td>3</td>
</tr>
<tr>
<td>MS 4343</td>
<td>Production/Operations Management</td>
<td>3</td>
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</table>

B. Select four of the following courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit</th>
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</thead>
<tbody>
<tr>
<td>ECO 3123</td>
<td>Introduction to Econometrics and Business Forecasting</td>
<td>12</td>
</tr>
<tr>
<td>FIN 4523</td>
<td>Introduction to Risk Management</td>
<td>12</td>
</tr>
<tr>
<td>FIN 4873</td>
<td>Computer Modeling of Financial Applications</td>
<td>12</td>
</tr>
<tr>
<td>MKT 3083</td>
<td>Marketing Research</td>
<td>12</td>
</tr>
<tr>
<td>MS 3063</td>
<td>Decision Support Systems</td>
<td>12</td>
</tr>
<tr>
<td>MS 3073</td>
<td>Business Analytics</td>
<td>12</td>
</tr>
<tr>
<td>MS 3313</td>
<td>Business Applications of Statistics</td>
<td>12</td>
</tr>
</tbody>
</table>
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  Applied Forecasting in Operations
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 the College of Business Undergraduate Advising Center.

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
   MS 3073  Business Analytics 3
   STA 4133  Introduction to Programming and Data Management in SAS 3
   STA 4233  Statistical Applications Using SAS Software 3

B. Select one of the following 3
   MS 3063  Decision Support Systems
   STA 4143  Data Mining
C. Select one of the following

MS 3313 Business Applications of Statistics
STA 3013 Multivariate Analysis for the Life and Social Sciences

Total Credit Hours: 15

This certificate is open only to College of Business students. 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. 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 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 Certificate (OSCM), students must earn 15 semester credit hours as follows:

A. Required courses

MS 3403 Logistics Management 3
MS 4543 Supply Chain Management 3

B. Select one of the following

MS 4343 Production/Operations Management
MS 4353 Service Operations Management

3

C. Select one of the following

MS 4313 Six Sigma and Lean Operations
MS 4363 Quality Management and Control

3

D. Select one of the following

MS 3413 Purchasing and Inventory Management
MS 4383 Applied Forecasting in Operations

3

Total Credit Hours: 15

This certificate is open only to College of Business students. 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. All courses used to satisfy the requirements of this undergraduate certificate program must be college-level courses taken at UTSA.

Management Science (MS) Courses
Department of Management Science and Statistics, College of Business

MS 1023. Business Statistics with Computer Applications I. (3-0) 3 Credit Hours.
Prerequisites: A grade of “C-” or better in IS 1403 and MAT 1033, 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.

MS 3043. Business Statistics with Computer Applications II. (3-0) 3 Credit Hours.
Prerequisites: A grade of “C -” or better in MAT 1033, IS 1403, 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.

MS 3053. Management Science and Operations Technology. (3-0) 3 Credit Hours.
Prerequisites: A grade of “C-” or better in MAT 1033, IS 1403, 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.

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.

MS 3073. Business Analytics. (3-0) 3 Credit Hours.
This course is designed to provide an introduction to business analytics. It describes and interprets the basic concepts of business analytics, describes basic principles of data mining as a basic tool of business analytics, evaluates the difficulties presented by large databases, and plans, organizes and evaluates methods to prepare
raw data. Comparison and contrasts among different business analytics techniques are examined, including different methods of data mining, and provides for interpreting, analyzing and validating results.

MS 3313. Business Applications of Statistics. (3-0) 3 Credit Hours.
This course emphasizes application of statistics in problem-solving situations involving management, marketing, human resources, finance, and operations management. Useful techniques include analysis of variance, simple and multiple regression, logistic regression, multiple discriminant analysis, factor analysis, cluster analysis, multidimensional scaling, and conjoint analysis. Students use computer software such as SPSS or SAS in their analyses.

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.

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.

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.

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.

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.

**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.

**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.).

**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.

**MS 4383. Applied Forecasting in Operations. (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, and monitoring (automatic procedures such as tracking signals).

**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.

**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 the College of Business Undergraduate Advising Center 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.

**MS 4933. Internship in Management Science. (0-0) 3 Credit Hours.**
Prerequisites for business majors: Permission in writing from the instructor, the Department Chair, and the Dean of the College of Business; and a 2.5 grade UTSA point average. See the College of Business Undergraduate Advising Center 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. May be repeated for credit, but not more than 6 semester credit hours will apply to a bachelor’s degree.

**MS 4951. Special Studies in Management Science. (1-0) 1 Credit Hour.**
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.

**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.

**Statistics (STA) Courses**
Department of Management Science and Statistics, College of Business

**STA 1043. Introduction to Quantitative Reasoning. (3-0) 3 Credit Hours. (TCCN = MATH 1442)**
Prerequisite: Satisfactory performance on placement examination. Intended primarily for liberal arts majors, this course provides an overview of statistical methods useful for judgment and decision making under conditions of uncertainty. The emphasis of the course will be on using quantitative reasoning to gain insight and draw conclusions from observations. The common pitfalls of statistical studies and common myths about the fallacies of inference will be discussed. Topics may include data analysis, inference, correlation, and regression. (Formerly titled “Introduction to Statistical Reasoning.”).

**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.

**STA 1403. Probability and Statistics for the Biosciences. (3-0) 3 Credit Hours. (TCCN = MATH 2342)**
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.).

**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.

**STA 3003. Applied Statistics. (3-0) 3 Credit Hours.**
Prerequisite: Completion of or concurrent enrollment in MAT 1033, MAT 1093, MAT 1203, MAT 1214, STA 3023, 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.

**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.

**STA 3023. Statistical Mathematics. (3-0) 3 Credit Hours.**
Prerequisite: MAT 1093 or an equivalent course or satisfactory performance on a placement examination. 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, eigenvalues and eigenvectors.

**STA 3313. Experiments and Sampling. (3-0) 3 Credit Hours.**
Prerequisite: One of the following: MS 1023, STA 1043, 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.

**STA 3433. Applied Nonparametric Statistics. (3-0) 3 Credit Hours.**
Prerequisite: One of the following: MS 3313, STA 2303, STA 3003, or STA 3513. Tests of location, goodness-of-fit tests, rank tests, tests based on nominal and ordinal data for both related and independent samples, and measures of association.

**STA 3513. Probability and Statistics. (3-0) 3 Credit Hours.**
Prerequisites: STA 3003 and one of the following: STA 3023 or MAT 1224. Axiomatic probability; random variables; discrete and continuous distributions; bivariate and multivariate distributions and their applications; mixture distributions; moments and generating functions, bivariate transformations.
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.

STA 3533. Probability and Random Processes. (3-0) 3 Credit Hours.
Prerequisites: EE 3423 and EGR 2323. Probability, random variables, distribution and density functions, limit theorems, random processes, correlation functions, power spectra, and response of linear systems to random inputs.

STA 3813. Discrete Data Analysis. (3-0) 3 Credit Hours.
Prerequisite: STA 3003 or STA 3513. Introduction to methods for analyzing discrete (categorical) data. Course emphasizes the uses and interpretations of the methods rather than the underlying theory. Topics include Two-way and Three-Way Contingency Tables, Partial Association, Cochran-Mantel-Haenszel Method, Generalized Linear models, Model Inference and Model Checking, Logistic Regression, Loglinear Models, and Models for Matched Pairs.

STA 4133. Introduction to Programming and Data Management in SAS. (3-0) 3 Credit Hours.
Prerequisite: Completion of a programming course or consent of instructor, Department Chair and Dean. This course introduces essential programming concepts using SAS software, with a focus on data management and the preparation of data for statistical analysis. Topics include reading raw data, creating temporary and permanent datasets, manipulating datasets, summarizing data, and displaying data using tables, charts and plots. (Formerly titled “Statistical Computing Packages.”).

STA 4143. Data Mining. (3-0) 3 Credit Hours.
Prerequisites: 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.

STA 4233. Statistical Applications Using SAS Software. (3-0) 3 Credit Hours.
Prerequisites: STA 4133 or approval of instructor; and one of the following: MS 3313, STA 3003, STA 3513, or STA 3523. Analysis of datasets using the statistical software package SAS. Methods for analyzing continuous and categorical data will be introduced, using procedures from Base SAS, SAS/GRAPH and SAS/STAT software. Techniques for efficient programming will be stressed. Examples will be drawn from regression analysis, analysis of variance, categorical analysis, multivariate methods, simulation, and resampling.

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.

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.
STA 4723. Introduction to the Design of Experiments. (3-0) 3 Credit Hours.
Prerequisite: One of the following: 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.

STA 4753. Time-Series Analysis. (3-0) 3 Credit Hours.
Prerequisite: STA 3513 or STA 3533, 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.

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 MAT 4803. Credit cannot be earned for both STA 4803 and MAT 4803.)

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.

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.

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.

STA 4933. Internship in Statistics. (0-0) 3 Credit Hours.
Prerequisites: Permission in writing from the instructor, the Department Chair, and the Dean of the College of Business; and a 2.5 UTSA grade point average. See the College of Business Undergraduate Advising Center 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. May be repeated for credit, but not more than 6 semester credit hours will apply to a bachelor's degree.

STA 4953. Special Studies in Statistics. (3-0) 3 Credit Hours.
Prerequisites: 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, but not more than 6 semester credit hours, regardless of discipline, will apply to a bachelor’s degree.

**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.

**STA 4993. Honors Thesis. (0-0) 3 Credit Hours.**
Prerequisites: STA 3523 and consent of instructor, Department Chair and Dean. 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.
DEPARTMENT OF MARKETING

The Department of Marketing offers a Bachelor of Business Administration (B.B.A.) degree in Marketing and a Minor in Marketing. In addition, the Department offers a B.B.A. degree in Sport, Event and Tourism Management.

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 Minor in Marketing is available only to students pursuing a B.B.A. degree.

The sport, event, and tourism management degree 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.

Department Honors

The Department of Marketing offers the opportunity for certain of its outstanding students to achieve the designation of Honors in Marketing 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 Department Undergraduate Program Committee (UPC) in consultation with the Marketing faculty. To be eligible for the designation, 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. To enroll in honors thesis courses and to graduate with the honors designation, these minimum grade point averages must be maintained. Students applying for Honors in Marketing are expected to enroll in the appropriate honors thesis course during their final two semesters. The completed thesis must be approved by a supervising faculty sponsor in Marketing and the UPC. Students interested in this program should contact the UPC through the Department of Marketing office for additional information. Department Honors can be attained independent of, or in addition to, University Honors. In order to have departmental honors noted on the transcript, students must submit a letter of request for departmental honors to the Department Chair by Census Date of their last semester.

Bachelor of Business Administration Degree in Marketing

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, 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 Bachelor of Business Administration degree in Marketing 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. For a complete listing of courses that satisfy the Core Curriculum requirements, see chapter 1 of this catalog.
MAT 1033 should be used to satisfy the core requirement in Mathematics. ECO 2013 should be used to satisfy the core requirement in Social and Behavioral Sciences.

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.

**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
- ACC 2033 Principles of Accounting II
- BLW 3013 Business Law
- COM 1053 Business and Professional Speech
- ECO 2013 Introductory Macroeconomics (satisfies Social and Behavioral Sciences Core Curriculum requirement)
- ECO 2023 Introductory Microeconomics
- FIN 3014 Principles of Business Finance
- GBA 2013 Social and Ethical Issues in Business
- IS 1403 Business Information Systems Fluency
- IS 3003 Principles of Information Systems for Management
- MAT 1033 Algebra with Calculus for Business (satisfies Mathematics Core Curriculum requirement, Actuarial Science majors must take MAT 1214 in lieu of MAT 1033)
- MGT 3003 Business Communication and Professional Development
- MGT 3013 Introduction to Organization Theory, Behavior, and Management
- MGT 4893 Management Strategy (taken in semester of graduation)
- MKT 3013 Principles of Marketing
- MS 1023 Business Statistics with Computer Applications I (Actuarial Science majors must take STA 1053 in lieu of MS 1023)
- MS 3043 Business Statistics with Computer Applications II (Actuarial Science majors must take STA 3003 in lieu of MS 3043)
- MS 3053 Management Science and Operations Technology

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. Required upper-division courses in the major

- MKT 3083 Marketing Research 3
- MKT 4073 International Marketing 3
- MKT 4093 Consumer Behavior 3
- MKT 4893 Marketing Capstone 3
9 semester credit hours of upper-division (3000-4000 level) Marketing (MKT) electives 9

B. Support work within the College of Business
Select one of the following: 3
ACC 3123  Cost Analysis
ECO 3033  Economics of Managerial Decisions
ECO 3053  Aggregate Economic Analysis
FIN 3033  Principles of Investment
FIN 3313  Money and Banking
IS 4153  Web Site Development
MS 4343  Production/Operations Management
MS 4543  Supply Chain Management

C. Lower-division or upper-division business or non-business electives
Select 5 semester credit hours of lower-division or upper-division business or non-business electives. 5

Total Credit Hours: 29

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 an academic advisor in the College of Business Undergraduate Advising Center 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

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIS 1203  Academic Inquiry and Scholarship</td>
<td>3</td>
</tr>
<tr>
<td>MAT 1033  Algebra with Calculus for Business</td>
<td>3</td>
</tr>
<tr>
<td>WRC 1013  Freshman Composition I</td>
<td>3</td>
</tr>
<tr>
<td>American History (core)</td>
<td>3</td>
</tr>
<tr>
<td>Creative Arts (core)</td>
<td>3</td>
</tr>
</tbody>
</table>

Spring

<p>| COM 1053  Business and Professional Speech | 3            |
| ECO 2013  Introductory Macroeconomics     | 3            |
| IS 1403  Business Information Systems     | 3            |
| WRC 1023  Freshman Composition II         | 3            |
| American History (core)                   | 3            |</p>
<table>
<thead>
<tr>
<th>Second Year</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fall</strong></td>
</tr>
<tr>
<td>ACC 2013  Principles of Accounting I (CBK)  3</td>
</tr>
<tr>
<td>MS 1023  Business Statistics with Computer Applications I (CBK)  3</td>
</tr>
<tr>
<td>Government-Political Science (core)  3</td>
</tr>
<tr>
<td>Language, Philosophy &amp; Culture (core)  3</td>
</tr>
<tr>
<td>Life &amp; Physical Sciences (core)  3</td>
</tr>
<tr>
<td>DECLARE MAJOR</td>
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<tr>
<td><strong>Spring</strong></td>
</tr>
<tr>
<td>ACC 2033  Principles of Accounting II (CBK)  3</td>
</tr>
<tr>
<td>ECO 2023  Introductory Microeconomics (CBK)  3</td>
</tr>
<tr>
<td>MGT 3003  Business Communication and Professional Development (CBK)  3</td>
</tr>
<tr>
<td>MS 3043  Business Statistics with Computer Applications II (CBK)  3</td>
</tr>
<tr>
<td>Life &amp; Physical Sciences (core)  3</td>
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<table>
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<tr>
<th>Third Year</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fall</strong></td>
</tr>
<tr>
<td>GBA 2013  Social and Ethical Issues in Business (CBK)  3</td>
</tr>
<tr>
<td>IS 3003  Principles of Information Systems for Management  3</td>
</tr>
<tr>
<td>MKT 3013  Principles of Marketing (CBK)  3</td>
</tr>
<tr>
<td>MS 3053  Management Science and Operations Technology (CBK)  3</td>
</tr>
<tr>
<td>Government-Political Science (core)  3</td>
</tr>
<tr>
<td><strong>Spring</strong></td>
</tr>
<tr>
<td>BLW 3013  Business Law (CBK)  3</td>
</tr>
<tr>
<td>FIN 3014  Principles of Business Finance (CBK)  4</td>
</tr>
<tr>
<td>MGT 3013  Introduction to Organization Theory, Behavior, and Management (CBK)  3</td>
</tr>
<tr>
<td>MKT 3083  Marketing Research (major)  3</td>
</tr>
<tr>
<td>MKT 4093  Consumer Behavior (major)  3</td>
</tr>
</tbody>
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<table>
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<tr>
<th>Fourth Year</th>
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</thead>
<tbody>
<tr>
<td><strong>Fall</strong></td>
</tr>
<tr>
<td>MKT 4073  International Marketing (major)  3</td>
</tr>
<tr>
<td>Business or non-business elective (support work)  3</td>
</tr>
<tr>
<td>Component Area Option (core)  3</td>
</tr>
<tr>
<td>Upper-division MKT elective (3xx or 4xxx level) (major)  3</td>
</tr>
<tr>
<td>Upper-division MKT elective (3xx or 4xxx level) (major)  3</td>
</tr>
<tr>
<td><strong>Spring</strong></td>
</tr>
<tr>
<td>MGT 4893  Management Strategy (CBK)  3</td>
</tr>
<tr>
<td>MKT 4893  Marketing Capstone (major)  3</td>
</tr>
<tr>
<td>Business or non-business elective (support work)  2</td>
</tr>
</tbody>
</table>
Support work elective 3
Upper-division MKT elective (3xxx or 4xxx level) (major) 3

Total Credit Hours: 120.0

1 ECO 2013 and ECO 2023 may be taken in either sequence.
2 College of Business students should take MAT 1033 and ECO 2013 to satisfy both Core Curriculum and CBK requirements.

Bachelor of Business Administration Degree in Sport, Event and Tourism Management

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, 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 Bachelor of Business Administration degree in Sport, Event and Tourism 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. For a complete listing of courses that satisfy the Core Curriculum requirements, see chapter 1 of this catalog.

MAT 1033 should be used to satisfy the core requirement in Mathematics. ECO 2013 should be used to satisfy the core requirement in Social and Behavioral Sciences.

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.

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
ACC 2033 Principles of Accounting II
BLW 3013 Business Law
COM 1053 Business and Professional Speech
ECO 2013 Introductory Macroeconomics (satisfies Social and Behavioral Sciences Core Curriculum requirement)
ECO 2023 Introductory Microeconomics
FIN 3014 Principles of Business Finance
GBA 2013 Social and Ethical Issues in Business
IS 1403 Business Information Systems Fluency
IS 3003  Principles of Information Systems for Management
MAT 1033  Algebra with Calculus for Business (satisfies Mathematics Core Curriculum requirement, Actuarial Science majors must take MAT 1214 in lieu of MAT 1033)
MGT 3003  Business Communication and Professional Development
MGT 3013  Introduction to Organization Theory, Behavior, and Management
MGT 4893  Management Strategy (taken in semester of graduation)
MKT 3013  Principles of Marketing
MS 1023  Business Statistics with Computer Applications I (Actuarial Science majors must take STA 1053 in lieu of MS 1023)
MS 3043  Business Statistics with Computer Applications II (Actuarial Science majors must take STA 3003 in lieu of MS 3043)
MS 3053  Management Science and Operations Technology

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. Required courses in the major
SET 2123  Survey of Tourism  3
SET 3233  Sport Management  3
SET 3333  Event Management  3
SET 4543  Destination Marketing  3

Select three additional sport, event and tourism courses from the following:  9
BLW 4153  Tourism Law
MKT 3063  Personal Selling
MKT 4143  Sports Marketing
MS 4333  Project Management
MS 4353  Service Operations Management
SET 3043  Attractions Management
SET 3283  Sport and Event Media Relations
SET 3313  Sport Tourism and Events
SET 3413  Resort and Club Management
SET 3543  Economics of Tourism and Leisure
SET 4233  Sport Facility and Event Management
SET 4811  Special Topics in Sport, Event and Tourism Management
SET 4812  Special Topics in Sport, Event and Tourism Management
SET 4813  Special Topics in Sport, Event and Tourism Management
SET 4921  Independent Study in Sport, Event and Tourism Management
SET 4922  Independent Study in Sport, Event and Tourism Management
SET 4923  Independent Study in Sport, Event and Tourism Management
SET 4941  Internship in Sport, Event and Tourism Management
SET 4942  Internship in Sport, Event and Tourism Management
SET 4943  Internship in Sport, Event and Tourism Management

B. Support work courses within the College of Business
Select one of the following: 3
ECO 3193  International Economics
ECO 4303  Economics of Developing Countries
FIN 4613  Introduction to International Finance
MGT 4073  International Management
MGT 4083  Comparative International Management Practices
MKT 4073  International Marketing

C. Lower-division or upper-division business or non-business electives
Select 5 semester credit hours of lower-division or upper-division business or non-business electives 5
(the following courses are recommended):
KIN 2441  Management and Organization in Kinesiology and Sports
NPO 3003  Fundraising in Nonprofit Agencies
NPO 3013  Introduction to Nonprofit Agencies

Total Credit Hours: 29

Course Sequence Guide for B.B.A. Degree in Sport, Event and Tourism 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 an academic advisor in the College of Business Undergraduate Advising Center 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
AIS 1203  Academic Inquiry and Scholarship (core) 3
MAT 1033  Algebra with Calculus for Business (core and CBK) 3
WRC 1013  Freshman Composition I (core ) 3
American History (core) 3
Creative Arts (core) 3

Spring
COM 1053  Business and Professional Speech (CBK) 3
<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit</th>
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</thead>
<tbody>
<tr>
<td>ECO 2013</td>
<td>Introductory Macroeconomics (core and CBK) 1,2</td>
<td>3</td>
</tr>
<tr>
<td>IS 1403</td>
<td>Business Information Systems Fluency (CBK)</td>
<td>3</td>
</tr>
<tr>
<td>WRC 1023</td>
<td>Freshman Composition II (core)</td>
<td>3</td>
</tr>
<tr>
<td>American History (core)</td>
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**Second Year**

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course</th>
<th>Title</th>
<th>Credit</th>
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</thead>
<tbody>
<tr>
<td>Fall</td>
<td>ACC 2013</td>
<td>Principles of Accounting I (CBK)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>MS 1023</td>
<td>Business Statistics with Computer Applications I (CBK)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Government-Political Science (core)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Language, Philosophy &amp; Culture (core)</td>
<td>3</td>
<td></td>
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<tr>
<td></td>
<td>Life &amp; Physical Sciences (core)</td>
<td>3</td>
<td></td>
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<td></td>
<td>DECLARE MAJOR</td>
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<tr>
<td>Spring</td>
<td>ACC 2033</td>
<td>Principles of Accounting II (CBK)</td>
<td>3</td>
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<tr>
<td></td>
<td>ECO 2023</td>
<td>Introductory Microeconomics (CBK) 1</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>MGT 3003</td>
<td>Business Communication and Professional Development (CBK)</td>
<td>3</td>
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<tr>
<td></td>
<td>MS 3043</td>
<td>Business Statistics with Computer Applications II (CBK)</td>
<td>3</td>
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<tr>
<td></td>
<td>SET 2123</td>
<td>Survey of Tourism (major)</td>
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**Third Year**

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<tr>
<td>Fall</td>
<td>GBA 2013</td>
<td>Social and Ethical Issues in Business (CBK)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>MKT 3013</td>
<td>Principles of Marketing (CBK)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>MS 3053</td>
<td>Management Science and Operations Technology (CBK)</td>
<td>3</td>
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<tr>
<td></td>
<td>SET 3233</td>
<td>Sport Management (major)</td>
<td>3</td>
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<tr>
<td></td>
<td>Government-Political Science (core)</td>
<td>3</td>
<td></td>
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<tr>
<td>Spring</td>
<td>IS 3003</td>
<td>Principles of Information Systems for Management (CBK)</td>
<td>3</td>
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<tr>
<td></td>
<td>MGT 3013</td>
<td>Introduction to Organization Theory, Behavior, and Management (CBK)</td>
<td>3</td>
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<tr>
<td></td>
<td>SET 3333</td>
<td>Event Management (major)</td>
<td>3</td>
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<td></td>
<td>Life &amp; Physical Sciences (core)</td>
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<tr>
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<td>SET elective (major)</td>
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**Fourth Year**

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<th>Semester</th>
<th>Course</th>
<th>Title</th>
<th>Credit</th>
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<tbody>
<tr>
<td>Fall</td>
<td>BLW 3013</td>
<td>Business Law (CBK)</td>
<td>3</td>
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<tr>
<td></td>
<td>FIN 3014</td>
<td>Principles of Business Finance (CBK)</td>
<td>4</td>
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<tr>
<td></td>
<td>Component Area Option (core)</td>
<td>3</td>
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<tr>
<td></td>
<td>Business or non-business elective (support work)</td>
<td>2</td>
<td></td>
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<tr>
<td></td>
<td>SET elective (major)</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>
Spring
MGT 4893 Management Strategy (CBK) 3
SET 4543 Destination Marketing (major) 3
Business or non-business elective (support work) 3
SET elective (major) 3
College of Business elective (support work) 3

Total Credit Hours: 120.0

1 ECO 2013 and ECO 2023 may be taken in either sequence.
2 College of Business students should take MAT 1033 and ECO 2013 to satisfy both Core Curriculum and CBK requirements.

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

A. Required coursework
MKT 3013 Principles of Marketing 3

B. Additional courses
Select 5 of the following courses: 15
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

Total Credit Hours: 18

To declare a Minor in Marketing, obtain advice, and seek approval of substitutions for course requirements, students must consult the College of Business Undergraduate Advising Center.
Marketing (MKT) Courses
Department of Marketing, College of Business

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.

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.

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.).

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.

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.

MKT 4063. Multicultural Marketing. (3-0) 3 Credit Hours.
Prerequisites: MGT 3003 and 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.

MKT 4073. International Marketing. (3-0) 3 Credit Hours.
Prerequisites: MGT 3003 and 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.
MKT 4093. Consumer Behavior. (3-0) 3 Credit Hours.
Prerequisites: MGT 3003 and 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.

MKT 4143. Sports Marketing. (3-0) 3 Credit Hours.
Prerequisites: MGT 3003 and 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.).

MKT 4153. Ethics in Marketing. (3-0) 3 Credit Hours.
Prerequisites: MGT 3003 and 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.

MKT 4233. Integrated Marketing Communications. (3-0) 3 Credit Hours.
Prerequisites: MGT 3003 and 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.

MKT 4353. Service Operations Management. (3-0) 3 Credit Hours.
Prerequisites: MGT 3003 and 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.).

MKT 4763. Real Estate Marketing. (3-0) 3 Credit Hours.
Prerequisites: MGT 3003 and 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.).

MKT 4893. Marketing Capstone. (3-0) 3 Credit Hours.
Prerequisites: MGT 3003, 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 in the College of Business Undergraduate Advising Center. The course focuses
on integrating marketing functions, processes, and concepts into coherent and effective marketing decision making. (Formerly titled “Marketing Strategy.”)

MKT 4911. Independent Study. (0-0) 1 Credit Hour.
Prerequisites: A 3.0 College of Business grade point average, MGT 3003, 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 the College of Business Undergraduate Advising Center 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.

MKT 4912. Independent Study. (0-0) 2 Credit Hours.
Prerequisites: A 3.0 College of Business grade point average, MGT 3003, 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 the College of Business Undergraduate Advising Center 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.

MKT 4913. Independent Study. (0-0) 3 Credit Hours.
Prerequisites: A 3.0 College of Business grade point average, MGT 3003, 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 the College of Business Undergraduate Advising Center 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.

MKT 4933. Internship in Marketing. (0-0) 3 Credit Hours.
Prerequisites: MGT 3003, MKT 3013 with a grade of "C-" or better, a 2.5 UTSA grade point average, 9 additional semester credit hours in marketing, and permission in writing from the instructor, the Department Chair, and the Dean of the College of Business. See the College of Business Undergraduate Advising Center for required forms and additional requirements. The opportunity to gain knowledge through the experiential activities of organizational life. Joint cooperation with business, government, and health science institutions in structuring and monitoring work experience aimed at supplementing the learning process. Opportunities are developed in consultation with the faculty advisor and 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, but only 3 hours may count toward the 21 hours of marketing required for the major.

MKT 4951. Special Studies in Marketing. (1-0) 1 Credit Hour.
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.
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.

MKT 4993. Honors Thesis. (0-0) 3 Credit Hours.
Prerequisite: MGT 3003. Enrollment limited to students applying for Honors in Marketing. Supervised research and preparation of an honors thesis. May be repeated once for credit with advisor’s approval.

Sport, Event and Tourism Management (SET) Courses
Department of Marketing, College of Business

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.).

SET 3043. Attractions Management. (3-0) 3 Credit Hours.
Prerequisite: SET 2123. Explores all aspects of managing visitor attractions such as amusement parks, theme parks, museums, national parks, and heritage sites.

SET 3233. Sport Management. (3-0) 3 Credit Hours.
Prerequisite: SET 2123. 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.

SET 3283. Sport and Event Media Relations. (3-0) 3 Credit Hours.
Prerequisite: SET 2123. 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.

SET 3313. Sport Tourism and Events. (3-0) 3 Credit Hours.
Prerequisite: SET 2123. 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.

SET 3333. Event Management. (3-0) 3 Credit Hours.
Prerequisite: SET 2123. 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.

SET 3413. Resort and Club Management. (3-0) 3 Credit Hours.
Prerequisite: SET 2123. 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.

SET 3433. Meetings and Conventions. (3-0) 3 Credit Hours.
Prerequisite: SET 2123. 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.

SET 3543. Economics of Tourism and Leisure. (3-0) 3 Credit Hours.
Prerequisites: ECO 2023 and SET 2123. Application of economic theories and principles to the areas of tourism, sport, and recreation. Some of the main topics include supply and demand, market structure, competition, and the impacts on the economy, society, and the environment.

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. (Same as FM 4233. Credit cannot be earned for both SET 4233 and FM 4233.).

SET 4543. Destination Marketing. (3-0) 3 Credit Hours.
Prerequisite: SET 2123. 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. Marketing majors cannot take SET 4543 as an upper-division Marketing elective.).

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.

SET 4812. Special Topics in Sport, Event and Tourism Management. (2-0) 2 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.

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.
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.

SET 4922. *Independent Study in Sport, Event and Tourism Management. (0-0) 2 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.

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.

SET 4941. *Internship in Sport, Event and Tourism Management. (0-0) 1 Credit Hour.*
Prerequisites: MGT 3003, student must currently have a 2.5 UTSA grade point average, and permission in writing from the sponsoring Tourism instructor, the Department Chair, and the Dean of the College of Business. See the College of Business Undergraduate Advising Center for additional requirements and required forms. The course is designed for students seeking supervised full- or part-time work experience in the sport, event or tourism industries. 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.

SET 4942. *Internship in Sport, Event and Tourism Management. (0-0) 2 Credit Hours.*
Prerequisites: MGT 3003, student must currently have a 2.5 UTSA grade point average, and permission in writing from the sponsoring Tourism instructor, the Department Chair, and the Dean of the College of Business. See the College of Business Undergraduate Advising Center for additional requirements and required forms. The course is designed for students seeking supervised full- or part-time work experience in the sport, event or tourism industries. 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.

SET 4943. *Internship in Sport, Event and Tourism Management. (0-0) 3 Credit Hours.*
Prerequisites: MGT 3003, student must currently have a 2.5 UTSA grade point average, and permission in writing from the sponsoring Tourism instructor, the Department Chair, and the Dean of the College of Business. See the College of Business Undergraduate Advising Center for additional requirements and required forms. The course is designed for students seeking supervised full- or part-time work experience in the sport, event or tourism industries. 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.
5. 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; Kinesiology, Health, and Nutrition; and Interdisciplinary Learning and Teaching.

Seven undergraduate degrees are offered within the College: the Bachelor of Applied Arts and Sciences in Infancy and Childhood Studies, the Bachelor of Arts in Interdisciplinary Studies, the Bachelor of Arts in Mexican American Studies, the Bachelor of Arts in Women’s Studies, the Bachelor of Science in Health, and the Bachelor of Science in Kinesiology, and the Bachelor of Science in Nutrition and Dietetics. Minors are also offered in African American Studies, Athletic Coaching, Bicultural Studies, English as a Second Language, Community Health, Wellness, and Women’s Studies. For more information related to the College, consult the Web page: http://education.utsa.edu.

Advising and Certification Center

Academic Advising

Academic advising services are provided for students admitted to or currently enrolled at UTSA in the following majors: Health, Kinesiology, Interdisciplinary Studies, Infancy and Childhood Studies, Mexican American Studies, Nutrition and Dietetics, and Women’s Studies. 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, Music or Kinesiology.

Additional information about UTSA certification programs and teacher certification guidelines is available in the Teacher Certification section of this catalog and in the COEHD Advising and Certification Center.

**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:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<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>
</tbody>
</table>

B. Two African American Studies courses selected from the following: 6

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>AAS 3013</td>
<td>African American Cultural Experiences</td>
</tr>
<tr>
<td>AAS 3113</td>
<td>African American Studies Research Seminar</td>
</tr>
<tr>
<td>AAS 3123</td>
<td>Civil Rights Movement &amp; African American Education</td>
</tr>
<tr>
<td>AAS 3133</td>
<td>African Americans in Higher Education</td>
</tr>
<tr>
<td>AAS 4013</td>
<td>Topics in African American Studies</td>
</tr>
</tbody>
</table>

C. Two courses selected from the following: 6

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMS 3343</td>
<td>Studies in Race and Ethnicity</td>
</tr>
<tr>
<td>BBL 2033</td>
<td>Multiculturalism in the Southwest</td>
</tr>
<tr>
<td>BBL 3403</td>
<td>Cultural and Linguistic Diversity in a Pluralistic Society</td>
</tr>
<tr>
<td>EDU 2103</td>
<td>Social Foundations for Education in a Diverse U.S. Society</td>
</tr>
<tr>
<td>ENG 2383</td>
<td>Multiethnic Literatures of the United States</td>
</tr>
</tbody>
</table>
ENG 3613  African American Literature
GRG 3513  Urban Geography
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 3603  Occupation, Revolution and Nation in Africa
HIS 3613  Migration, Society and Culture in Africa
HIS 3623  History of the Civil Rights Movement
LGS 3113  Minorities and the Law
MUS 2663  History and Styles of Jazz
POL 1213  Studies in Texas and American Politics (when the topic is Civil Rights)
POL 3023  Civil Liberties in American Law and Practice (when subtitled “Focus on the Black Experience” in class schedule)
POL 3203  African American Political Thought
POL 3303  Race, Ethnicity and Public Policy
SOC 4053  Health Care System

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 the College of Education and Human Development Advising and Certification Center.

**Bachelor of Arts Degree in Women’s Studies**

The major 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 Bachelor of Arts 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. For a complete listing of courses that satisfy the Core Curriculum requirements, see chapter 1 of this catalog.

Degree Requirements

A. Major courses
   1. Required courses
      WS 2013  Introduction to Women’s Studies  3
      WS 3613  Feminist Research Methodologies  3
      WS 4623  Feminist Theories  3
      WS 4933  Internship in Women’s Studies  3
      WS 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
   POL 3163  Introduction to Feminist Theory
   WS 3953  Special Topics in Women Writers
   WS 4953  Special Topics in Women's Studies

Globalization and Borderlands
   BBL 2023  Latino Cultural Expressions
   GRG 3653  Geographic Perspectives on Women
   HIS 3133  Themes in the Social History of the United States
   WS 4863  Feminism and Globalization

Culture and Society
   AMS 3443  Studies in Gender and Sexuality
   ANT 3603  Sex, Gender, and Culture
   BBL 3023  Mexican American Culture
   BBL 3043  Social Psychological Considerations in Mexican American Communities
   BIO 2003  Biology of Human Reproduction
   CRJ 4463  Gender and Crime
   CRJ 4853  Sex Crimes and the Law
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
LNG 3843  Gender Issues in Language
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
SOC 3513  Children and Society
WS 2023  Introduction to LGBTQ Studies
WS 4913  Independent Study
WS 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 Bachelor's 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, 1053, or 2053  United States History: Pre-Columbus to Civil War Era (core)  3
POL 1013  Introduction to American Politics (core)  3
WRC 1013  Freshman Composition I (core)  3
Mathematics core  3

Spring
HIS 1043, 1053, or 2053  United States History: Pre-Columbus to Civil War Era  3
<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>POL 1133</td>
<td>Texas Politics and Society (core)</td>
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</tr>
<tr>
<td>WRC 1023</td>
<td>Freshman Composition II (core)</td>
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<tr>
<td></td>
<td>Free elective</td>
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</tr>
<tr>
<td></td>
<td>Life &amp; Physical Sciences core</td>
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</table>

**Second Year**

<table>
<thead>
<tr>
<th>Term</th>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall</td>
<td>WS 2013</td>
<td>Introduction to Women’s Studies</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Free elective</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Free elective</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Language, Philosophy &amp; Culture</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Life &amp; Physical Sciences core</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Spring</td>
<td>Culture and Society group</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Free elective</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Globalization and Borderlands</td>
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<td>3</td>
</tr>
<tr>
<td></td>
<td>Social &amp; Behavioral Sciences</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Component Area Option core</td>
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<td>3</td>
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</tbody>
</table>

**Third Year**

<table>
<thead>
<tr>
<th>Term</th>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>Fall</td>
<td>WS 3613</td>
<td>Feminist Research Methodologies</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Free elective</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Subject Group elective</td>
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<td>3</td>
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<tr>
<td></td>
<td>Subject Group elective</td>
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<td>3</td>
</tr>
<tr>
<td></td>
<td>Creative Arts core</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Spring</td>
<td>WS 4623</td>
<td>Feminist Theories</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Free elective</td>
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<tr>
<td></td>
<td>Subject Group elective</td>
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<tr>
<td></td>
<td>Subject Group elective</td>
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<td>3</td>
</tr>
<tr>
<td></td>
<td>Upper-division free elective</td>
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<td>3</td>
</tr>
</tbody>
</table>

**Fourth Year**

<table>
<thead>
<tr>
<th>Term</th>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall</td>
<td>WS 4973</td>
<td>Seminar in Women’s Studies</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Free elective</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Free elective</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Subject Group elective</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Subject Group elective</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>
### Spring

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>WS 4933</td>
<td>Internship in Women’s Studies</td>
<td>3</td>
</tr>
<tr>
<td>Free elective</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Subject Group elective</td>
<td></td>
<td>3</td>
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<tr>
<td>Subject Group elective</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Upper-division free elective</td>
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<td>3</td>
</tr>
</tbody>
</table>

**Total Credit Hours: 120.0**

### Minor in Women’s Studies

All students pursuing a Minor in Women’s Studies (WS) are required to complete 18 semester credit hours.

**A. Required Courses**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>WS 2013</td>
<td>Introduction to Women’s Studies</td>
<td>3</td>
</tr>
<tr>
<td>WS 4623</td>
<td>Feminist Theories</td>
<td>3</td>
</tr>
</tbody>
</table>

**B. Additional coursework**

Select four of the following, in at least two disciplines other than the student’s major: 12

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMS 3443</td>
<td>Studies in Gender and Sexuality</td>
</tr>
<tr>
<td>ANT 3603</td>
<td>Sex, Gender, and Culture</td>
</tr>
<tr>
<td>BBL 2023</td>
<td>Latino Cultural Expressions</td>
</tr>
<tr>
<td>BBL 3023</td>
<td>Mexican American Culture</td>
</tr>
<tr>
<td>BBL 3043</td>
<td>Social Psychological Considerations in Mexican American Communities</td>
</tr>
<tr>
<td>BIO 2003</td>
<td>Biology of Human Reproduction</td>
</tr>
<tr>
<td>CLA 3123</td>
<td>Cultural Issues in Classical Antiquity</td>
</tr>
<tr>
<td>CRJ 4403</td>
<td>Race, Ethnicity, and Criminal Justice</td>
</tr>
<tr>
<td>CRJ 4463</td>
<td>Gender and Crime</td>
</tr>
<tr>
<td>CRJ 4853</td>
<td>Sex Crimes and the Law</td>
</tr>
<tr>
<td>ENG 3133</td>
<td>Women and Literature</td>
</tr>
<tr>
<td>ENG 4393</td>
<td>Feminist Theory of Literature</td>
</tr>
<tr>
<td>HIS 3043</td>
<td>History of Women in the United States: Pre-Columbus to 1890</td>
</tr>
<tr>
<td>HIS 3053</td>
<td>History of Women in the United States: Since 1890</td>
</tr>
<tr>
<td>HIS 3133</td>
<td>Themes in the Social History of the United States</td>
</tr>
<tr>
<td>HIS 3963</td>
<td>Women and Gender in India</td>
</tr>
<tr>
<td>HTH 4523</td>
<td>Understanding Human Sexuality</td>
</tr>
<tr>
<td>IDS 2113</td>
<td>Society and Social Issues</td>
</tr>
<tr>
<td>LNG 3843</td>
<td>Gender Issues in Language</td>
</tr>
<tr>
<td>MAS 2013</td>
<td>Introduction to Chicano(a) Studies</td>
</tr>
<tr>
<td>POL 3163</td>
<td>Introduction to Feminist Theory</td>
</tr>
</tbody>
</table>
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  
WS 2023  Introduction to LGBTQ Studies  
WS 3613  Feminist Research Methodologies  
WS 3953  Special Topics in Women Writers  
WS 4863  Feminism and Globalization  
WS 4913  Independent Study  
WS 4933  Internship in Women’s Studies  
WS 4953  Special Topics in Women's Studies  

Total Credit Hours: 18

**Note:** Please consult the Women’s Studies Institute for a complete list of courses that fulfill the WS 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 the College of Education and Human Development Advising and Certification Center.

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**African American Studies (AAS) Courses**  
College of Education and Human Development

**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.

**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.
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.

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 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.

AAS 3123. Civil Rights Movement & 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.

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.

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.

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.

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.

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.

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.

Women’s Studies (WS) Courses
College of Education and Human Development

WS 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. Credit cannot be earned for both WS 2013 and WGS 2013.).

WS 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 be repeated for credit when topics vary.

WS 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.

WS 3953. Special Topics in Women Writers. (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 and WS 4853.).
WS 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. (Formerly WGS 4623. Credit cannot be earned for both WS 4623 and WGS 4623.).

WS 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.

WS 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.).

WS 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.).

WS 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.).

WS 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 Women’s Studies majors in their senior year, 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.

WS 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.
DEPARTMENT OF BICULTURAL-BILINGUAL STUDIES

The Department of Bicultural-Bilingual Studies offers a Bachelor of Arts (B.A.) degree in Mexican American Studies as well as Minors in Bicultural Studies and English as a Second Language. 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. Courses in bicultural-bilingual studies offer students the opportunity to prepare for bilingual and/or second language teaching and give insights into bilingual and multicultural functions in society. 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.

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 Generalist Certificate, the Grades 4–8 Bilingual Generalist Certificate, the Early Childhood–Grade 6 ESL Generalist Certificate, or the Grades 4–8 ESL Certificate.

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.

Bachelor of Arts Degree in Mexican American Studies

The Bachelor of Arts 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 eight concentrations: Anthropology; Communities, Families, and Children; History; 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.
Core Curriculum Requirements (42 semester credit hours)

Students seeking the Bachelor of Arts 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. For a complete listing of courses that satisfy the Core Curriculum requirements, see chapter 1 of this catalog.

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. ANT 2053, BBL 2003, or SOC 2013 is recommended to satisfy the core requirement in Social and Behavioral Sciences. ANT 2063 is recommended to satisfy the core requirement in Language, Philosophy and Culture.

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 3033 Mexican Americans in the Southwest 3
MAS 4083 Research Seminar in Mexican American Studies 3

2. Select one course from the following:

BBL 3023 Mexican American Culture (required for anthropology concentration) 3
MAS 3003 Musical Mestizaje
MAS 3013 Chicana/o Queer Communities, Identities and Theories
MAS 3043 Social Psychological Considerations in Mexican American Communities
MAS 3413 Mexican American Family
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 3093 Mexican American Politics (required for political science concentration)
SOC 3433 Mexican Immigration and U.S. Society (recommended for communities, families, and children concentration)
ENG 3613 African American Literature (may substitute for MAS 4953, POL 3093 or SOC 3433 when courses not offered)
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)
WS 4623 Feminist Theories (may substitute for MAS 4953, POL 3093, or SOC 3433 when courses not offered)
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.

**Concentration in Anthropology**

1. Select three of the following:
   - ANT 2033 Introduction to Physical Anthropology
   - ANT 2043 Introduction to Archaeology
   - ANT 2053 Introduction to Cultural Anthropology
   - ANT 2063 Language, Thought, and Culture

2. Upper-division courses
   - AHC 3423 Arts of Ancient America
   - ANT 3363 Indians of Mesoamerica

   Select one of the following:
   - ANT 4123 Archaeology of the American Southwest
   - SOC 3433 Mexican Immigration and U.S. Society
   - WS 4623 Feminist Theories

**Concentration in Communities, Families, and Children**

- BBL 3053 Foundations of Bilingual Studies
- BBL 3143 Children’s Literature for Bilingual Learners
- ESL 3023 Second Language Teaching and Learning in EC–6
- MAS 3413 Mexican American Family
- SOC 3503 Sociology of Education
- SOC 3513 Children and Society
- or ECE 3143 Child Growth and Development

**Concentration in History**

1. Required courses:
   - HIS 2003 Historical Methods
   - HIS 4973 Seminar in History

2. Select two of the following:
   - HIS 3083 History of the American West
   - HIS 3153 Development of American Urban Society
   - HIS 3463 History of Religion in the United States

3. Select two of the following:
   - HIS 2533 Introduction to Latin American Civilization
   - HIS 3033 The Spanish and Mexican Borderlands
   - HIS 3303 History of Mexico
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

2. Select one of the following:

   ENG 2383  Multiethnic Literatures of the United States
   ENG 2423  Literature of Texas and the Southwest

3. Select one of the following:

   ENG 4393  Feminist Theory of Literature
   WS 3953   Special Topics in Women Writers

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
   ENG 4613  Topics in Mexican American Literature (if not taken for the major requirement)

5. Select one of the following:

   BBL 3023  Mexican American Culture (if not taken for the major requirement)
   ENG 3613  African American Literature
   HUM 3103  American Film

6. Select one of the following:

   ENG 4953  Special Studies in English
   ENG 4973  Seminar for English Majors

Concentration in Nonprofit Management

1. Required courses

   NPO 3003  Fundraising in Nonprofit Agencies
   NPO 3013  Introduction to Nonprofit Agencies
   NPO 4933  Internship in Nonprofit Management
   PAD 3043  Public and Nonprofit Financial Management

2. Select two courses from the following:

   COM 3893  Organizational Communication
   PAD 3113  Managing Public and Nonprofit Organizations
   PAD 3123  Strategic Planning in the Public and Nonprofit Sectors
   PAD 4953  Special Topics in Nonprofit Organizations

Concentration in Political Science

1. Required courses

   POL 2703  Scope and Methods in Political Science
   POL 3093  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 3303  Race, Ethnicity and Public Policy
   - POL 3413  The Politics of Urban Development
   - POL 3753  Latino/a Politics

   **Comparative or International Politics**
   - Comparative Politics
     - POL 3453  The Politics of Mexico
     - POL 3463  Politics of the Third World
     - POL 3553  Social Policy in Modern Welfare States
   - International Politics
     - POL 3063  Comparative Political Participation
     - POL 3763  Globalization

   **Political Theory**
   - POL 3153  Political Philosophy: Contemporary
   - POL 3163  Introduction to Feminist Theory
   - POL 3203  African American Political Thought

   **Public Administration or Public Law**
   - Public Administration
     - POL 3413  The Politics of Urban Development
   - Public Law
     - POL 3013  The American Legal Process
     - POL 3023  Civil Liberties in American Law and Practice

   **Concentration in Sociology**
   1. Required courses
   - SOC 1013  Introduction to Sociology
   - SOC 3043  Race and Ethnic Relations
   - SOC 3343  Classical Sociological Theory
   - SOC 3353  Contemporary Sociological Theory
   - SOC 3373  Qualitative Research Methods
   - SOC 3393  Quantitative Research Methods
2. Select two courses from the following:
SOC 3013  Social Stratification
SOC 3043  Race and Ethnic Relations
SOC 3093  Religion and Society
SOC 3263  Latinas in U.S. Society
SOC 3283  Poverty
SOC 3433  Mexican Immigration and U.S. Society

Concentration in Spanish
SPN 3013  Spanish Phonetics and Pronunciation
or SPN 3113  Linguistic Structures of Spanish
SPN 3043  Advanced Reading
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
Select one of the following:
SPN 4123  The Spanish of the Southwest
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)

C. Electives
Select 39 semester credit hours of electives

Total Credit Hours: 78

1 Denotes course substitution accepted when taught by a Mexican American Studies affiliate or focus is on Chicano/ Latino content

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, History, English, Political Science, Sociology, Spanish).

B.A. in Mexican American Studies – Recommended Four-Year Academic Plan

First Year

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIS 1203</td>
<td>Academic Inquiry and Scholarship (core)</td>
</tr>
<tr>
<td>ANT 2033</td>
<td>Introduction to Physical Anthropology (core)</td>
</tr>
<tr>
<td>BBL 2003</td>
<td>Language, Culture, and Society (core and major)</td>
</tr>
<tr>
<td>WRC 1013</td>
<td>Freshman Composition I (core)</td>
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<tr>
<td>Mathematics core</td>
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<td>Year</td>
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<td><strong>Second Year</strong></td>
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<td><strong>Third Year</strong></td>
<td><strong>Fall</strong></td>
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<td><strong>Fourth Year</strong></td>
<td><strong>Fall</strong></td>
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</tbody>
</table>

Total Credit Hours: 120.0

¹ It is recommended that MAS and concentration courses be completed before taking MAS 4083, as this is the capstone course for the major.
BILINGUAL EDUCATION AND ESL TEACHER CERTIFICATION CONCENTRATIONS

Bachelor of Arts Degree in Interdisciplinary Studies (Early Childhood–Grade 6 Bilingual Generalist Certification Concentration)

The minimum number of semester credit hours required for the Interdisciplinary Studies (IDS) degree with early childhood–grade 6 bilingual generalist certification is 128, at least 39 of which must be at the upper-division level.

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 Bachelor of Arts 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. For a complete listing of courses that satisfy the Core Curriculum requirements, see chapter 1 of this catalog.

MAT 1023 is recommended to satisfy the core requirement in Mathematics. BIO 1233 and either 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 a core requirement in Creative Arts. HIS 1053 and HIS 2053 are recommended to satisfy the core requirement in United States History and Diversity. IDS 2113 should be used to satisfy the core requirement in Social and Behavioral Sciences.

Degree Requirements

A. IDS Core Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>IDS 2113</td>
<td>Society and Social Issues</td>
<td>3</td>
</tr>
<tr>
<td>IDS 3003</td>
<td>STEM in Social Contexts</td>
<td>3</td>
</tr>
<tr>
<td>IDS 3013</td>
<td>Diversity, Equity, and the Social Sciences</td>
<td>3</td>
</tr>
<tr>
<td>IDS 3123</td>
<td>Culture, Literature, and Fine Arts</td>
<td>3</td>
</tr>
<tr>
<td>IDS 3713</td>
<td>Interdisciplinary Inquiry</td>
<td>3</td>
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</table>

B. IDS Support Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>ECE 3313</td>
<td>Play, Creativity, and Learning</td>
<td>3</td>
</tr>
<tr>
<td>EDU 2103</td>
<td>Social Foundations for Education in a Diverse U.S. Society</td>
<td>3</td>
</tr>
<tr>
<td>IDS 2013</td>
<td>Introduction to Learning and Teaching in a Culturally Diverse Society</td>
<td>3</td>
</tr>
<tr>
<td>IDS 2403 &amp; IDS 3201</td>
<td>Physical Science and Inquiry in Physical Science</td>
<td>4</td>
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<tr>
<td>or IDS 3234</td>
<td>Investigations in Physical Science</td>
<td></td>
</tr>
<tr>
<td>IDS 2413 &amp; IDS 3211</td>
<td>Earth Systems Science and Inquiry in Earth Systems Science</td>
<td>4</td>
</tr>
<tr>
<td>or IDS 3224</td>
<td>Earth Systems Science Investigations</td>
<td></td>
</tr>
</tbody>
</table>
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 Student Teaching coursework.

A. Early Childhood–Grade 6 Bilingual Generalist courses

BBL 3013  Language Analysis and Bilingualism  3
BBL 3023  Mexican American Culture  3
or BBL 3033  Mexican Americans in the Southwest  3
BBL 3053  Foundations of Bilingual Studies (prerequisite to BBL 4033, BBL 4063, BBL 4073, and BBL 4403)  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
RDG 3803  Writing Development and Processes  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 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
C&I 4616  Student Teaching: Early Childhood–Grade 6  6
RDG 3823  Reading Comprehension–EC–6  3

Total Credit Hours: 48

1 Concurrent enrollment

B.A. in Interdisciplinary Studies, Early Childhood–Grade 6 Bilingual Generalist Certification Concentration – Recommended Four-Year Academic Plan

First Year

<table>
<thead>
<tr>
<th>Fall Credit Hours</th>
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<tbody>
<tr>
<td>AIS 1203  Academic Inquiry and Scholarship (core)  3</td>
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<tr>
<td>BIO 1233  Contemporary Biology I (core)  3</td>
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<td>Course Code</td>
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</tr>
<tr>
<td>HIS 1053</td>
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<tr>
<td>MAT 1023</td>
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<tr>
<td>WRC 1013</td>
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**Spring**

<table>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>AST 1033 or PHY 1013</td>
<td>Exploration of the Solar System (core)</td>
<td>3</td>
</tr>
<tr>
<td>HIS 2053</td>
<td>Texas History (core)</td>
<td>3</td>
</tr>
<tr>
<td>IDS 2013</td>
<td>Introduction to Learning and Teaching in a Culturally Diverse Society</td>
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</tr>
<tr>
<td>POL 1013</td>
<td>Introduction to American Politics (core)</td>
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</tr>
<tr>
<td>WRC 1023</td>
<td>Freshman Composition II (core)</td>
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**Summer**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>IDS 2113</td>
<td>Society and Social Issues (core and major)</td>
<td>3</td>
</tr>
<tr>
<td>POL 1133</td>
<td>Texas Politics and Society (core)</td>
<td>3</td>
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<td>Component Area Option core</td>
<td>3</td>
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</table>

**Second Year**

**Fall**

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<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>AAS 2013 or MAS 2013</td>
<td>Introduction to African American Studies (core)</td>
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</tr>
<tr>
<td>EDU 2103</td>
<td>Social Foundations for Education in a Diverse U.S. Society</td>
<td>3</td>
</tr>
<tr>
<td>IDS 3013</td>
<td>Diversity, Equity, and the Social Sciences</td>
<td>3</td>
</tr>
<tr>
<td>MAS 2023</td>
<td>Latino Cultural Expressions (core)</td>
<td>3</td>
</tr>
<tr>
<td>MAT 1153</td>
<td>Essential Elements in Mathematics I</td>
<td>3</td>
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**Spring**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>BBL 3053</td>
<td>Foundations of Bilingual Studies</td>
<td>3</td>
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<tr>
<td>IDS 2403</td>
<td>Physical Science</td>
<td>3</td>
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<tr>
<td>IDS 3123</td>
<td>Culture, Literature, and Fine Arts</td>
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<tr>
<td>IDS 3201</td>
<td>Inquiry in Physical Science</td>
<td>1</td>
</tr>
<tr>
<td>MAT 1163</td>
<td>Essential Elements in Mathematics II</td>
<td>3</td>
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**Summer**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>IDS 2413</td>
<td>Earth Systems Science</td>
<td>3</td>
</tr>
<tr>
<td>IDS 3211</td>
<td>Inquiry in Earth Systems Science</td>
<td>1</td>
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<tr>
<td>RDG 3803</td>
<td>Writing Development and Processes</td>
<td>3</td>
</tr>
<tr>
<td>SPE 3603</td>
<td>Introduction to Special Education</td>
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**Third Year**

**Fall**

Admission to the Teacher Certification Program

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>BBL 3013</td>
<td>Language Analysis and Bilingualism</td>
<td>3</td>
</tr>
<tr>
<td>BBL 3133</td>
<td>Language Development in Bilinguals</td>
<td>3</td>
</tr>
<tr>
<td>ECE 3313</td>
<td>Play, Creativity, and Learning</td>
<td>3</td>
</tr>
<tr>
<td>ESL 3023</td>
<td>Second Language Teaching and Learning in EC–6</td>
<td>3</td>
</tr>
</tbody>
</table>
Bachelor of Arts Degree in Interdisciplinary Studies (Grades 4–8 Bilingual Generalist Certification Concentration)

The minimum number of semester credit hours required for the Interdisciplinary Studies (IDS) degree with grades 4–8 bilingual generalist certification is 131, at least 39 of which must be at the upper-division level.

**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**

Students seeking the Bachelor of Arts 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. For a complete listing of courses that satisfy the Core Curriculum requirements, see chapter 1 of this catalog.

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 a core requirement in Creative Arts. HIS 1053 and HIS 2053 should be used to satisfy the
core requirement in United States History and Diversity. IDS 2113 should be used to satisfy the core requirement in Social and Behavioral Sciences.

Degree Requirements

A. IDS Core Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>IDS 2113</td>
<td>Society and Social Issues</td>
<td>3</td>
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<tr>
<td>IDS 3003</td>
<td>STEM in Social Contexts</td>
<td>3</td>
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<td>IDS 3013</td>
<td>Diversity, Equity, and the Social Sciences</td>
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<tr>
<td>IDS 3123</td>
<td>Culture, Literature, and Fine Arts</td>
<td>3</td>
</tr>
<tr>
<td>IDS 3713</td>
<td>Interdisciplinary Inquiry</td>
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B. IDS Support Courses

1. Required Courses:

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<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>BIO 1233</td>
<td>Contemporary Biology I</td>
<td>3</td>
</tr>
<tr>
<td>EDP 3303</td>
<td>Learning and Development in the Middle School Context (Grades 4–8)</td>
<td>3</td>
</tr>
<tr>
<td>EDU 2103</td>
<td>Social Foundations for Education in a Diverse U.S. Society</td>
<td>3</td>
</tr>
<tr>
<td>GRG 1023</td>
<td>World Regional Geography</td>
<td>3</td>
</tr>
<tr>
<td>HIS 1053</td>
<td>HIS 1053 United States History: Civil War Era to Present</td>
<td>3</td>
</tr>
<tr>
<td>HIS 2053</td>
<td>Texas History</td>
<td>3</td>
</tr>
<tr>
<td>IDS 2013</td>
<td>Introduction to Learning and Teaching in a Culturally Diverse Society</td>
<td>3</td>
</tr>
<tr>
<td>IDS 2403</td>
<td>Physical Science</td>
<td>4</td>
</tr>
<tr>
<td>&amp; IDS 3201</td>
<td>and Inquiry in Physical Science</td>
<td></td>
</tr>
<tr>
<td>or IDS 3234</td>
<td>Investigations in Physical Science</td>
<td></td>
</tr>
<tr>
<td>IDS 2413</td>
<td>Earth Systems Science</td>
<td>4</td>
</tr>
<tr>
<td>&amp; IDS 3211</td>
<td>and Inquiry in Earth Systems Science</td>
<td></td>
</tr>
<tr>
<td>or IDS 3224</td>
<td>Earth Systems Science Investigations</td>
<td></td>
</tr>
<tr>
<td>MAT 1023</td>
<td>College Algebra with Applications</td>
<td>3</td>
</tr>
<tr>
<td>MAT 1093</td>
<td>Precalculus</td>
<td>3</td>
</tr>
<tr>
<td>MAT 1153</td>
<td>Essential Elements in Mathematics I</td>
<td>3</td>
</tr>
<tr>
<td>MAT 1163</td>
<td>Essential Elements in Mathematics II</td>
<td>3</td>
</tr>
<tr>
<td>MAT 1214</td>
<td>Calculus I</td>
<td>4</td>
</tr>
<tr>
<td>RDG 3523</td>
<td>Reading for Teachers–Grades 4–8</td>
<td>3</td>
</tr>
<tr>
<td>RDG 3633</td>
<td>Literature and Other Texts Across the Content Areas–Grades 4–8</td>
<td>3</td>
</tr>
<tr>
<td>SPE 3603</td>
<td>Introduction to Special Education</td>
<td>3</td>
</tr>
</tbody>
</table>

2. Level One or Level Two Science courses in a different discipline from science courses taken for Core Curriculum requirement.

3. Select one of the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BBL 4003</td>
<td>Spanish for Bilingual Instructional Delivery</td>
<td>3</td>
</tr>
</tbody>
</table>
SPN 3063  Grammar and Composition
SPN 4003  Advanced Language Skills

Total Credit Hours: 75

1 Students must complete one of the three listed courses with a grade of “C–” or higher. 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 Student 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 3063  Second Language Acquisition in Early Adolescence  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  3
BBL 4063  Bilingual Approaches to Content-Based Learning  3
BBL 4073  Language Arts in a Bicultural-Bilingual Program  3
C&I 4433  Approaches to Teaching Science–Grades 4–8  3
or C&I 4443  Approaches to Teaching Mathematics–Grades 4–8
C&I 4603  Mathematics and Science Approaches and Classroom Management Strategies–Grades 4–8  3
C&I 4626  Student Teaching: Grades 4–8  6

Total Credit Hours: 33

1 Concurrent enrollment

B.A. in Interdisciplinary Studies, Grades 4–8 Bilingual Generalist Certification Concentration –
Recommended Four-Year Academic Plan

First Year

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>AIS 1203</td>
<td>Academic Inquiry and Scholarship (core) 3</td>
</tr>
<tr>
<td>BIO 1233</td>
<td>Contemporary Biology I (core and major) 3</td>
</tr>
<tr>
<td>HIS 1053</td>
<td>HIS 1053 United States History: Civil War Era to Present (core and major) 3</td>
</tr>
<tr>
<td>MAT 1023</td>
<td>College Algebra with Applications (core and major) 3</td>
</tr>
<tr>
<td>WRC 1013</td>
<td>Freshman Composition I (core) 3</td>
</tr>
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</table>
### Spring

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIS 2053</td>
<td>Texas History (core and major)</td>
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</tr>
<tr>
<td>IDS 2013</td>
<td>Introduction to Learning and Teaching in a Culturally Diverse Society</td>
<td>3</td>
</tr>
<tr>
<td>MAS 2023</td>
<td>Latino Cultural Expressions (core)</td>
<td>3</td>
</tr>
<tr>
<td>WRC 1023</td>
<td>Freshman Composition II (core)</td>
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**Life & Physical Sciences core**

<table>
<thead>
<tr>
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<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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### Summer

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>IDS 2403</td>
<td>Physical Science</td>
<td>3</td>
</tr>
<tr>
<td>POL 1013</td>
<td>Introduction to American Politics (core)</td>
<td>3</td>
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</table>

### Second Year

#### Fall

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDU 2103</td>
<td>Social Foundations for Education in a Diverse U.S. Society</td>
<td>3</td>
</tr>
<tr>
<td>IDS 2413</td>
<td>Earth Systems Science</td>
<td>3</td>
</tr>
<tr>
<td>AAS 2013 or MAS 2013</td>
<td>Introduction to African American Studies (core)</td>
<td>3</td>
</tr>
<tr>
<td>MAT 1093</td>
<td>Precalculus</td>
<td>3</td>
</tr>
<tr>
<td>MAT 1153</td>
<td>Essential Elements in Mathematics I</td>
<td>3</td>
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</tbody>
</table>

#### Spring

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>IDS 3013</td>
<td>Diversity, Equity, and the Social Sciences</td>
<td>3</td>
</tr>
<tr>
<td>IDS 3123</td>
<td>Culture, Literature, and Fine Arts</td>
<td>3</td>
</tr>
<tr>
<td>MAT 1163</td>
<td>Essential Elements in Mathematics II</td>
<td>3</td>
</tr>
<tr>
<td>MAT 1214</td>
<td>Calculus I</td>
<td>4</td>
</tr>
<tr>
<td>POL 1133</td>
<td>Texas Politics and Society (core)</td>
<td>3</td>
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</table>

#### Summer

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>GRG 1023</td>
<td>World Regional Geography</td>
<td>3</td>
</tr>
<tr>
<td>SPE 3603</td>
<td>Introduction to Special Education</td>
<td>3</td>
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</table>

**Component Area Option core**

**Life & Physical Sciences core**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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### Third Year

#### Fall

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admission to the Teacher Certification Program</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BBL 3053</td>
<td>Foundations of Bilingual Studies</td>
<td>3</td>
</tr>
<tr>
<td>EDP 3303</td>
<td>Learning and Development in the Middle School Context (Grades 4–8)</td>
<td>3</td>
</tr>
<tr>
<td>ESL 3063</td>
<td>Second Language Acquisition in Early Adolescence</td>
<td>3</td>
</tr>
<tr>
<td>IDS 3003</td>
<td>STEM in Social Contexts</td>
<td>3</td>
</tr>
<tr>
<td>IDS 3201 or 3211</td>
<td>Inquiry in Physical Science</td>
<td>1</td>
</tr>
<tr>
<td>BBL 4003, SPN 3063, or SPN 4003</td>
<td>Spanish for Bilingual Instructional Delivery</td>
<td>3</td>
</tr>
</tbody>
</table>
### Bachelor of Arts Degree in Interdisciplinary Studies (Early Childhood–Grade 6 ESL Generalist Certification Concentration)

The minimum number of semester credit hours required for the Interdisciplinary Studies (IDS) degree with early childhood–grade 6 ESL generalist certification is 128, at least 39 of which must be at the upper-division level.

### Core Curriculum Requirements

Students seeking the Bachelor of Arts 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. For a complete listing of courses that satisfy the Core Curriculum requirements, see chapter 1 of this catalog.

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 America History. IDS 2113 should be used to satisfy the core requirement in Social and Behavioral Sciences. A foreign language course should be used to satisfy the core requirement in Language, Philosophy & Culture if it is needed to meet the language requirement, otherwise AAS 2013 or MAS 2013 are recommended.

### Degree Requirements

#### A. IDS Core Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>IDS 2113</td>
<td>Society and Social Issues</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Credit Hours: 131.0

1 Must be taken concurrently.
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  Physical Science  4
& IDS 3201  and Inquiry in Physical Science
or IDS 3234  Investigations in Physical Science
IDS 2413  Earth Systems Science  4
& IDS 3211  and Inquiry in Earth Systems Science
or IDS 3224  Earth Systems Science Investigations
MAT 1153  Essential Elements in Mathematics I  3
MAT 1163  Essential Elements in Mathematics II  3

C. Language Requirement
Documented oral communication skills in a language other than English at the intermediate level (2000 level). Courses include, but are not limited to: ASL, CHN, FRN, GER, ITL, JPN, RUS, SPN at 2013 level, and SPN 2003 Spanish for Elementary Education. Grades of “CR” received from a Challenge Examination of a UTSA course in which student demonstrates oral communication skills in a language other than English will be accepted.

Total Credit Hours: 29-32

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
ENG 3333  Introduction to the Structure of English  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
ESL 4013  Principles of First and Second Language Acquisition  3

B. Other Certification Courses
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
RDG 3513  Children’s Literature–EC–6  3
RDG 3803  Writing Development and Processes  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.

RDG 3823  Reading Comprehension–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.

C&I 4303  Approaches to Teaching Social Studies Incorporating Language Arts and Fine Arts EC–6  3
C&I 4353  Approaches to Teaching Science EC–6  3
C&I 4403  Approaches to Teaching Mathematics EC–6  3
C&I 4616  Student Teaching: Early Childhood–Grade 6  6
ECE 4203  Assessment and Evaluation in EC–6  3
ESL 4003  Approaches to Second Language Teaching  3
RDG 4833  Organizing Reading Programs for Differentiated Instruction–EC–6  3

Total Credit Hours: 24

B.A. in Interdisciplinary Studies, Early Childhood–Grade 6 ESL Generalist Certification Concentration – Recommended Four-Year Academic Plan

First Year

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>AIS 1203</td>
<td>Academic Inquiry and Scholarship (core) 3</td>
</tr>
<tr>
<td>BIO 1233</td>
<td>Contemporary Biology I (core ) 3</td>
</tr>
<tr>
<td>HIS 1053</td>
<td>HIS 1053 United States History: Civil War Era to Present (core ) 3</td>
</tr>
<tr>
<td>MAT 1023</td>
<td>College Algebra with Applications (core ) 3</td>
</tr>
<tr>
<td>WRC 1013</td>
<td>Freshman Composition I (core ) 3</td>
</tr>
</tbody>
</table>

Spring

<table>
<thead>
<tr>
<th>AST 1033 or PHY 1013</th>
<th>Exploration of the Solar System (core ) 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIS 2053</td>
<td>Texas History (core ) 3</td>
</tr>
<tr>
<td>IDS 2013</td>
<td>Introduction to Learning and Teaching in a Culturally Diverse Society 3</td>
</tr>
<tr>
<td>POL 1013</td>
<td>Introduction to American Politics (core) 3</td>
</tr>
<tr>
<td>WRC 1023</td>
<td>Freshman Composition II (core ) 3</td>
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Summer

<table>
<thead>
<tr>
<th>BBL 2003</th>
<th>Language, Culture, and Society (core) 3</th>
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</thead>
<tbody>
<tr>
<td>IDS 2113</td>
<td>Society and Social Issues (core and major) 3</td>
</tr>
<tr>
<td>POL 1133</td>
<td>Texas Politics and Society 3</td>
</tr>
</tbody>
</table>
Intermediate-level foreign language or AAS 2013 or MAS 2013 (core) ¹

### Second Year

#### Fall

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDU 2103</td>
<td>Social Foundations for Education in a Diverse U.S. Society</td>
<td>3</td>
</tr>
<tr>
<td>ESL 3003</td>
<td>Language and Schooling</td>
<td>3</td>
</tr>
<tr>
<td>MAS 2023</td>
<td>Latino Cultural Expressions (core)</td>
<td>3</td>
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<tr>
<td>ENG 2013, 2383, or 2423</td>
<td>Introduction to Literature</td>
<td>3</td>
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<tr>
<td>MAT 1153</td>
<td>Essential Elements in Mathematics I</td>
<td>3</td>
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#### Spring

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESL 3023</td>
<td>Second Language Teaching and Learning in EC–6</td>
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<tr>
<td>ESL 3033</td>
<td>Foundations of English as a Second Language</td>
<td>3</td>
</tr>
<tr>
<td>ESL 4013</td>
<td>Principles of First and Second Language Acquisition</td>
<td>3</td>
</tr>
<tr>
<td>IDS 2403</td>
<td>Physical Science</td>
<td>3</td>
</tr>
<tr>
<td>IDS 3201</td>
<td>Inquiry in Physical Science</td>
<td>1</td>
</tr>
<tr>
<td>MAT 1163</td>
<td>Essential Elements in Mathematics II</td>
<td>3</td>
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</table>

#### Summer

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>IDS 2413</td>
<td>Earth Systems Science</td>
<td>3</td>
</tr>
<tr>
<td>IDS 3211</td>
<td>Inquiry in Earth Systems Science</td>
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</tr>
<tr>
<td>ESL 3053</td>
<td>Literacy in a Second Language</td>
<td>3</td>
</tr>
<tr>
<td>RDG 3803</td>
<td>Writing Development and Processes</td>
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### Third Year

#### Fall

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>ENG 3333</td>
<td>Introduction to the Structure of English</td>
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</tr>
<tr>
<td>IDS 3003</td>
<td>STEM in Social Contexts</td>
<td>3</td>
</tr>
<tr>
<td>IDS 3013</td>
<td>Diversity, Equity, and the Social Sciences</td>
<td>3</td>
</tr>
<tr>
<td>SPE 3603</td>
<td>Introduction to Special Education</td>
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#### Spring

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>C&amp;I 4353</td>
<td>Approaches to Teaching Science EC–6</td>
<td>3</td>
</tr>
<tr>
<td>C&amp;I 4403</td>
<td>Approaches to Teaching Mathematics EC–6</td>
<td>3</td>
</tr>
<tr>
<td>ECE 4203</td>
<td>Assessment and Evaluation in EC–6</td>
<td>3</td>
</tr>
<tr>
<td>RDG 3823</td>
<td>Reading Comprehension–EC–6</td>
<td>3</td>
</tr>
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#### Summer

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>IDS 3713</td>
<td>Interdisciplinary Inquiry</td>
<td>3</td>
</tr>
<tr>
<td>RDG 3513</td>
<td>Children’s Literature–EC–6</td>
<td>3</td>
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</table>

### Fourth Year

#### Fall

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>C&amp;I 4303</td>
<td>Approaches to Teaching Social Studies Incorporating Language Arts and</td>
<td>3</td>
</tr>
</tbody>
</table>
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 129–132, at least 39 of which must be at the upper-division level.

Core Curriculum requirements

Students seeking the Bachelor of Arts 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. For a complete listing of courses that satisfy the Core Curriculum requirements, see chapter 1 of this catalog.

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. A foreign language course should be used to satisfy the core requirement in Language, Philosophy and Culture if it is needed to meet the language requirement, otherwise AAS 2013 or MAS 2013 are recommended.

Degree Requirements

A. IDS Core Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>IDS 2113</td>
<td>Society and Social Issues</td>
<td>3</td>
</tr>
<tr>
<td>IDS 3003</td>
<td>STEM in Social Contexts</td>
<td>3</td>
</tr>
<tr>
<td>IDS 3013</td>
<td>Diversity, Equity, and the Social Sciences</td>
<td>3</td>
</tr>
<tr>
<td>IDS 3123</td>
<td>Culture, Literature, and Fine Arts</td>
<td>3</td>
</tr>
<tr>
<td>IDS 3713</td>
<td>Interdisciplinary Inquiry</td>
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B. IDS Support Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>IDS 2403</td>
<td>Physical Science</td>
<td>3</td>
</tr>
<tr>
<td>IDS 2413</td>
<td>Earth Systems Science</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Credit Hours: 128.0
MAT 1023 College Algebra with Applications 3
MAT 1153 Essential Elements in Mathematics I 3
MAT 1163 Essential Elements in Mathematics II 3
Select two of the following: 6
BBL 2243 Globalizing the Local: Bilingual Families, Communities, and Schools
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

C. Language Requirement
Documented oral communication skills in a language other than English at the intermediate level (2000 level). Courses include, but are not limited to: ASL, CHN, FRN, GER, ITL, JPN, RUS, SPN at 2013 level and SPN 2003 Spanish for Elementary Education. Grades of “CR” received from a Challenge Examination of a UTSA course in which student demonstrates oral communication skills in a language other than English will be accepted.

Total Credit Hours: 36-39

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
ENG 3333 Introduction to the Structure of English 3
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 3063 Second Language Acquisition in Early Adolescence 3
ESL 4013 Principles of First and Second Language Acquisition 3

B. Other Certification Courses
BBL 3403 Cultural and Linguistic Diversity in a Pluralistic Society 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
RDG 3523 Reading for Teachers–Grades 4–8 3
RDG 3803 Writing Development and Processes 3
SPE 3603 Introduction to Special Education 3
RDG 3633 Literature and Other Texts Across the Content Areas–Grades 4–8 (this course requires
admission to the teacher certification program)
or RDG 3533 Reading and Writing Across the Disciplines–Grades 4–8

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.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>C&amp;I 4543</td>
<td>Approaches to Teaching Social Studies–Grades 4–8</td>
<td>3</td>
</tr>
<tr>
<td>C&amp;I 4626</td>
<td>Student Teaching: Grades 4–8</td>
<td>6</td>
</tr>
<tr>
<td>EDP 4203</td>
<td>Assessment and Evaluation</td>
<td>3</td>
</tr>
<tr>
<td>ESL 4003</td>
<td>Approaches to Second Language Teaching</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Credit Hours: 57

B.A. in Interdisciplinary Studies, Grades 4–8 ESL Certification Concentration – Recommended Four-Year Academic Plan

First Year

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIS 1203 Academic Inquiry and Scholarship</td>
<td>3</td>
</tr>
<tr>
<td>MAT 1023 College Algebra with Applications</td>
<td>3</td>
</tr>
<tr>
<td>WRC 1013 Freshman Composition I</td>
<td>3</td>
</tr>
<tr>
<td>American History core</td>
<td>3</td>
</tr>
<tr>
<td>Life &amp; Physical Sciences core</td>
<td>3</td>
</tr>
</tbody>
</table>

Spring

| IDS 2013 Introduction to Learning and Teaching in a Culturally Diverse Society | 3 |
| POL 1013 Introduction to American Politics                                      | 3 |
| WRC 1023 Freshman Composition II                                               | 3 |
| American History core                                                          | 3 |
| Life & Physical Sciences core                                                   | 3 |

Summer

| BBL 2003 Language, Culture, and Society                                           | 3 |
| IDS 2113 Society and Social Issues                                               | 3 |
| IDS 2403 Physical Science                                                        | 3 |

Second Year

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDU 2103 Social Foundations for Education in a Diverse U.S. Society</td>
<td>3</td>
</tr>
<tr>
<td>ESL 3003 Language and Schooling</td>
<td>3</td>
</tr>
<tr>
<td>IDS 2413 Earth Systems Science</td>
<td>3</td>
</tr>
<tr>
<td>IDS 3013 Diversity, Equity, and the Social Sciences</td>
<td>3</td>
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<tr>
<td>MAT 1153 Essential Elements in Mathematics I</td>
<td>3</td>
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<tr>
<td>Semester</td>
<td>Course</td>
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<tr>
<td><strong>Spring</strong></td>
<td>ENG 2013 or 2383</td>
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<tr>
<td></td>
<td>ESL 3033</td>
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<tr>
<td></td>
<td>IDS 2083</td>
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<tr>
<td></td>
<td>IDS 3003</td>
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<tr>
<td></td>
<td>MAT 1163</td>
</tr>
<tr>
<td><strong>Summer</strong></td>
<td>ESL 3053</td>
</tr>
<tr>
<td></td>
<td>MAS 2023</td>
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<tr>
<td></td>
<td>POL 1133</td>
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<tr>
<td></td>
<td>SPE 3603</td>
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<tr>
<td><strong>Third Year</strong></td>
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</tr>
<tr>
<td><strong>Fall</strong></td>
<td>Admission to the Teacher Certification Program</td>
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<tr>
<td></td>
<td>EDP 3303</td>
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<tr>
<td></td>
<td>ENG 3333</td>
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<td></td>
<td>IDS 3713</td>
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<tr>
<td></td>
<td>RDG 3803</td>
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<tr>
<td></td>
<td>Foreign language</td>
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<tr>
<td><strong>Spring</strong></td>
<td>BBL 3033, MAS</td>
</tr>
<tr>
<td></td>
<td>3413, SOC 3043,</td>
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<tr>
<td></td>
<td>SOC 3283, or SOC</td>
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<tr>
<td></td>
<td>3423</td>
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<tr>
<td></td>
<td>BBL 3403</td>
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<td></td>
<td>ESL 3063</td>
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<tr>
<td></td>
<td>ESL 4013</td>
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<td></td>
<td>RDG 3523</td>
</tr>
<tr>
<td><strong>Fourth Year</strong></td>
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<tr>
<td><strong>Fall</strong></td>
<td>C&amp;I 4543</td>
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<tr>
<td></td>
<td>EDP 4203</td>
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<td>ESL 4003</td>
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<td></td>
<td>IDS 3123</td>
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<tr>
<td></td>
<td>RDG 3533 or 3633</td>
</tr>
<tr>
<td><strong>Spring</strong></td>
<td>C&amp;I 4626</td>
</tr>
</tbody>
</table>

**Total Credit Hours:** 129.0-132.0
Grades of “CR” received from a Challenge Examination of a UTSA course in which student demonstrates oral communication skills in a language other than English (at the 2000 level) will be accepted.

**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.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BBL 3023</td>
<td>Mexican American Culture</td>
<td>3</td>
</tr>
<tr>
<td>or</td>
<td>BBL 3403 Cultural and Linguistic Diversity in a Pluralistic Society (required for EC–6 and grades 4–8 teacher certification programs)</td>
<td>3</td>
</tr>
<tr>
<td>ESL 3003</td>
<td>Language and Schooling</td>
<td>3</td>
</tr>
<tr>
<td>ESL 3023</td>
<td>Second Language Teaching and Learning in EC–6 (required for EC–6 teacher certification programs)</td>
<td>3</td>
</tr>
<tr>
<td>or</td>
<td>ESL 3063 Second Language Acquisition in Early Adolescence (required for grades 4–8 teacher certification programs)</td>
<td>3</td>
</tr>
<tr>
<td>ESL 3033</td>
<td>Foundations of English as a Second Language</td>
<td>3</td>
</tr>
<tr>
<td>ESL 3053</td>
<td>Literacy in a Second Language</td>
<td>3</td>
</tr>
<tr>
<td>ESL 4003</td>
<td>Approaches to Second Language Teaching</td>
<td>3</td>
</tr>
</tbody>
</table>

**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:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BBL 2003</td>
<td>Language, Culture, and Society</td>
<td>6</td>
</tr>
<tr>
<td>BBL 2023</td>
<td>Latino Cultural Expressions</td>
<td></td>
</tr>
<tr>
<td>MAS 2013</td>
<td>Introduction to Chicano(a) Studies</td>
<td></td>
</tr>
</tbody>
</table>

B. Language

Select two of the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BBL 3013</td>
<td>Language Analysis and Bilingualism</td>
<td>6</td>
</tr>
<tr>
<td>BBL 3133</td>
<td>Language Development in Bilinguals</td>
<td></td>
</tr>
<tr>
<td>ESL 3003</td>
<td>Language and Schooling</td>
<td></td>
</tr>
<tr>
<td>MAS 3043</td>
<td>Social Psychological Considerations in Mexican American Communities</td>
<td>3</td>
</tr>
</tbody>
</table>
C. Culture and Society
Select two of the following: 6
- BBL 2033 Multiculturalism in the Southwest
- BBL 3023 Mexican American Culture
- BBL 3033 Mexican Americans in the Southwest
- BBL 4953 Special Studies in Bilingual and Bicultural Studies

Total Credit Hours: 18

To declare a Minor in Bicultural Studies, obtain advice, or seek approval of substitutions for course requirements, students should consult an academic advisor in the College of Education and Human Development Advising and Certification Center.

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 3063 Second Language Acquisition in Early Adolescence
- ESL 4013 Principles of First and Second Language Acquisition

B. Culture and society
Select one of the following: 3
- BBL 2033 Multiculturalism in the Southwest
- BBL 3023 Mexican American Culture
- BBL 3033 Mexican Americans in the Southwest

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 an academic advisor in the College of Education and Human Development Advising and Certification Center.

**Bicultural-Bilingual Studies (BBL) Courses**  
Department of Bicultural-Bilingual Studies, College of Education and Human Development

**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.

**BBL 2023. Latino Cultural Expressions. (3-0) 3 Credit Hours.**  
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. (Same as MAS 2023. Credit cannot be earned for both BBL 2023 and MAS 2023.).

**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.).

**BBL 2243. Globalizing the Local: Bilingual Families, Communities, and Schools. (3-0) 3 Credit Hours. (TCCN = ANTH 2351)**  
This course examines the interrelatedness among families, communities, and schools in supporting the achievement of Latina/o bilingual children. Taking a local approach to a global phenomenon—preparing bilingual/multilingual children in an increasingly interconnected world, this course explores how historical, political, and social factors influence access to a quality education. Issues pertaining to cultural transmission and maintenance of transnational ties will also be addressed. May be applied toward the Core Curriculum requirement in Social and Behavioral Sciences.

**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.

**BBL 3023. 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.
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.).

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.).

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.).

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.

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.

BBL 3403. Cultural and Linguistic Diversity in a Pluralistic Society. (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. Fifteen hours of field experience are required. Field experience required.

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.

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.

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, RDG 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.

BBL 4063. Bilingual Approaches to Content-Based Learning. (3-0) 3 Credit Hours.
Prerequisites: Admission to a Bilingual Generalist Teacher Certification Program; BBL 3053, RDG 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.

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, RDG 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.

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 C&I 4353. Credit cannot be earned for both BBL 4353 and C&I 4353.).

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, RDG 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 4403. Credit cannot be earned for both BBL 4403 and C&I 4403.).
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.

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 in the COEHD Advising and Certification Center is required.

English as a Second Language (ESL) Courses
Department of Bicultural-Bilingual Studies, College of Education and Human Development

ESL 3003. Language and Schooling. (3-0) 3 Credit Hours.
Study of the principles of linguistics as they relate to language in education, particularly for bilingual and second language learners. Attention is given to linguistics approaches to development of oral language and literacy skills.

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.

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.

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.

ESL 3063. Second Language Acquisition in Early Adolescence. (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 and higher. Particular attention is placed on methods and strategies for planning, implementing and assessing effective instruction for adolescent ELL students. Field experience required.
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.

ESL 4013. Principles of First and Second Language Acquisition. (3-0) 3 Credit Hours.
Study of first and second language acquisition. Application of this knowledge to promote students’ language development in English and to promote teachers’ abilities to assess language proficiencies.

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 in the COEHD Advising and Certification Center is required.

English For International Students (EIS) Courses
Department of Bicultural-Bilingual Studies, College of Education and Human Development

EIS 1063. ESL for International Students: Listening. (3-0) 3 Credit Hours.
Development of listening comprehension and related note-taking skills needed in academic settings.

EIS 1073. ESL for International Students: Communicating Effectively. (3-0) 3 Credit Hours.
Development of oral discourse, including oral presentation, small group discussion, and pronunciation needed in academic settings.

EIS 1083. Content-based Reading. (3-0) 3 Credit Hours.
Development of reading proficiency needed for reading in undergraduate courses. (Includes TSI preparation.).

EIS 1093. Content-based Writing. (3-0) 3 Credit Hours.
Development of writing proficiency required for undergraduate courses. (Includes TSI preparation.).

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.

EIS 1183. Advanced Reading Strategies. (3-0) 3 Credit Hours.
Development of reading proficiency required for specific areas of study at the graduate level.

EIS 1193. Advanced Writing Strategies. (3-0) 3 Credit Hours.
Development of writing proficiency required for specific areas of study at the graduate level.
Mexican American Studies (MAS) Courses
Department of Bicultural-Bilingual Studies, College of Education and Human Development

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. (Formerly BBL 2013. Credit cannot be earned for both MAS 2013 and BBL 2013.).

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. (Same as BBL 2023. Credit cannot be earned for both MAS 2023 and BBL 2023.).

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.).

MAS 3003. Musical Mestizaje. (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.

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.

MAS 3023. 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.
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.).

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.).

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.).

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.

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.

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.

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.

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 in the COEHD Advising and Certification Center is required.

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.
DEPARTMENT OF COUNSELING

The Department of Counseling provides support work for undergraduate degrees and offers a Master of Arts degree in 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.)

Counseling (COU) Courses

Department of Counseling, College of Education and Human Development

COU 2103. Personal Career Planning and Occupational Exploration. (3-0) 3 Credit Hours.
Exploration of career/life planning as a process with a focus on issues and obstacles that can impact an individual’s career choices. Knowledge of career development theories and decision-making models, current national and state-specific labor market trends, career and occupational resources will be presented. Course will include opportunities for self-assessment and career assessment results, including interest, personality, values clarification inventories and skills identification as they relate to occupational choices. Recommended for undecided/undeclared majors.

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.
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.)

Educational Leadership (EDL) Courses
Department of Educational Leadership and Policy Studies, College of Education and Human Development

EDL 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.

EDL 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.

EDL 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.

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.

EDL 4993. Honors Thesis. (0-0) 3 Credit Hours.
Prerequisite: Enrollment limited to Honors College students during the last two semesters with sponsorship by a department faculty member. Supervised research and preparation for an honors thesis. May be repeated for credit once with advisor’s approval.
Education (EDU) Courses
Department of Educational Leadership and Policy Studies, College of Education and Human Development

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.

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.

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.

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.

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.
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 one graduate degree: the Master of Arts in School Psychology. The Department also offers two graduate certificates: Certificate in Applied Behavior Analysis and Certificate in Digital Learning Design. (See the UTSA Graduate Catalog for further information.)

Educational Psychology (EDP) Courses

Department of Educational Psychology, College of Education and Human Development

EDP 2113. Development in the Elementary and Middle School Child. (3-0) 3 Credit Hours.
Prerequisite: Sophomore standing. An introduction to the cognitive, psychosocial, sociocultural, psychoanalytic and moral theories of development from birth through adolescence. Topics also include atypical development, exceptionality, and learning challenges. Emphasis is on applications at the elementary school level.

EDP 3133. Learning and Development in the Early Elementary Context EC–6. (3-0) 3 Credit Hours.
Prerequisite: Sophomore standing. An introduction to major theories of learning and development, with an emphasis on applications at the elementary level. Topics include individual and group differences, motivation, and elementary-level classroom management.

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.

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.

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.

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.

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.

EDP 4993. Honors Thesis. (0-0) 3 Credit Hours.
Prerequisite: Enrollment limited to Honors College students during the last two semesters with sponsorship by a department faculty member. Supervised research and preparation for an honors thesis. May be repeated once with advisor’s approval.
DEPARTMENT OF KINESIOLOGY, HEALTH, AND NUTRITION

The Department of Kinesiology, Health, and Nutrition offers Bachelor of Science degrees for students majoring in Health and Kinesiology. Minors in Athletic Coaching, Community Health, Wellness, and a Certificate in Athletic Coaching are also offered. The Department also offers a dual degree leading to a Bachelor of Science in Nutrition and Dietetics and a Master of Dietetics Studies within the Coordinated Program in Dietetics.

The Health degree provides 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 degree requires both academic coursework and practical experience via an internship and helps to prepare students for admission to graduate programs in public health and health promotion. Students interested in pursuing a major or minor in Health are required to consult with the Advising and Certification Center of the College of Education and Human Development.

Students pursuing a Bachelor of Science degree in Kinesiology will select a concentration in athletic medicine, exercise science or physical education. Students with a concentration in athletic medicine are prepared to pursue careers in athletic training, physical therapy, or occupational therapy. Physical and/or occupational therapy licensure requires additional academic training in an accredited graduate program. Students interested in pursuing licensure in athletic training must apply and be accepted into the athletic training program at UTSA. Students with a concentration in exercise science are trained for careers in exercise physiology, clinical exercise, and fitness programming in corporate, commercial, 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.

The overall mission of the Coordinated Program in Dietetics (CPD) is to prepare entry-level dietitians who positively impact the nutritional status and health of individuals and the community, particularly those living in South Texas, through a solid academic education, service, and scholarship. The CPD offers a rigorous didactic curriculum that is integrated with over 1200 clock hours of supervised experiences, aimed at preparing entry level practitioners. Students who successfully complete all the CPD requirements receive a verification of eligibility to take the national exam administered by the Commission of Dietetics Registration to become a Registered Dietitian (RD). Dietetics professionals are instrumental in assessing the nutritional needs of individuals, interpreting the science of food and nutrition to promote health, prevent diseases, and implement medical nutrition therapy for various diseases and illnesses. Registered dietitians are employed by healthcare facilities such as hospitals, long-term care facilities, and clinics; sports, wellness and fitness centers; foodservice operations, industry, pharmaceutical and food companies; community programs and public health; government agencies, private practice, and professional health organizations.

Department Honors

The Department of Kinesiology, Health, and Nutrition 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.

**Internship Policy**

Experiential learning is a valuable element for health and 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 health or kinesiology education activities carried out in a kinesiology- or health-oriented organization. All Health majors are required to complete an internship (6 semester credit hours, 300 hours of time on site). Kinesiology majors who are not in Teacher Certification options may take an internship course.

**Internship Eligibility**

Health and Kinesiology 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 2.0
- 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 department advisor 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’s enrolling in the internship. Meeting dates for each semester are published in the UTSA Class Schedule. 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. An e-mail will be sent within the first week of classes to all Kinesiology and Health majors with more than 110 semester credit hours, to inform them of this requirement and to ease the burden on the advising staff. Students must bring a signed degree plan from their advisor to the mandatory internship meeting. Students who miss the meeting must contact the department internship coordinator no later than three business days after the missed meeting to make special arrangements. Failure to do so will result in being ineligible for the internship in the following semester. Extenuating circumstances must be documented and will be considered on a case-by-case basis.

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 in the COEHD Advising and Certification Center, with written documentation to a three-member review committee. Prior work experience is defined as a minimum of three years 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 appeals 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.

**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 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.

**Admission Policy**

The goal of admission requirements for the Health degree is to provide its 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 health education. All applicants for admission to the Health degree will be admitted to the program as pre-health students. Academic performance for declaration of the Health major will be evaluated after the following criteria have been met. To declare a Health major, a pre-health student must have:

- completed 30 semester credit hours and be in good standing with the University
- successfully completed the following or equivalent courses with a grade of “C–” or better:
  - WRC 1013 Freshman Composition I
  - WRC 1023 Freshman Composition II
  - HTH 2413 Introduction to Community and Public Health

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 Health major if they:

- meet all UTSA undergraduate admission requirements
- have completed 30 semester credit hours.

A pre-health student will not be able to register for upper-division, majors-only courses at UTSA until they have completed the courses listed above with the required grade point average. A student can complete each course required for admission twice in order to reach the required grade; however, students who are not able to meet the criteria after completing the course for the second time will no longer be considered a pre-health student and their major will be changed from pre-health to undeclared (UND) in the University student record system. The student must then choose a major other than Health.

Academic advising for students seeking the degree is available in the College of Education and Human Development Advising and Certification 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.
Core Curriculum Requirements

Students seeking the Bachelor of Science 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. For a complete listing of courses that satisfy the Core Curriculum requirements, see chapter 1 of this catalog.

STA 1053 should be used to satisfy the core requirement in Mathematics. BIO 1233 should be used to satisfy one of the Life & 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.

All candidates for the degree must complete the following degree requirements in addition to the Core Curriculum requirements.

Degree Requirements

A. Degree core requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>HTH 2413</td>
<td>Introduction to Community and Public Health</td>
<td>3</td>
</tr>
<tr>
<td>HTH 2601</td>
<td>Field-Based Skills in Community Health and Preventive Services</td>
<td>1</td>
</tr>
<tr>
<td>HTH 2623</td>
<td>Applied Technology for Research and Health Education</td>
<td>3</td>
</tr>
<tr>
<td>HTH 3503</td>
<td>Theories of Health Behavior</td>
<td>3</td>
</tr>
<tr>
<td>HTH 3513</td>
<td>Community Health</td>
<td>3</td>
</tr>
<tr>
<td>HTH 3663</td>
<td>Program Planning and Evaluation</td>
<td>3</td>
</tr>
<tr>
<td>HTH 4503</td>
<td>Human Disease and Epidemiology</td>
<td>3</td>
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<td>HTH 4513</td>
<td>Consumer Health</td>
<td>3</td>
</tr>
<tr>
<td>HTH 4543</td>
<td>Environmental Health and Safety</td>
<td>3</td>
</tr>
<tr>
<td>HTH 4921</td>
<td>Capstone for Community Health and Preventive Services</td>
<td>1</td>
</tr>
<tr>
<td>HTH 4936</td>
<td>Internship in Health</td>
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B. Support Work

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<tr>
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<tr>
<td>BIO 1233</td>
<td>Contemporary Biology I</td>
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<tr>
<td>BIO 2083</td>
<td>Human Anatomy</td>
<td>3</td>
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<td>BIO 2091</td>
<td>Human Anatomy Laboratory</td>
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<tr>
<td>BIO 2103</td>
<td>Human Physiology</td>
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<tr>
<td>BIO 2111</td>
<td>Human Physiology Laboratory</td>
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<tr>
<td>COM 2113</td>
<td>Public Speaking</td>
<td>3</td>
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<td>MAT 1023</td>
<td>College Algebra with Applications</td>
<td>3</td>
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<tr>
<td>STA 1053</td>
<td>Basic Statistics</td>
<td>3</td>
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</table>

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 2133  School Health
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  11-23

All candidates for this degree must complete a minimum of 11 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: 78-90

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

First Year

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<th>Fall</th>
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<tr>
<td>AIS 1203  Academic Inquiry and Scholarship (core)</td>
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<tr>
<td>MAT 1023  College Algebra with Applications</td>
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</tr>
<tr>
<td>WRC 1013  Freshman Composition I (core)</td>
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Spring

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<tr>
<td>BIO 1233  Contemporary Biology I (core)</td>
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<tr>
<td>HTH 2413  Introduction to Community and Public Health</td>
<td>3</td>
</tr>
<tr>
<td>STA 1053  Basic Statistics (core)</td>
<td>3</td>
</tr>
<tr>
<td>WRC 1023  Freshman Composition II (core)</td>
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University core course  

**Second Year**

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**Spring**

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<tr>
<td>BIO 2083</td>
<td>Human Anatomy</td>
</tr>
<tr>
<td>BIO 2091</td>
<td>Human Anatomy Laboratory</td>
</tr>
<tr>
<td>COM 2113</td>
<td>Public Speaking</td>
</tr>
<tr>
<td>HTH 2601</td>
<td>Field-Based Skills in Community Health and Preventive Services</td>
</tr>
<tr>
<td>HTH 3503</td>
<td>Theories of Health Behavior</td>
</tr>
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</tbody>
</table>

**Third Year**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td><strong>Fall</strong></td>
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<tr>
<td>BIO 2103</td>
<td>Human Physiology</td>
</tr>
<tr>
<td>BIO 2111</td>
<td>Human Physiology Laboratory</td>
</tr>
<tr>
<td>HTH 2623</td>
<td>Applied Technology for Research and Health Education</td>
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<tr>
<td>HTH 3513</td>
<td>Community Health</td>
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<td>HTH 3663</td>
<td>Program Planning and Evaluation</td>
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**Spring**

<table>
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<tbody>
<tr>
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<td>Human Disease and Epidemiology</td>
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<td>Designated elective</td>
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<tr>
<td>Free elective</td>
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</table>

**Fourth Year**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td><strong>Fall</strong></td>
<td></td>
</tr>
<tr>
<td>HTH 4513</td>
<td>Consumer Health</td>
</tr>
<tr>
<td>HTH 4543</td>
<td>Environmental Health and Safety</td>
</tr>
<tr>
<td>Designated elective</td>
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</tr>
<tr>
<td>Free elective</td>
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</tbody>
</table>
Bachelor of Science Degree in Kinesiology

This program provides students with the opportunity to pursue a Bachelor of Science degree in Kinesiology. Students are prepared for careers in athletic training, exercise science or teaching physical education (pre-kindergarten–12). 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 College of Education and Human Development Advising and Certification 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.

Students seeking the Bachelor of Science degree in Kinesiology must fulfill University Core Curriculum requirements in the same manner as other students.

Bachelor of Science Degree in Kinesiology (Athletic Medicine Concentration)

This program provides students with the opportunity to pursue a Bachelor of Science degree in Kinesiology with a concentration in Athletic Medicine. Students are trained for careers in athletic training, and this is a pre-professional allied health training program for physical therapy and occupational therapy. Additional coursework may be required for acceptance into an allied health training program. Students should contact the Health Professions Office for details. 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 Medicine concentration is to provide its 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 medicine. All applicants for admission to the Athletic Medicine concentration will be admitted to the program as pre-Athletic Medicine students. Academic performance for declaration of the Athletic Medicine concentration will be evaluated after the following criteria has been met. To declare an Athletic Medicine concentration, a pre-Athletic Medicine student must have:

- completed 30 semester credit hours with a cumulative grade point average of 2.75
- successfully completed the following or equivalent courses with a grade of “C–” or better:
  - BIO 1404  Biosciences I
  - KIN 2303  Foundations of Kinesiology
  - MAT 1073  Algebra for Scientists and Engineers
  - WRC 1013  Freshman Composition I
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 Medicine concentration if they:

- meet all UTSA undergraduate admission requirements
- have completed 30 semester credit hours

Additionally, incoming freshman with less than 30 completed semester credit hours may declare an Athletic Medicine concentration if they:

- graduated in the top 25 percent of their high school class and are in good standing with the University

A pre-Athletic Medicine student will not be able to register for upper-division, majors-only courses at UTSA until they have completed the courses listed above with the required grade point average. A student can complete each course required for admission twice in order to reach the required grade; however, students who are not able to meet the criteria after completing the course twice will no longer be considered a pre-Athletic Medicine student and their major will be changed to undeclared (UND) in the University student record system.

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.

**Core Curriculum Requirements**

Students seeking the Bachelor of Science degree in Kinesiology with a concentration in Athletic Medicine 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. For a complete listing of courses that satisfy the Core Curriculum requirements, see chapter 1 of this catalog.

STA 1053 should be used to satisfy the core requirement in Mathematics. BIO 1404 and BIO 1413 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.

**Degree Requirements**

A. Required KIN Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>KIN 2141</td>
<td>Medical Terminology</td>
<td>1</td>
</tr>
<tr>
<td>KIN 2303</td>
<td>Foundations of Kinesiology</td>
<td>3</td>
</tr>
<tr>
<td>KIN 3071</td>
<td>Musculoskeletal Fitness Instruction</td>
<td>1</td>
</tr>
<tr>
<td>KIN 3303</td>
<td>Athletic Injuries and Training Procedures</td>
<td>3</td>
</tr>
<tr>
<td>KIN 3313</td>
<td>Anatomy and Physiology for Kinesiology</td>
<td>3</td>
</tr>
<tr>
<td>KIN 3323</td>
<td>Biomechanics</td>
<td>3</td>
</tr>
<tr>
<td>KIN 3433</td>
<td>Exercise Physiology</td>
<td>3</td>
</tr>
<tr>
<td>KIN 3453</td>
<td>Fitness Programming and Exercise Prescription</td>
<td>3</td>
</tr>
<tr>
<td>KIN 3463</td>
<td>Musculoskeletal Anatomy</td>
<td>3</td>
</tr>
<tr>
<td>KIN 4043</td>
<td>Therapeutic Modalities</td>
<td>3</td>
</tr>
<tr>
<td>KIN 4143</td>
<td>Advanced Athletic Training</td>
<td>3</td>
</tr>
</tbody>
</table>
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
or KIN 4936  Internship in Kinesiology

B. Support Courses
BIO 1122  Laboratory Investigations in Biology  2
BIO 1404  Biosciences I  4
BIO 1413  Biosciences II  3
BIO 2083  Human Anatomy  3
BIO 2091  Human Anatomy Laboratory  1
BIO 2103  Human Physiology  3
BIO 2111  Human Physiology Laboratory  1
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
COM 1053  Business and Professional Speech  3
or COM 2113  Public Speaking
MAT 1073  Algebra for Scientists and Engineers  3
PHY 1603  Algebra-based Physics I  3
PHY 1611  Algebra-based Physics I Laboratory  1
PHY 1623  Algebra-based Physics II  3
PHY 1631  Algebra-based Physics II Laboratory  1
PSY 1013  Introduction to Psychology  3
SOC 1013  Introduction to Sociology  3
STA 1053  Basic Statistics  3

Total Credit Hours: 92

B.S. in Kinesiology, Athletic Medicine Concentration – Recommended Four-Year Academic Plan

First Year

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIS 1203</td>
<td>Academic Inquiry and Scholarship (core) 3</td>
</tr>
<tr>
<td>KIN 2303</td>
<td>Foundations of Kinesiology 3</td>
</tr>
<tr>
<td>MAT 1073</td>
<td>Algebra for Scientists and Engineers 3</td>
</tr>
<tr>
<td>PSY 1013</td>
<td>Introduction to Psychology (core and major) 3</td>
</tr>
<tr>
<td>WRC 1013</td>
<td>Freshman Composition I (core) 3</td>
</tr>
</tbody>
</table>
### Spring
- **BIO 1122** Laboratory Investigations in Biology 2
- **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

### Second Year

#### Fall
- **BIO 1413** Biosciences II (core and major) 3
- **CHE 1113** General Chemistry II 3
- **CHE 1131** General Chemistry II Laboratory 1
- **KIN 2141** Medical Terminology 1
- **KIN 4931** Clinical Applications of Athletic Injuries 1
- **PHY 1603** Algebra-based Physics I 3
- **PHY 1611** Algebra-based Physics I Laboratory 1
- University core 3

#### Spring
- **BIO 2083** Human Anatomy 3
- **BIO 2091** Human Anatomy Laboratory 1
- **KIN 3313** Anatomy and Physiology for Kinesiology 3
- **KIN 4931** Clinical Applications of Athletic Injuries 1
- **STA 1053** Basic Statistics (core) 3
- **PHY 1623** Algebra-based Physics II 3
- **PHY 1631** Algebra-based Physics II Laboratory 1

### Third Year

#### Fall
- **BIO 2111** Human Physiology Laboratory 1
- **BIO 2103** Human Physiology 3
- **KIN 3071** Musculoskeletal Fitness Instruction 1
- **KIN 3303** Athletic Injuries and Training Procedures 3
- **KIN 3433** Exercise Physiology 3
- **KIN 3463** Musculoskeletal Anatomy 3
- **KIN 4931** Clinical Applications of Athletic Injuries 1

#### Spring
- **KIN 3323** Biomechanics 3
- **KIN 4143** Advanced Athletic Training 3
- **KIN 4253** Exercise Nutrition 3
Bachelor of Science Degree in Kinesiology (Exercise Science Concentration)

This program provides students with the opportunity to pursue a Bachelor of Science degree in Kinesiology with a concentration in Exercise Science. 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 Science concentration is to provide its 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. All applicants for admission to the Exercise Science concentration will be admitted to the program as pre-Exercise Science students. Academic performance for declaration of the Exercise Science concentration will be evaluated after the following criteria has been met. To declare an Exercise Science concentration, a pre-Exercise student must have:

- 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
  - BIO 1404  Biosciences I
  - KIN 2303  Foundations of Kinesiology
  - MAT 1023  College Algebra with Applications
  - or MAT 1073  Algebra for Scientists and Engineers
WRC 1013  Freshman Composition I

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 Science concentration if they:

- meet all UTSA undergraduate admission requirements
- have completed 30 semester credit hours

Additionally, incoming freshman with less than 30 completed semester credit hours may declare an Exercise Science concentration if they:

- graduated in the top 25 percent of their high school class and are in good standing with the University

A pre-Exercise Science student will not be able to register for upper-division, majors-only courses at UTSA until they have completed the courses listed above with the required grade point average. A student can complete each course required for admission twice in order to reach the required grade of 2.5 out of 4.0; however, students who are not able to meet the criteria after completing the course twice will no longer be considered a pre-Exercise Science student and their major will be changed to undeclared (UND) in the University student record system.

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.

Core Curriculum Requirements

Students seeking the Bachelor of Science degree in Kinesiology with a concentration in Exercise Science 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. For a complete listing of courses that satisfy the Core Curriculum requirements, see chapter 1 of this catalog.

STA 1053 should be used to satisfy the core requirement in Mathematics. BIO 1404 or BIO 1233 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.

Degree Requirements

A. Required KIN Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>KIN 2303</td>
<td>Foundations of Kinesiology</td>
<td>3</td>
</tr>
<tr>
<td>KIN 3051</td>
<td>Group Fitness Instruction</td>
<td>1</td>
</tr>
<tr>
<td>KIN 3071</td>
<td>Musculoskeletal Fitness Instruction</td>
<td>1</td>
</tr>
<tr>
<td>KIN 3313</td>
<td>Anatomy and Physiology for Kinesiology</td>
<td>3</td>
</tr>
<tr>
<td>KIN 3321</td>
<td>Biomechanics Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>KIN 3323</td>
<td>Biomechanics</td>
<td>3</td>
</tr>
<tr>
<td>KIN 3431</td>
<td>Exercise Physiology Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>KIN 3433</td>
<td>Exercise Physiology</td>
<td>3</td>
</tr>
<tr>
<td>KIN 3443</td>
<td>Graded Exercise Testing and Fitness Assessment</td>
<td>3</td>
</tr>
</tbody>
</table>
KIN 3453  Fitness Programming and Exercise Prescription  3
KIN 4023  Exercise Psychology  3
KIN 4253  Exercise Nutrition  3
KIN 4401  Motor Learning Laboratory  1
KIN 4403  Motor Learning  3
KIN 4936  Internship in Kinesiology  6

B. Support Courses
BIO 1233  Contemporary Biology I  3
or BIO 1404  Biosciences I
BIO 2083  Human Anatomy  3
BIO 2091  Human Anatomy Laboratory  1
BIO 2103  Human Physiology  3
BIO 2111  Human Physiology Laboratory  1
COM 2113  Public Speaking  3
MAT 1023  College Algebra with Applications  3
STA 1053  Basic Statistics  3

C. Minor  18-24

D. Electives  10-4

Total Credit Hours: 86

B.S. in Kinesiology, Exercise Science Concentration – Recommended Four-Year Academic Plan

First Year

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>AIS 1203 Academic Inquiry and Scholarship (core)</td>
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</tr>
<tr>
<td>BIO 1233 Contemporary Biology I (core)</td>
<td>3</td>
</tr>
<tr>
<td>KIN 2303 Foundations of Kinesiology</td>
<td>3</td>
</tr>
<tr>
<td>MAT 1023 College Algebra with Applications</td>
<td>3</td>
</tr>
<tr>
<td>WRC 1013 Freshman Composition I (core)</td>
<td>3</td>
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</tbody>
</table>

Spring

| BIO 2083 Human Anatomy                        | 3 |
| BIO 2091 Human Anatomy Laboratory             | 1 |
| STA 1053 Basic Statistics (core)              | 3 |
| WRC 1023 Freshman Composition II (core)        | 3 |
| Minor course                                  | 3 |
| Life & Physical Sciences core                 | 3 |
### Second Year

#### Fall
- **BIO 2103**  Human Physiology  
- **BIO 2111**  Human Physiology Laboratory  
- **KIN 3051**  Group Fitness Instruction  
- Minor course  
- University core course  
- University core course

#### Spring
- **COM 2113**  Public Speaking  
- **KIN 3313**  Anatomy and Physiology for Kinesiology  
- Minor course  
- University core course  
- University core course

### Third Year

#### Fall
- **KIN 3433**  Exercise Physiology  
- **KIN 3431**  Exercise Physiology Laboratory  
- **KIN 3071**  Musculoskeletal Fitness Instruction  
- **KIN 3323**  Biomechanics  
- **KIN 3321**  Biomechanics Laboratory  
- Minor course  
- Elective or Minor course

#### Spring
- **KIN 3443**  Graded Exercise Testing and Fitness Assessment  
- **KIN 3441**  Graded Exercise Testing and Fitness Assessment Laboratory  
- **KIN 3453**  Fitness Programming and Exercise Prescription  
- **KIN 4023**  Exercise Psychology  
- Minor course  
- Elective or Minor course

### Fourth Year

#### Fall
- **KIN 4253**  Exercise Nutrition  
- **KIN 4403**  Motor Learning  
- **KIN 4401**  Motor Learning Laboratory  
- Elective  
- Minor course  
- University core course
Bachelor of Science Degree in Kinesiology (Physical Education Concentration)

This program provides students with the opportunity to pursue a Bachelor of Science degree in Kinesiology with a concentration in Physical Education. Students are prepared for careers in teaching physical education (pre-kindergarten–12). 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 College of Education and Human Development Advising and Certification 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.

Core Curriculum Requirements

Students seeking the Bachelor of Science degree in Kinesiology with a concentration in Physical Education 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. For a complete listing of courses that satisfy the Core Curriculum requirements, see chapter 1 of this catalog.

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. SOC 1013 is recommended to satisfy the core requirement in Social and Behavioral Sciences.

Degree Requirements

A. Required KIN Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>KIN 2003</td>
<td>Computer Applications in Kinesiology and Health</td>
<td>3</td>
</tr>
<tr>
<td>KIN 2303</td>
<td>Foundations of Kinesiology</td>
<td>3</td>
</tr>
<tr>
<td>KIN 2421</td>
<td>Outdoor Activities and Innovative Games</td>
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</tr>
<tr>
<td>KIN 2441</td>
<td>Management and Organization in Kinesiology and Sports</td>
<td>1</td>
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<tr>
<td>KIN 3001</td>
<td>Skill Analysis in Physical Activity: Individual Activities</td>
<td>1</td>
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<tr>
<td>KIN 3011</td>
<td>Skill Analysis in Physical Activity: Team Sports I</td>
<td>1</td>
</tr>
<tr>
<td>KIN 3021</td>
<td>Skill Analysis in Physical Activity: Team Sports II</td>
<td>1</td>
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<tr>
<td>KIN 3031</td>
<td>Skill Analysis in Physical Activity: Dual Sports</td>
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<tr>
<td>KIN 3051</td>
<td>Group Fitness Instruction</td>
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### Kinesiology Courses

<table>
<thead>
<tr>
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<th>Course Title</th>
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<tbody>
<tr>
<td>KIN 3061</td>
<td>Foundational Movement</td>
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<tr>
<td>KIN 3103</td>
<td>Motor Development</td>
<td>3</td>
</tr>
<tr>
<td>KIN 3303</td>
<td>Athletic Injuries and Training Procedures</td>
<td>3</td>
</tr>
<tr>
<td>KIN 3313</td>
<td>Anatomy and Physiology for Kinesiology</td>
<td>3</td>
</tr>
<tr>
<td>KIN 3323</td>
<td>Biomechanics</td>
<td>3</td>
</tr>
<tr>
<td>KIN 3413</td>
<td>Tactics</td>
<td>3</td>
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<tr>
<td>KIN 3433</td>
<td>Exercise Physiology</td>
<td>3</td>
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<tr>
<td>KIN 4113</td>
<td>Evaluation</td>
<td>3</td>
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<tr>
<td>KIN 4123</td>
<td>Psychosocial Aspects of Exercise and Sport</td>
<td>3</td>
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<tr>
<td>KIN 4343</td>
<td>Movement Awareness</td>
<td>3</td>
</tr>
<tr>
<td>KIN 4403</td>
<td>Motor Learning</td>
<td>3</td>
</tr>
<tr>
<td>KIN 4423</td>
<td>Developmental/Adapted Physical Activity</td>
<td>3</td>
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<td></td>
<td>Kinesiology elective</td>
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### B. Support Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 1233</td>
<td>Contemporary Biology I</td>
<td>3</td>
</tr>
<tr>
<td>COM 1043</td>
<td>Introduction to Communication</td>
<td>3</td>
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<tr>
<td>EDP 3203</td>
<td>Learning and Development in the Secondary School Adolescent</td>
<td>3</td>
</tr>
<tr>
<td>EDU 2103</td>
<td>Social Foundations for Education in a Diverse U.S. Society</td>
<td>3</td>
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<tr>
<td>HTH 3013</td>
<td>Survey of Human Nutrition</td>
<td>3</td>
</tr>
<tr>
<td>IDS 2013</td>
<td>Introduction to Learning and Teaching in a Culturally Diverse Society</td>
<td>3</td>
</tr>
<tr>
<td>STA 1053</td>
<td>Basic Statistics</td>
<td>3</td>
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### C. Professional Education courses

<table>
<thead>
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<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>C&amp;I 4716</td>
<td>Student Teaching: All Level EC–12 ¹</td>
<td>6</td>
</tr>
<tr>
<td>KIN 4203</td>
<td>Teaching Secondary Physical Education ¹</td>
<td>3</td>
</tr>
<tr>
<td>KIN 4303</td>
<td>Teaching Elementary Physical Education ¹</td>
<td>3</td>
</tr>
<tr>
<td>RDG 3773</td>
<td>Reading and Writing Across the Disciplines–Secondary ¹</td>
<td>3</td>
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</table>

**Total Credit Hours: 84**

¹ 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

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 1233</td>
<td>Contemporary Biology I (core and major)</td>
</tr>
<tr>
<td>KIN 2303</td>
<td>Foundations of Kinesiology</td>
</tr>
<tr>
<td>STA 1053</td>
<td>Basic Statistics (core and major)</td>
</tr>
<tr>
<td>WRC 1013</td>
<td>Freshman Composition I (core)</td>
</tr>
<tr>
<td>American History core</td>
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</table>

**Spring**

<table>
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<tr>
<th>Fall</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>AIS 1203</td>
<td>Academic Inquiry and Scholarship (core)</td>
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<tr>
<td>KIN 2003</td>
<td>Computer Applications in Kinesiology and Health</td>
</tr>
<tr>
<td>KIN 2441</td>
<td>Management and Organization in Kinesiology and Sports</td>
</tr>
<tr>
<td>WRC 1023</td>
<td>Freshman Composition II (core)</td>
</tr>
<tr>
<td>Life &amp; Physical Sciences core</td>
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<td>American History core</td>
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## Second Year

<table>
<thead>
<tr>
<th>Fall</th>
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<tbody>
<tr>
<td>IDS 2013</td>
<td>Introduction to Learning and Teaching in a Culturally Diverse Society</td>
</tr>
<tr>
<td>KIN 3313</td>
<td>Anatomy and Physiology for Kinesiology</td>
</tr>
<tr>
<td>POL 1013</td>
<td>Introduction to American Politics (core)</td>
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<tr>
<td>Language, Philosophy &amp; Culture core</td>
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<tr>
<td>Component Area Option core</td>
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**Spring**

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>COM 1043</td>
<td>Introduction to Communication</td>
</tr>
<tr>
<td>EDU 2103</td>
<td>Social Foundations for Education in a Diverse U.S. Society</td>
</tr>
<tr>
<td>KIN 3303</td>
<td>Athletic Injuries and Training Procedures</td>
</tr>
<tr>
<td>POL 1133</td>
<td>Texas Politics and Society (core)</td>
</tr>
<tr>
<td>Social &amp; Behavioral Sciences core (SOC 1013 recommended)</td>
<td>3</td>
</tr>
<tr>
<td>Creative Arts core</td>
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</tr>
</tbody>
</table>

## Third Year

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>EDP 3203</td>
<td>Learning and Development in the Secondary School Adolescent</td>
</tr>
<tr>
<td>KIN 2421</td>
<td>Outdoor Activities and Innovative Games</td>
</tr>
<tr>
<td>KIN 3051</td>
<td>Group Fitness Instruction</td>
</tr>
<tr>
<td>KIN 3061</td>
<td>Foundational Movement</td>
</tr>
<tr>
<td>KIN 3103</td>
<td>Motor Development</td>
</tr>
<tr>
<td>KIN 3413</td>
<td>Tactics</td>
</tr>
<tr>
<td>KIN 3433</td>
<td>Exercise Physiology</td>
</tr>
</tbody>
</table>
KIN elective

Spring
KIN 3001  Skill Analysis in Physical Activity: Individual Activities  1
KIN 3011  Skill Analysis in Physical Activity: Team Sports I  1
KIN 3323  Biomechanics  3
KIN 4123  Psychosocial Aspects of Exercise and Sport  3
KIN 4343  Movement Awareness  3
KIN 4423  Developmental/Adapted Physical Activity  3
RDG 3773  Reading and Writing Across the Disciplines–Secondary  3

Fourth Year

Fall
HTH 3013  Survey of Human Nutrition  3
KIN 3021  Skill Analysis in Physical Activity: Team Sports II  1
KIN 3031  Skill Analysis in Physical Activity: Dual Sports  1
KIN 4113  Evaluation  3
KIN 4203  Teaching Secondary Physical Education  3
KIN 4303  Teaching Elementary Physical Education  3
KIN 4403  Motor Learning  3

Spring
C&I 4716  Student Teaching: All Level EC–12  6

Total Credit Hours: 120.0

Bachelor of Science Degree in Nutrition and Dietetics

The Bachelor of Science in Nutrition and Dietetics offers the initial phase of a professional program known as the Coordinated Program in Dietetics (CPD). Didactic and introductory supervised experiences are part of the curriculum and serve as a foundation for the Master of Dietetics Studies (MDS). Students must meet all admission requirements to seek the dual Bachelor of Science in Nutrition and Dietetics and the Master of Dietetics Studies. Successful completion of both degrees certifies the student as eligible to take the national exam to become Registered Dietitian (RD). Students admitted into the undergraduate program are not guaranteed placement into the MDS unless they maintain a 3.0 grade point average and have completed all degree core, support courses and Texas core with a grade of “C-” or better. Students on the B.S. in Nutrition and Dietetics track who are not able to complete the Master of Dietetics Studies, may earn the Bachelor of Science degree if they meet the University graduation requirements, but are not eligible for the verification statement to take the RD exam.

Admission Policy

The admission requirements into the Dietetics and Nutrition 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. While students can declare a pre-dietetics/nutrition track, there is a restricted placement in the advanced practicum courses, which limits the capacity for admission into
the Coordinated Program in Dietetics. Admission into the major as part of a cohort group occurs in the Fall semester. In order to declare a major in Dietetics and Nutrition, a student must meet the following criteria:

- Completion of 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.
- All prerequisite courses must be passed with a “C–” or better. Detailed information about the courses, including the Texas common course numbers may be obtained from the Undergraduate Catalog.
- No prerequisite course can be repeated more than twice to meet the grade criteria.
- All support courses (prerequisite courses) must be completed by the end of the summer semester prior to entering the program in the Fall semester.
- Submit a program application, two completed reference forms (program specific) preferably by faculty members and a statement indicating personal career goals, knowledge of the profession, commitment, interests, and motivation.
- A personal interview with the program faculty.
- Transfer students must meet all the above criteria and meet all the UTSA undergraduate admission requirements. Official transcripts from all institutions attended must be submitted.

**Core Curriculum Requirements (42 semester credit hours)**

Students seeking the Bachelor of Science degree in Nutrition and Dietetics 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. For a complete listing of courses that satisfy the Core Curriculum requirements, see chapter 1 of this catalog.

MAT 1073 should be used to satisfy the core requirement in Mathematics. BIO 1233 or BIO 1404 and BIO 1243 or BIO 1413 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.

**Degree Requirements**

A. Degree Core Requirements

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>NDT 3191</td>
<td>Applied Food Science Practicum</td>
<td>1</td>
</tr>
<tr>
<td>NDT 3203</td>
<td>Introduction to Nutrition and Dietetics Careers</td>
<td>3</td>
</tr>
<tr>
<td>NDT 3292</td>
<td>Food Production Practicum</td>
<td>2</td>
</tr>
<tr>
<td>NDT 3313</td>
<td>Applied Food Science</td>
<td>3</td>
</tr>
<tr>
<td>NDT 3323</td>
<td>Nutrition and Health Assessment</td>
<td>3</td>
</tr>
<tr>
<td>NDT 3333</td>
<td>Nutrition Counseling and Education</td>
<td>3</td>
</tr>
<tr>
<td>NDT 3343</td>
<td>Nutrition in the Life Span</td>
<td>3</td>
</tr>
<tr>
<td>NDT 3353</td>
<td>Production and Foodservice System Management I</td>
<td>3</td>
</tr>
<tr>
<td>NDT 3413</td>
<td>Advanced Human Nutrition</td>
<td>3</td>
</tr>
<tr>
<td>NDT 4091</td>
<td>Community Service Practicum</td>
<td>1</td>
</tr>
<tr>
<td>NDT 4191</td>
<td>Nutrition Care Process Practicum</td>
<td>1</td>
</tr>
<tr>
<td>NDT 4313</td>
<td>Production and Food Service System Management II</td>
<td>3</td>
</tr>
<tr>
<td>NDT 4323</td>
<td>Medical Nutrition Therapy I</td>
<td>3</td>
</tr>
</tbody>
</table>
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  Introductory Microbiology  3
BIO 1061  Introductory Microbiology Laboratory  1
BIO 2083  Human Anatomy  3
BIO 2091  Human Anatomy Laboratory  1
BIO 2103  Human Physiology  3
BIO 2111  Human Physiology Laboratory  1
BIO 3513  Biochemistry  3
CHE 1103  General Chemistry I  3
CHE 1121  General Chemistry I Laboratory  1
CHE 1113  General Chemistry II  3
CHE 1131  General Chemistry II Laboratory  1
CHE 2603  Organic Chemistry I  3
CHE 2612  Organic Chemistry I Laboratory  2
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

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 advisors in the College of Education and Human Development 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 (NDT) 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

<table>
<thead>
<tr>
<th>Period</th>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fall</strong></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>AIS 1203</td>
<td>Academic Inquiry and Scholarship (core)</td>
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<tr>
<td>BIO 1233 or 1404</td>
<td>Contemporary Biology I (core and major)</td>
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<tr>
<td>CHE 1103</td>
<td>General Chemistry I</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>CHE 1121</td>
<td>General Chemistry I Laboratory</td>
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<tr>
<td>MAT 1073</td>
<td>Algebra for Scientists and Engineers (core and major)</td>
<td></td>
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<td>WRC 1013</td>
<td>Freshman Composition I (core)</td>
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<td><strong>Spring</strong></td>
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<tr>
<td>BIO 1243 or 1413</td>
<td>Contemporary Biology II (core)</td>
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<tr>
<td>CHE 1113</td>
<td>General Chemistry II</td>
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</tr>
<tr>
<td>CHE 1131</td>
<td>General Chemistry II Laboratory</td>
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<td>1</td>
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<tr>
<td>WRC 1023</td>
<td>Freshman Composition II (core)</td>
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<tr>
<td>American History core</td>
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<td>3</td>
</tr>
<tr>
<td>Government-Political Science core</td>
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## Second Year

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<thead>
<tr>
<th>Period</th>
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<th>Course Title</th>
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<tbody>
<tr>
<td><strong>Fall</strong></td>
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<tr>
<td>BIO 1053</td>
<td>Introductory Microbiology</td>
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<tr>
<td>BIO 1061</td>
<td>Introductory Microbiology Laboratory</td>
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<tr>
<td>BIO 2083</td>
<td>Human Anatomy</td>
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<tr>
<td>BIO 2091</td>
<td>Human Anatomy Laboratory</td>
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<tr>
<td>CHE 2603</td>
<td>Organic Chemistry I</td>
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<td>3</td>
</tr>
<tr>
<td>CHE 2612</td>
<td>Organic Chemistry I Laboratory</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>American History core</td>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td><strong>Spring</strong></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>BIO 2103</td>
<td>Human Physiology</td>
<td></td>
<td>3</td>
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<tr>
<td>BIO 2111</td>
<td>Human Physiology Laboratory</td>
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</tr>
<tr>
<td>BIO 3513</td>
<td>Biochemistry</td>
<td></td>
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<tr>
<td>MGT 3013</td>
<td>Introduction to Organization Theory, Behavior, and Management</td>
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<td>3</td>
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<tr>
<td>NDT 2043 or BIO 2043</td>
<td>Introduction to Nutritional Sciences</td>
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<tr>
<td>PSY 1013, SOC 1013, or ANT 1013</td>
<td>Introduction to Psychology (core)</td>
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## Third Year

<table>
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<th>Period</th>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
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<tr>
<td><strong>Fall</strong></td>
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<tr>
<td>NDT 3191</td>
<td>Applied Food Science Practicum</td>
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<tr>
<td>NDT 3203</td>
<td>Introduction to Nutrition and Dietetics Careers</td>
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</table>
NDT 3313  Applied Food Science  3
NDT 3413  Advanced Human Nutrition  3
STA 1053  Basic Statistics (core and major)  3

**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

**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

**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

Total Credit Hours: 120.0

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.

**Minor in Athletic Coaching**

All students pursuing a minor in Athletic Coaching must complete the following 18 semester credit hours:

KIN 1101  Team Sports (repeat for a total of 3 semester credit hours)  3
KIN 3013  Theory of Coaching  3
KIN 3113  Scientific Principles of Physical Activity  3
KIN 4413  Coaching Athletics (repeated for a total of 6 semester credit hours)  6
KIN 4943  Athletic Coaching Practicum  3
To declare a Minor in Athletic Coaching or to obtain advice, students should consult an advisor in the College of Education and Human Development Advising and Certification Center.

**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 Applied Technology for Research and Health Education 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:

- 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 an advisor in the College of Education and Human Development Advising and Certification Center.

**Certificate in Athletic Coaching**

All students pursuing a Certificate in Athletic Coaching must complete the following 15 semester credit hours:

- KIN 1101 Team Sports (repeated for a total of 3 semester credit hours) 3
- KIN 3013 Theory of Coaching 3
KIN 3113  Scientific Principles of Physical Activity  3
KIN 4413  Coaching Athletics  3
KIN 4943  Athletic Coaching Practicum  3

Total Credit Hours: 15

**Health (HTH) Courses**

Department of Kinesiology, Health, and Nutrition, College of Education and Human Development

**HTH 2133. School Health. (3-0) 3 Credit Hours. (TCCN = TECA 1318)**
This course is designed to provide teacher certification students with the opportunity to gain developmentally appropriate knowledge and skills in health and environmental safety. It will address health-related issues in personal, interpersonal, and community settings and creating a safe teaching environment. Offered Spring Semester only.

**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.

**HTH 2513. Personal Health. (3-0) 3 Credit Hours. (TCCN = KINE 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.

**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.

**HTH 2623. Applied Technology for Research and Health Education. (3-0) 3 Credit Hours.**
This course is a survey of common technologies used for health education practice, research, and database management in Community and Preventative Health Services. This course will provide an overview of the major skills and critical issues associated with health education material development, database management, and data reporting for program evaluation.

**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.
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.

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.

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.

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.

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.”).

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.

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.

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.

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.
**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. Offered Fall Semester only.

**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.

**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).

**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.

**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.

**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.

**HTH 4533. Nutrition and Health. (3-0) 3 Credit Hours.**
Prerequisites: Completion of Core science and mathematics requirements, BIO 2083, BIO 2103, HTH 2413, 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.

**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. Offered Fall Semester only.

**HTH 4911. Independent Study. (0-0) 1 Credit Hour.**
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. Offered Fall Semester only.

**HTH 4912. Independent Study. (0-0) 2 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. Offered Fall Semester only.

**HTH 4913. Independent Study. (0-0) 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. Offered Fall Semester only.

**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.

**HTH 4936. Internship in Health. (0-0) 6 Credit Hours.**
Prerequisites: Student is required to have a cumulative grade point average of 2.0 or greater and must be within 13 semester credit hours of graduation. 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. 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.).

**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.

**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.

**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.
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.

Kinesiology (KIN) Courses
Department of Kinesiology, Health, and Nutrition, College of Education and Human Development

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.

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.

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.

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.

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.

KIN 2141. Medical Terminology. (1-1) 1 Credit Hour.
Prerequisites: KIN 2303 and admission to the Athletic Medicine Program. 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.

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.”).

**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.”).

**KIN 2441. Management and Organization in Kinesiology and Sports. (1-1) 1 Credit Hour.**
Prerequisite: KIN 2303. Introduction to concepts and skills that will prepare the student to become an effective leader of physical fitness, sport and health, and physical education programs. (Formerly KIN 2423. Credit cannot be earned for both KIN 2423 and KIN 2441.).

**KIN 3001. Skill Analysis in Physical Activity: Individual Activities. (1-2) 1 Credit Hour.**
Prerequisite: KIN 3413. Practice in delivering developmentally appropriate physical activity instruction in a variety of selected individual activities such as golf, bowling, archery, and track and field.

**KIN 3011. Skill Analysis in Physical Activity: Team Sports I. (1-2) 1 Credit Hour.**
Prerequisite: KIN 3413. Practice in delivering developmentally appropriate physical activity instruction in a variety of selected team sports, such as basketball, soccer, and baseball/softball.

**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.

**KIN 3021. Skill Analysis in Physical Activity: Team Sports II. (1-2) 1 Credit Hour.**
Prerequisite: KIN 3413. Practice in delivering developmentally appropriate physical activity instruction in a variety of selected team sports, such as football, volleyball, and team handball.

**KIN 3031. Skill Analysis in Physical Activity: Dual Sports. (1-2) 1 Credit Hour.**
Prerequisite: KIN 3413. Practice in delivering developmentally appropriate physical activity instruction in a variety of selected dual sports, such as badminton, tennis and handball.

**KIN 3041. Skill Analysis in Physical Activity: Track and Field. (1-2) 1 Credit Hour.**
Specialized activity instruction involving skills, drills, rules, regulations, and skill performance in a variety of selected track and field events.

**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.”).
KIN 3061. Foundational Movement. (1-2) 1 Credit Hour.
Prerequisite: KIN 2303. 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.”).

KIN 3071. Musculoskeletal Fitness Instruction. (1-2) 1 Credit Hour.
Prerequisite: KIN 3313. Instructional techniques applied to resistance training, plyometrics, flexibility, and
musculoskeletal conditioning activities.

KIN 3103. Motor Development. (3-0) 3 Credit Hours.
Prerequisite: KIN 2303 or HTH 3503. 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.

KIN 3113. Scientific Principles of Physical Activity. (3-1) 3 Credit Hours.
Prerequisite: KIN 3013 or consent of instructor. 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.

KIN 3123. Early Childhood Development Through Movement. (3-0) 3 Credit Hours.
A study of movement development and the effects on cognitive and social development of young children.
Students will learn to program and deliver developmentally appropriate strategies and activities to introduce
and refine fundamental movement skills and health-related components of fitness. Task analysis and
sequential delivery of concepts and skills will also be discussed. Some field work experiences may be
required.

KIN 3213. First Aid and Injury Management. (3-0) 3 Credit Hours.
Prerequisite: KIN 2303 or KIN 3013. Study and application of first aid and treatment of common exercise-
related injuries in sport and exercise environments. Additional training includes risk-management strategies
for providing safe exercise environments, and management of exercise testing facilities. Upon successful
completion of this course, the student will be eligible for certification in first aid and CPR. (Credit cannot be
earned for both KIN 3213 and HTH 2523.).

KIN 3303. Athletic Injuries and Training Procedures. (3-0) 3 Credit Hours.
Prerequisite: KIN 3313 or equivalent. 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.

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.
KIN 3321. Biomechanics Laboratory. (1-1) 1 Credit Hour.
Prerequisite: KIN 3313 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.

KIN 3323. Biomechanics. (3-0) 3 Credit Hours.
Prerequisite: KIN 3313 or equivalent. 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.

KIN 3413. Tactics. (3-0) 3 Credit Hours.
Prerequisite: KIN 2303. Development, organization, and delivery of appropriate physical activities for children through the adolescent stage. Some fieldwork observation experiences may be required.

KIN 3431. Exercise Physiology Laboratory. (1-1) 1 Credit Hour.
Prerequisite: KIN 3313 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.

KIN 3433. Exercise Physiology. (3-0) 3 Credit Hours.
Prerequisite: KIN 3313 or equivalent. 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.

KIN 3441. Graded Exercise Testing and Fitness Assessment Laboratory. (1-1) 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.

KIN 3443. Graded Exercise Testing and Fitness Assessment. (3-0) 3 Credit Hours.
Prerequisite: KIN 3433. 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 “Fitness Testing and Exercise Prescription.”).

KIN 3453. Fitness Programming and Exercise Prescription. (3-1) 3 Credit Hours.
Prerequisites: KIN 3071, KIN 3323, 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.

KIN 3463. Musculoskeletal Anatomy. (3-1) 3 Credit Hours.
Prerequisite: KIN 3313 or equivalent, and admission to the Athletic Medicine Program. 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.

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.

KIN 4043. Therapeutic Modalities. (3-0) 3 Credit Hours.
Prerequisites: KIN 3303, KIN 3463, and admission to the Athletic Medicine Program. 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.

KIN 4113. Evaluation. (3-0) 3 Credit Hours.
Prerequisite: KIN 3103. 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.

KIN 4123. Psychosocial Aspects of Exercise and Sport. (3-0) 3 Credit Hours.
Prerequisite: KIN 2303. A study of human behavior in exercise and sport. Emphasis is placed on understanding the psychosocial principles underlying group processes, performance enhancement, and health and well-being.

KIN 4143. Advanced Athletic Training. (3-0) 3 Credit Hours.
Prerequisites: KIN 3303 and KIN 3463, and admission to the Athletic Medicine Program. This course deals in depth with issues related to athletic training, including assessment of injuries, and proper taping and wrapping techniques.

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.

KIN 4233. Advanced Topics in Exercise Physiology. (2-2) 3 Credit Hours.
Prerequisite: KIN 3433. 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.

KIN 4243. Musculoskeletal Rehabilitation. (3-1) 3 Credit Hours.
Prerequisites: KIN 3303, KIN 3463, and admission to the Athletic Medicine Program. This course examines various therapeutic exercises and programs used in the treatment and rehabilitation of exercise-related injuries.
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.

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.

KIN 4343. Movement Awareness. (3-0) 3 Credit Hours.
Prerequisite: KIN 3413. Study of concepts of movement awareness and the elements of movement that are the basis of all movement capacities. Application of these concepts to the learning of motor skills will be included.

KIN 4401. Motor Learning Laboratory. (1-1) 1 Credit Hour.
Prerequisite: KIN 3313, and concurrent enrollment in KIN 4403. Laboratory exercises demonstrating the principles of motor learning and motor control. This lab will complement KIN 4403.

KIN 4403. Motor Learning. (3-0) 3 Credit Hours.
Prerequisite: KIN 3313 or an equivalent. Functional applications of motor control and learning theory in skill instruction and sports performance. Motor learning laboratory hours are required.

KIN 4413. Coaching Athletics. (3-0) 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.

KIN 4423. Developmental/Adapted Physical Activity. (3-1) 3 Credit Hours.
Prerequisites: KIN 3103 and KIN 3413, 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.

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.

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.
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.

KIN 4931. Clinical Applications of Athletic Injuries. (1-2) 1 Credit Hour.
Prerequisites: Consent of instructor and admission to the Athletic Medicine Program. This course provides practical applications in prevention, diagnosis, treatment, and rehabilitation of athletic injuries, and includes 300 hours of supervised field, laboratory and clinical experiences in athletic training. May be repeated for credit for a maximum of 6 semester credit hours.

KIN 4936. Internship in Kinesiology. (0-0) 6 Credit Hours.
Prerequisites: Student is required to have a cumulative grade point average of 2.0 or greater and must be within 13 semester credit hours of graduation. Supervised internship with appropriate agency in the field of kinesiology. 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.).

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.”).

KIN 4953. Special Studies. (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.

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.

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.

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.
Nutrition and Dietetics (NDT) Courses

Department of Kinesiology, Health, and Nutrition, College of Education and Human Development

NDT 2043. Introduction to Nutritional Sciences. (3-0) 3 Credit Hours.
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.)

NDT 3191. Applied Food Science Practicum. (0-3) 1 Credit Hour.
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.

NDT 3203. Introduction to Nutrition and Dietetics Careers. (3-0) 3 Credit Hours.
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.

NDT 3292. Food Production Practicum. (0-6) 2 Credit Hours.
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.

NDT 3313. Applied Food Science. (3-0) 3 Credit Hours.
Prerequisites: NDT 2043 or equivalent and Microbiology. 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.

NDT 3323. Nutrition and Health Assessment. (3-0) 3 Credit Hours.
Prerequisite: 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.

NDT 3333. Nutrition Counseling and Education. (3-0) 3 Credit Hours.
Prerequisite: 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.

NDT 3343. Nutrition in the Life Span. (3-0) 3 Credit Hours.
Prerequisites: NDT 2043 or equivalent and Human Physiology. Nutritional needs during various stages of the lifecycle as influenced by physiologic, cultural, and environmental factors.

NDT 3353. Production and Foodservice System Management I. (3-0) 3 Credit Hours.
Prerequisite: 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.
NDT 3413. Advanced Human Nutrition. (3-0) 3 Credit Hours.
Prerequisite: NDT 2043 or equivalent and Biochemistry. Advanced discussion of nutrient structure, function and interaction, metabolic pathways, and regulation and integration of metabolism.

NDT 4091. Community Service Practicum. (0-3) 1 Credit Hour.
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.

NDT 4191. Nutrition Care Process Practicum. (0-3) 1 Credit Hour.
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.

NDT 4313. Production and Food Service System Management II. (3-0) 3 Credit Hours.
Prerequisites: 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.

NDT 4323. Medical Nutrition Therapy I. (3-0) 3 Credit Hours.
Prerequisites: 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.

NDT 4333. Community Nutrition. (3-0) 3 Credit Hours.
Nutrition-related issues in public health, various community resources, agencies, and programs involved in health promotion and disease prevention.

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.

NDT 4353. Medical Nutrition Therapy II. (3-0) 3 Credit Hours.
Prerequisites: 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.

NDT 4363. Current Issues in Nutrition. (3-0) 3 Credit Hours.
Prerequisites: 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.

NDT 4951. Independent Study in Nutrition and Dietetics. (0-0) 1 Credit Hour.
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.

**NDT 4952. Independent Study in Nutrition and Dietetics. (0-0) 2 Credit Hours.**
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.

**NDT 4953. Independent Study in Nutrition and Dietetics. (0-0) 3 Credit Hours.**
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.
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 Applied Arts and Sciences Degree in Infancy and Childhood Studies
2. 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 careers in government service or work with youth in a nonteaching capacity, or as an opportunity to prepare for graduate or professional study in areas such as 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. Degree with Certification Concentrations
      Students who choose the IDS major can also seek teacher certification. The IDS program is designed to give successful students the opportunity to become teachers who understand their own thinking and learning processes and can successfully foster children’s conceptual, intellectual, and affective growth. Within the Department of Interdisciplinary Learning and Teaching, IDS majors who select teacher certification can choose from five concentrations: early childhood–grade 6 (EC–6) generalist certification, grades 4–8 generalist, grades 4–8 language arts/reading/social studies certification, grades 4–8 mathematics/science certification, or EC–12 special education concentration. For additional information regarding requirements for these certifications, students should consult the section of this catalog entitled “IDS Degree Program with Teacher Certification Concentrations.” They should also consult with an advisor in the College of Education and Human Development (COEHD) Advising and Certification Center for information regarding certification requirements and for information on admission to the Teacher Certification Program. IDS majors seeking bilingual or ESL certification for EC–6 and 4–8 should refer to the section of this catalog entitled Department of Bicultural-Bilingual Studies. Please note that certification programs and requirements are subject to change depending on changes mandated by the state.

3. Secondary Certification
   The Department of Interdisciplinary Learning and Teaching offers coursework required for students seeking secondary certification (grades 8–12). 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 an advisor in the COEHD Advising and Certification Center 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.

Bachelor of Applied Arts and Sciences Degree in Infancy and Childhood Studies
The Bachelor of Applied Arts and Sciences (B.A.A.S.) degree in Infancy and Childhood Studies emphasizes the study of language and reading in early childhood development. The minimum number of semester credit hours for the B.A.A.S. degree in Infancy and Childhood Studies 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.
Core Curriculum Requirements (42 semester credit hours)

Students seeking the Bachelor of Applied Arts and Sciences degree in Infancy and Childhood 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. For a complete listing of courses that satisfy the Core Curriculum requirements, see chapter 1 of this catalog.

Degree Requirements

A. Organized technical program
Select 36 semester credit hours in an organized technical program completed at a community college 36

B. Core Curriculum courses
Core Curriculum courses 42

C. Required upper-division coursework for the major
BBL 3143   Children’s Literature for Bilingual Learners 3
or RDG 3513   Children’s Literature–EC–6
ECE 3133   Programs and Policies in Early Childhood Education 3
ECE 3143   Child Growth and Development 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
HTH 3013   Survey of Human Nutrition 3
KIN 3123   Early Childhood Development Through Movement 3
SPE 3603   Introduction to Special Education 3

D. Multicultural Education
Select two of the following: 6
AAS 3013   African American Cultural Experiences
BBL 3023   Mexican American Culture
SOC 3413   Sociology of the Mexican American Community
SOC 3503   Sociology of Education

Electives
Select 3 semester credit hours of elective coursework 3

Total Credit Hours: 120
B.A.A.S. in Infancy and Childhood Studies – Recommended Four-Year Academic Plan

Coursework to be Completed at a Community College (Associate of Applied Science degree)  

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organized technical program completed at a community college</td>
<td>36</td>
</tr>
<tr>
<td>Core Curriculum courses</td>
<td>42</td>
</tr>
<tr>
<td><strong>Total Credit Hours:</strong></td>
<td><strong>78</strong></td>
</tr>
</tbody>
</table>

Third Year

**Fall**
- ECE 3143 Child Growth and Development  \(^1\)  
- ECE 3313 Play, Creativity, and Learning  \(^1\)  
- ECE 3603 Language and Literacy Acquisition  \(^1\)  
- HTH 3013 Survey of Human Nutrition  
- Elective (KIN 2303 recommended)  

**Spring**
- BBL 3143 or RDG 3513 Children’s Literature for Bilingual Learners  
- ECE 3133 Programs and Policies in Early Childhood Education  
- SPE 3603 Introduction to Special Education  
- Elective (KIN 2303 recommended)  

Fourth Year

**Fall**
- ECE 4103 Guidance of Young Children in Groups  
- ECE 4123 Family and Community Resources in Early Childhood  
- ECE 4153 Culturally Appropriate Assessment for Infants and Young Children  
- KIN 3123 Early Childhood Development Through Movement  

**Spring**
- Select two of the following:  
  - AAS 3013 African American Cultural Experiences  
  - BBL 3023 Mexican American Culture  
  - SOC 3413 Sociology of the Mexican American Community  
  - SOC 3503 Sociology of Education  

**Total Credit Hours:** **42.0**

\(^1\) These courses should be taken concurrently.
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.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the Bachelor of Arts 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. For a complete listing of courses that satisfy the Core Curriculum requirements, see chapter 1 of this catalog.

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.

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

One area of specialization must be selected by the student seeking the IDS major 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 COEHD Advising and Certification Center. Students are encouraged to select their area of specialization as early in their program as possible.

D. Electives

Upper-division courses to complete a minimum total of 120 semester credit hours. Advisors in the COEHD 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

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fall</strong></td>
<td>AIS 1203</td>
<td>Academic Inquiry and Scholarship (core)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>POL 1013</td>
<td>Introduction to American Politics (core)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>MAT 1023</td>
<td>College Algebra with Applications (core)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>WRC 1013</td>
<td>Freshman Composition I (core)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>American History core</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td><strong>Spring</strong></td>
<td>IDS 2113</td>
<td>Society and Social Issues (core and major)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>POL 1133</td>
<td>Texas Politics and Society (core)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>WRC 1023</td>
<td>Freshman Composition II (core)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>American History core</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Life &amp; Physical Sciences core</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

## Second Year

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fall</strong></td>
<td>IDS 3013</td>
<td>Diversity, Equity, and the Social Sciences</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>MAT 1153</td>
<td>Essential Elements in Mathematics I</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Creative Arts core</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Language, Philosophy &amp; Culture core</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Life &amp; Physical Sciences core</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td><strong>Spring</strong></td>
<td>IDS 2403 or 3234</td>
<td>Physical Science</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>IDS 3201 or 3224</td>
<td>Inquiry in Physical Science</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>MAT 1163</td>
<td>Essential Elements in Mathematics II</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Area of Specialization course</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Component Area Option core</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Upper-division elective</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

## Third Year

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fall</strong></td>
<td>IDS 2413 or 3224</td>
<td>Earth Systems Science</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>IDS 3211 or 3224</td>
<td>Inquiry in Earth Systems Science</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>IDS 3123</td>
<td>Culture, Literature, and Fine Arts</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Area of Specialization course</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Area of Specialization course</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Upper-division elective</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td><strong>Spring</strong></td>
<td>IDS 3003</td>
<td>STEM in Social Contexts</td>
<td>3</td>
</tr>
</tbody>
</table>
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 Generalist Certification Concentration)

The minimum number of semester credit hours required for the IDS degree with Early Childhood–Grade 6 generalist certification is 125, at least 39 of which must be at the upper-division level.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the Bachelor of Arts 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. For a complete listing of courses that satisfy the Core Curriculum requirements, see chapter 1 of this catalog.

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.

**IDS Degree Requirements**

A. IDS Core courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>IDS 2113</td>
<td>Society and Social Issues</td>
<td>3</td>
</tr>
<tr>
<td>IDS 3003</td>
<td>STEM in Social Contexts</td>
<td>3</td>
</tr>
<tr>
<td>IDS 3013</td>
<td>Diversity, Equity, and the Social Sciences</td>
<td>3</td>
</tr>
<tr>
<td>IDS 3123</td>
<td>Culture, Literature, and Fine Arts</td>
<td>3</td>
</tr>
<tr>
<td>IDS 3713</td>
<td>Interdisciplinary Inquiry</td>
<td>3</td>
</tr>
</tbody>
</table>

B. IDS Support courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>IDS 2403</td>
<td>Physical Science &amp; IDS 3201 Inquiry in Physical Science</td>
<td>4</td>
</tr>
<tr>
<td>or IDS 3244</td>
<td>Investigations in Physical Science</td>
<td></td>
</tr>
<tr>
<td>or IDS 3224</td>
<td>Earth Systems Science Investigations</td>
<td></td>
</tr>
<tr>
<td>MAT 1153</td>
<td>Essential Elements in Mathematics I</td>
<td>3</td>
</tr>
<tr>
<td>MAT 1163</td>
<td>Essential Elements in Mathematics II</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total Credit Hours: 29**

**Certification Requirements**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BBL 3403</td>
<td>Cultural and Linguistic Diversity in a Pluralistic Society</td>
<td>3</td>
</tr>
<tr>
<td>ECE 3143</td>
<td>Child Growth and Development</td>
<td>3</td>
</tr>
<tr>
<td>ECE 3313</td>
<td>Play, Creativity, and Learning</td>
<td>3</td>
</tr>
<tr>
<td>ECE 3603</td>
<td>Language and Literacy Acquisition</td>
<td>3</td>
</tr>
<tr>
<td>EDU 2103</td>
<td>Social Foundations for Education in a Diverse U.S. Society</td>
<td>3</td>
</tr>
<tr>
<td>ESL 3023</td>
<td>Second Language Teaching and Learning in EC–6</td>
<td>3</td>
</tr>
<tr>
<td>IDS 2013</td>
<td>Introduction to Learning and Teaching in a Culturally Diverse Society</td>
<td>3</td>
</tr>
<tr>
<td>RDG 3513</td>
<td>Children’s Literature–EC–6</td>
<td>3</td>
</tr>
<tr>
<td>RDG 3803</td>
<td>Writing Development and Processes</td>
<td>3</td>
</tr>
<tr>
<td>SPE 3603</td>
<td>Introduction to Special Education</td>
<td>3</td>
</tr>
</tbody>
</table>

The following courses require an advisor code and are restricted to students who have applied for and been accepted into the Teacher Certification Program.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>RDG 3823</td>
<td>Reading Comprehension–EC–6</td>
<td>3</td>
</tr>
<tr>
<td>RDG 4833</td>
<td>Organizing Reading Programs for Differentiated Instruction–EC–6</td>
<td>3</td>
</tr>
</tbody>
</table>
**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.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Core</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>C&amp;I 4303</td>
<td>Approaches to Teaching Social Studies Incorporating Language Arts and Fine Arts EC–6</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>C&amp;I 4353</td>
<td>Approaches to Teaching Science EC–6</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>C&amp;I 4403</td>
<td>Approaches to Teaching Mathematics EC–6</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>C&amp;I 4616</td>
<td>Student Teaching: Early Childhood–Grade 6</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>ECE 4143</td>
<td>Principles and Practices of Differentiated Education EC–6</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>ECE 4203</td>
<td>Assessment and Evaluation in EC–6</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

**Total Credit Hours: 36**

---

**B.A. in Interdisciplinary Studies, Early Childhood–Grade 6 Generalist Certification Concentration – Recommended Four-Year Academic Plan**

**First Year**

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course Code</th>
<th>Course Title</th>
<th>Core</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall</td>
<td>AIS 1203</td>
<td>Academic Inquiry and Scholarship (core)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>BIO 1233</td>
<td>Contemporary Biology I (core)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>MAT 1023</td>
<td>College Algebra with Applications (core)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>WRC 1013</td>
<td>Freshman Composition I (core)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>American History core</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spring</td>
<td>AST 1033</td>
<td>Exploration of the Solar System (core)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>HIS 2053</td>
<td>Texas History (core)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>IDS 2013</td>
<td>Introduction to Learning and Teaching in a Culturally Diverse Society</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>POL 1013</td>
<td>Introduction to American Politics (core)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>WRC 1023</td>
<td>Freshman Composition II (core)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Summer</td>
<td>POL 1133</td>
<td>Texas Politics and Society (core)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>IDS 2113</td>
<td>Society and Social Issues (core and major)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Component Area Option core</td>
<td>3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Second Year**

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course Code</th>
<th>Course Title</th>
<th>Core</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall</td>
<td>AAS 2013 or MAS 2013</td>
<td>Introduction to African American Studies</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>EDU 2103</td>
<td>Social Foundations for Education in a Diverse U.S. Society</td>
<td>3</td>
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</tr>
<tr>
<td></td>
<td>IDS 3123</td>
<td>Culture, Literature, and Fine Arts</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>
MAT 1153  Essential Elements in Mathematics I  3
Creative Arts core (MAS 2023 recommended)  3

Spring
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
RDG 3803  Writing Development and Processes  3

Summer
IDS 2413  Earth Systems Science  3
IDS 3211  Inquiry in Earth Systems Science  1
SPE 3603  Introduction to Special Education  3

Third Year
Fall
Admission to the Teacher Certification Program
IDS 3003  STEM in Social Contexts  3
ECE 3143  Child Growth and Development  3
ECE 3313  Play, Creativity, and Learning  3
ECE 3603  Language and Literacy Acquisition  3
RDG 3513  Children’s Literature–EC–6  3

Spring
(must be taken Fall or Spring semesters)
C&I 4353  Approaches to Teaching Science EC–6  3
C&I 4403  Approaches to Teaching Mathematics EC–6  3
ECE 4203  Assessment and Evaluation in EC–6  3
RDG 3823  Reading Comprehension–EC–6  3
Summer
BBL 3403  Cultural and Linguistic Diversity in a Pluralistic Society  3
IDS 3713  Interdisciplinary Inquiry  3

Fourth Year
Fall
(must be taken Fall or Spring semesters)
C&I 4303  Approaches to Teaching Social Studies Incorporating Language Arts and Fine Arts EC–6  3
ECE 4143  Principles and Practices of Differentiated Education EC–6  3
ESL 3023  Second Language Teaching and Learning in EC–6  3
RDG 4833  Organizing Reading Programs for Differentiated Instruction–EC–6  3
Spring
(must be taken Fall or Spring semesters)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>C&amp;I 4616</td>
<td>Student Teaching: Early Childhood–Grade 6</td>
<td>6</td>
</tr>
</tbody>
</table>

Total Credit Hours: 125.0

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 Generalist Certification Concentration)

The minimum number of semester credit hours required for the IDS degree with grades 4–8 generalist certification is 120, at least 39 of which must be at the upper-division level.

Core Curriculum requirements (42 semester credit hours)

Students seeking the Bachelor of Arts 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. For a complete listing of courses that satisfy the Core Curriculum requirements, see chapter 1 of this catalog.

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.

IDS Degree Requirements

A. IDS Core Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>IDS 2113</td>
<td>Society and Social Issues</td>
<td>3</td>
</tr>
<tr>
<td>IDS 3003</td>
<td>STEM in Social Contexts</td>
<td>3</td>
</tr>
<tr>
<td>IDS 3013</td>
<td>Diversity, Equity, and the Social Sciences</td>
<td>3</td>
</tr>
<tr>
<td>IDS 3123</td>
<td>Culture, Literature, and Fine Arts</td>
<td>3</td>
</tr>
<tr>
<td>IDS 3713</td>
<td>Interdisciplinary Inquiry</td>
<td>3</td>
</tr>
</tbody>
</table>

B. IDS Support Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BBL 3403</td>
<td>Cultural and Linguistic Diversity in a Pluralistic Society</td>
<td>3</td>
</tr>
<tr>
<td>GRG 1013</td>
<td>Fundamentals of Geography</td>
<td>3</td>
</tr>
<tr>
<td>IDS 2403</td>
<td>Physical Science</td>
<td>3</td>
</tr>
<tr>
<td>IDS 2413</td>
<td>Earth Systems Science</td>
<td>3</td>
</tr>
</tbody>
</table>
MAT 1153  Essential Elements in Mathematics I  3
MAT 1163  Essential Elements in Mathematics II  3

**Total Credit Hours: 33**

**Certification Requirements**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDP 3303</td>
<td>Learning and Development in the Middle School Context (Grades 4–8)</td>
<td>3</td>
</tr>
<tr>
<td>EDP 4203</td>
<td>Assessment and Evaluation</td>
<td>3</td>
</tr>
<tr>
<td>ESL 3063</td>
<td>Second Language Acquisition in Early Adolescence</td>
<td>3</td>
</tr>
<tr>
<td>IDS 2013</td>
<td>Introduction to Learning and Teaching in a Culturally Diverse Society</td>
<td>3</td>
</tr>
<tr>
<td>RDG 3523</td>
<td>Reading for Teachers–Grades 4–8</td>
<td>3</td>
</tr>
<tr>
<td>RDG 3633</td>
<td>Literature and Other Texts Across the Content Areas–Grades 4–8</td>
<td>3</td>
</tr>
<tr>
<td>RDG 3803</td>
<td>Writing Development and Processes</td>
<td>3</td>
</tr>
<tr>
<td>SPE 3603</td>
<td>Introduction to Special Education</td>
<td>3</td>
</tr>
</tbody>
</table>

The following course requires an advisor code and is restricted to students who have applied for and been accepted into the Teacher Certification Program.

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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>RDG 3533</td>
<td>Reading and Writing Across the Disciplines–Grades 4–8</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total Credit Hours: 27**

**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.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>C&amp;I 4433</td>
<td>Approaches to Teaching Science–Grades 4–8</td>
<td>3</td>
</tr>
<tr>
<td>C&amp;I 4443</td>
<td>Approaches to Teaching Mathematics–Grades 4–8</td>
<td>3</td>
</tr>
<tr>
<td>C&amp;I 4543</td>
<td>Approaches to Teaching Social Studies–Grades 4–8</td>
<td>3</td>
</tr>
<tr>
<td>C&amp;I 4603</td>
<td>Mathematics and Science Approaches and Classroom Management Strategies–Grades 4–8</td>
<td>3</td>
</tr>
<tr>
<td>C&amp;I 4623</td>
<td>Applied Teaching: Grades 4-8</td>
<td>3</td>
</tr>
<tr>
<td>C&amp;I 4626</td>
<td>Student Teaching: Grades 4–8</td>
<td>6</td>
</tr>
</tbody>
</table>

**Total Credit Hours: 21**

**B.A. in Interdisciplinary Studies, Grades 4–8 Generalist Certification Concentration – Recommended Four-Year Academic Plan**

**First Year**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIS 1203</td>
<td>Academic Inquiry and Scholarship (core)</td>
<td>3</td>
</tr>
<tr>
<td>MAT 1023</td>
<td>College Algebra with Applications (core)</td>
<td>3</td>
</tr>
<tr>
<td>WRC 1013</td>
<td>Freshman Composition I (core)</td>
<td>3</td>
</tr>
<tr>
<td>Life &amp; Physical Sciences Core (BIO 1233 recommended)</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>
American History Core (HIS 1053 recommended)

**Spring**
- WRC 1023 Freshman Composition II (core)
- IDS 2013 Introduction to Learning and Teaching in a Culturally Diverse Society (Core)
- IDS 2113 Society and Social Issues (core and major)
- American History Core (HIS 2053 recommended)
- Life & Physical Sciences Core (BIO 1243 recommended)

**Summer**
- IDS 2403 or 3234 Physical Science
- IDS 2413 or 3224 Earth Systems Science

**Second Year**

**Fall**
- EDU 2103 Social Foundations for Education in a Diverse U.S. Society
- IDS 3003 STEM in Social Contexts
- MAT 1153 Essential Elements in Mathematics I
- POL 1013 Introduction to American Politics (core)
- Language, Philosophy & Culture Core (AAS 2013 or MAS 2013 recommended)

**Spring**
- GRG 1013 Fundamentals of Geography (Core)
- IDS 3013 Diversity, Equity, and the Social Sciences
- MAT 1163 Essential Elements in Mathematics II
- POL 1133 Texas Politics and Society (core)

**Third Year**

**Fall**
- Admission to the Teacher Certification Program
- BBL 3403 Cultural and Linguistic Diversity in a Pluralistic Society
- EDP 3303 Learning and Development in the Middle School Context (Grades 4–8)
- ESL 3063 Second Language Acquisition in Early Adolescence
- RDG 3523 Reading for Teachers–Grades 4–8
- RDG 3803 Writing Development and Processes

**Spring**
- EDP 4203 Assessment and Evaluation
- IDS 3123 Culture, Literature, and Fine Arts
- RDG 3533 Reading and Writing Across the Disciplines–Grades 4–8
- RDG 3633 Literature and Other Texts Across the Content Areas–Grades 4–8
- SPE 3603 Introduction to Special Education
### Summer

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>IDS 3713</td>
<td>Interdisciplinary Inquiry</td>
<td>3</td>
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</tbody>
</table>

### Fourth Year

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>C&amp;I 4433</td>
<td>Approaches to Teaching Science–Grades 4–8 ¹,²</td>
</tr>
<tr>
<td>C&amp;I 4443</td>
<td>Approaches to Teaching Mathematics–Grades 4–8 ¹,²</td>
</tr>
<tr>
<td>C&amp;I 4543</td>
<td>Approaches to Teaching Social Studies–Grades 4–8 ¹,²</td>
</tr>
<tr>
<td>C&amp;I 4603</td>
<td>Mathematics and Science Approaches and Classroom Management Strategies–Grades 4–8 ¹,²</td>
</tr>
<tr>
<td>C&amp;I 4623</td>
<td>Applied Teaching: Grades 4-8 ¹,²</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Spring</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>C&amp;I 4626</td>
<td>Student Teaching: Grades 4–8 ³</td>
</tr>
</tbody>
</table>

Total Credit Hours: 120.0

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 Certificate.

### 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.

### Core Curriculum Requirements (42 semester credit hours)

Students seeking the Bachelor of Arts 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. For a complete listing of courses that satisfy the Core Curriculum requirements, see chapter 1 of this catalog.

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.

### IDS Degree Requirements

#### A. IDS Core Courses

<table>
<thead>
<tr>
<th>Course</th>
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</tr>
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<tbody>
<tr>
<td>IDS 2113</td>
<td>Society and Social Issues</td>
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</tr>
<tr>
<td>IDS 3003</td>
<td>STEM in Social Contexts</td>
<td>3</td>
</tr>
</tbody>
</table>
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 Diversity in a Pluralistic Society   3
IDS 2403   Physical Science   3
IDS 2413   Earth Systems Science   3
GRG 1013   Fundamentals of Geography   3
MAT 1153   Essential Elements in Mathematics I   3
MAT 1163   Essential Elements in Mathematics II   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 3063   Second Language Acquisition in Early Adolescence   3
IDS 2013   Introduction to Learning and Teaching in a Culturally Diverse Society   3
RDG 3523   Reading for Teachers—Grades 4–8   3
RDG 3633   Literature and Other Texts Across the Content Areas—Grades 4–8   3
RDG 3803   Writing Development and Processes   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.
RDG 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.
C&I 4543   Approaches to Teaching Social Studies—Grades 4–8   3
C&I 4553   Approaches to Service-Learning in Social Studies—Grades 4–8   3
C&I 4603   Mathematics and Science Approaches and Classroom Management Strategies—Grades 4–8   3
C&I 4623   Applied Teaching: Grades 4-8   3
C&I 4626   Student Teaching: Grades 4–8   6

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

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AIS 1203</strong> Academic Inquiry and Scholarship (core)</td>
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<td><strong>MAT 1023</strong> College Algebra with Applications (core)</td>
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</tr>
<tr>
<td><strong>WRC 1013</strong> Freshman Composition I (core)</td>
<td>3</td>
</tr>
<tr>
<td>Life &amp; Physical Sciences Core (BIO 1233 recommended)</td>
<td>3</td>
</tr>
<tr>
<td>American History Core (HIS 1053 recommended)</td>
<td>3</td>
</tr>
</tbody>
</table>

#### Spring

| IDS 2113 | Introduction to Learning and Teaching in a Culturally Diverse Society | 3            |
| IDS 2013 | Society and Social Issues (core) | 3            |
| WRC 1023 | Freshman Composition II (core) | 3            |
| Life & Physical Sciences Core (BIO 1243 recommended) | 3            |
| American History Core (HIS 2053 recommended) | 3            |

#### Summer

| IDS 2403 or 3234 | Physical Science | 3            |
| IDS 2413 or 3224 | Earth Systems Science | 3            |

#### Second Year

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EDU 2103</strong> Social Foundations for Education in a Diverse U.S. Society</td>
<td>3</td>
</tr>
<tr>
<td><strong>IDS 3003</strong> STEM in Social Contexts</td>
<td>3</td>
</tr>
<tr>
<td><strong>MAT 1153</strong> Essential Elements in Mathematics I</td>
<td>3</td>
</tr>
<tr>
<td><strong>POL 1013</strong> Introduction to American Politics (core)</td>
<td>3</td>
</tr>
<tr>
<td>Language, Philosophy &amp; Culture Core (AAS 2013 or MAS 2013 recommended)</td>
<td>3</td>
</tr>
</tbody>
</table>

#### Spring

| IDS 3013 | Diversity, Equity, and the Social Sciences | 3            |
| IDS 3013 | Texas Politics and Society (core) | 3            |
| MAT 1163 | Essential Elements in Mathematics II | 3            |
| MAT 1163 | Texas Politics and Society (core) | 3            |
| Component Area Option Core (COM 2113 recommended) | 3            |
| Creative Arts Core (MAS 2023 recommended) | 3            |

#### Third Year

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ESL 3063</strong> Second Language Acquisition in Early Adolescence</td>
<td>3</td>
</tr>
<tr>
<td><strong>GRG 1013</strong> Fundamentals of Geography</td>
<td>3</td>
</tr>
<tr>
<td><strong>IDS 3713</strong> Interdisciplinary Inquiry</td>
<td>3</td>
</tr>
<tr>
<td><strong>IDS 3123</strong> Culture, Literature, and Fine Arts</td>
<td>3</td>
</tr>
</tbody>
</table>
RDG 3803 Writing Development and Processes 3

Spring
BBL 3403 Cultural and Linguistic Diversity in a Pluralistic Society 3
EDP 3303 Learning and Development in the Middle School Context (Grades 4–8) 3
RDG 3523 Reading for Teachers–Grades 4–8 3
RDG 3633 Literature and Other Texts Across the Content Areas–Grades 4–8 3
SPE 3603 Introduction to Special Education 3

Summer
EDP 4203 Assessment and Evaluation 3

Fourth Year
Fall
RDG 3533 Reading and Writing Across the Disciplines–Grades 4–8 1 3
C&I 4543 Approaches to Teaching Social Studies–Grades 4–8 1 3
C&I 4553 Approaches to Service-Learning in Social Studies–Grades 4–8 1 3
C&I 4603 Mathematics and Science Approaches and Classroom Management Strategies–Grades 4–8 1 3
C&I 4623 Applied Teaching: Grades 4–8 1 3

Spring
C&I 4626 Student Teaching: Grades 4–8 2 6

Total Credit Hours: 120.0

1 Admission to the Teacher Certification Program is required. Courses must be taken concurrently.
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Bachelor of Arts Degree in Interdisciplinary Studies (Grades 4–8 Mathematics/Science Certification Concentration)

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Core Curriculum Requirements (42 semester credit hours)

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**IDS Degree Requirements**

A. IDS Core Courses

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<tr>
<th>Course Code</th>
<th>Course Title</th>
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<td>IDS 2113</td>
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<td>IDS 3013</td>
<td>Diversity, Equity, and the Social Sciences</td>
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</table>

B. IDS Support Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>CHE 1103</td>
<td>General Chemistry I</td>
<td>3</td>
</tr>
<tr>
<td>CHE 1121</td>
<td>General Chemistry I Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>IDS 2403</td>
<td>Physical Science</td>
<td>3</td>
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<tr>
<td>IDS 2413</td>
<td>Earth Systems Science</td>
<td>3</td>
</tr>
<tr>
<td>MAT 1093</td>
<td>Precalculus</td>
<td>3</td>
</tr>
<tr>
<td>MAT 1214</td>
<td>Calculus I</td>
<td>4</td>
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<tr>
<td>MAT 3103</td>
<td>Data Analysis and Interpretation</td>
<td>3</td>
</tr>
<tr>
<td>MAT 3123</td>
<td>Fundamentals of Geometry</td>
<td>3</td>
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<tr>
<td>PHY 1603</td>
<td>Algebra-based Physics I</td>
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<tr>
<td>PHY 1611</td>
<td>Algebra-based Physics I Laboratory</td>
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**Total Credit Hours: 42**

**Certification Requirements**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>EDP 3303</td>
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<td>EDP 4203</td>
<td>Assessment and Evaluation</td>
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<td>ESL 3063</td>
<td>Second Language Acquisition in Early Adolescence</td>
<td>3</td>
</tr>
<tr>
<td>IDS 2013</td>
<td>Introduction to Learning and Teaching in a Culturally Diverse Society</td>
<td>3</td>
</tr>
<tr>
<td>RDG 3523</td>
<td>Reading for Teachers–Grades 4–8</td>
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<td>SPE 3603</td>
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<tr>
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**Total Credit Hours: 21**
Professional Education Requirements

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</tr>
<tr>
<td>C&amp;I 4626</td>
<td>Student Teaching: Grades 4–8</td>
<td>6</td>
</tr>
</tbody>
</table>

Total Credit Hours: 18

B.A. in Interdisciplinary Studies, Grades 4–8 Mathematics/Science Certification Concentration – Recommended Four-Year Academic Plan

First Year

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall</td>
<td>AIS 1203</td>
<td>Academic Inquiry and Scholarship (core)</td>
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<td></td>
<td>Life &amp; Physical Sciences Core (BIO 1233 recommended)</td>
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<td></td>
</tr>
<tr>
<td>Spring</td>
<td>IDS 2013</td>
<td>Introduction to Learning and Teaching in a Culturally Diverse Society</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>MAT 1093</td>
<td>Precalculus</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>WRC 1023</td>
<td>Freshman Composition II (core)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>American History Core (HIS 2053 recommended)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Summer</td>
<td>IDS 2403 or 3234</td>
<td>Physical Science</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>IDS 2413 or 3224</td>
<td>Earth Systems Science</td>
<td>3</td>
</tr>
</tbody>
</table>

Second Year

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall</td>
<td>EDU 2103</td>
<td>Social Foundations for Education in a Diverse U.S. Society</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>IDS 2113</td>
<td>Society and Social Issues (core and major)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>MAT 1214</td>
<td>Calculus I</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>POL 1013</td>
<td>Introduction to American Politics (core)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Language Philosophy &amp; Culture Core</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Spring</td>
<td>IDS 3013</td>
<td>Diversity, Equity, and the Social Sciences</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>MAT 3123</td>
<td>Fundamentals of Geometry</td>
<td>3</td>
</tr>
<tr>
<td>Course Code</td>
<td>Course Title</td>
<td>Credits</td>
<td></td>
</tr>
<tr>
<td>-------------</td>
<td>--------------------------------------------------</td>
<td>---------</td>
<td></td>
</tr>
<tr>
<td>PHY 1603</td>
<td>Algebra-based Physics I</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>&amp; PHY 1611</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POL 1133</td>
<td>Texas Politics and Society (core)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Creative Arts Core</td>
<td></td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

**Summer**

Component Area Option Core | 3

**Third Year**

**Fall**

Admission to the Teacher Certification Program

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDP 3303</td>
<td>Learning and Development in the Middle School Context (Grades 4–8)</td>
<td>3</td>
</tr>
<tr>
<td>IDS 3003</td>
<td>STEM in Social Context</td>
<td>3</td>
</tr>
<tr>
<td>IDS 3123</td>
<td>Culture, Literature, and Fine Arts</td>
<td>3</td>
</tr>
<tr>
<td>IDS 3201 or 3211</td>
<td>Inquiry in Physical Science (if IDS 2403 and IDS 2413 were taken)</td>
<td>1</td>
</tr>
<tr>
<td>MAT 3103</td>
<td>Data Analysis and Interpretation</td>
<td>3</td>
</tr>
</tbody>
</table>

**Spring**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDP 4203</td>
<td>Assessment and Evaluation</td>
<td>3</td>
</tr>
<tr>
<td>ESL 3063</td>
<td>Second Language Acquisition in Early Adolescence</td>
<td>3</td>
</tr>
<tr>
<td>IDS 3713</td>
<td>Interdisciplinary Inquiry</td>
<td>3</td>
</tr>
<tr>
<td>RDG 3523</td>
<td>Reading for Teachers–Grades 4–8</td>
<td>3</td>
</tr>
<tr>
<td>SPE 3603</td>
<td>Introduction to Special Education</td>
<td>3</td>
</tr>
</tbody>
</table>

**Fourth Year**

**Fall**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>C&amp;I 4433</td>
<td>Approaches to Teaching Science–Grades 4–8 1, 2</td>
<td>3</td>
</tr>
<tr>
<td>C&amp;I 4443</td>
<td>Approaches to Teaching Mathematics–Grades 4–8 1, 2</td>
<td>3</td>
</tr>
<tr>
<td>C&amp;I 4603</td>
<td>Mathematics and Science Approaches and Classroom Management Strategies–Grades 4–8 1, 2</td>
<td>3</td>
</tr>
<tr>
<td>C&amp;I 4623</td>
<td>Applied Teaching: Grades 4-8 1, 2</td>
<td>3</td>
</tr>
<tr>
<td>RDG 3533</td>
<td>Reading and Writing Across the Disciplines–Grades 4–8 1, 2</td>
<td>3</td>
</tr>
</tbody>
</table>

**Spring**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>C&amp;I 4626</td>
<td>Student Teaching: Grades 4–8 3</td>
<td>6</td>
</tr>
</tbody>
</table>

Total Credit Hours: 120.0

---

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 Certificate.
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.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the Bachelor of Arts 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. For a complete listing of courses that satisfy the Core Curriculum requirements, see chapter 1 of this catalog.

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.

IDS Degree Requirements

A. IDS Core Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>IDS 2113</td>
<td>Society and Social Issues</td>
<td>3</td>
</tr>
<tr>
<td>IDS 3003</td>
<td>STEM in Social Contexts</td>
<td>3</td>
</tr>
<tr>
<td>IDS 3013</td>
<td>Diversity, Equity, and the Social Sciences</td>
<td>3</td>
</tr>
<tr>
<td>IDS 3123</td>
<td>Culture, Literature, and Fine Arts</td>
<td>3</td>
</tr>
<tr>
<td>IDS 3713</td>
<td>Interdisciplinary Inquiry</td>
<td>3</td>
</tr>
</tbody>
</table>

B. IDS Support Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAT 1153</td>
<td>Essential Elements in Mathematics I</td>
<td>3</td>
</tr>
<tr>
<td>MAT 1163</td>
<td>Essential Elements in Mathematics II</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Credit Hours: 21

Certification Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECE 3603</td>
<td>Language and Literacy Acquisition</td>
<td>3</td>
</tr>
<tr>
<td>EDU 2103</td>
<td>Social Foundations for Education in a Diverse U.S. Society</td>
<td>3</td>
</tr>
<tr>
<td>IDS 2013</td>
<td>Introduction to Learning and Teaching in a Culturally Diverse Society</td>
<td>3</td>
</tr>
<tr>
<td>RDG 3523</td>
<td>Reading for Teachers–Grades 4–8</td>
<td>3</td>
</tr>
<tr>
<td>RDG 3803</td>
<td>Writing Development and Processes</td>
<td>3</td>
</tr>
<tr>
<td>SPE 3603</td>
<td>Introduction to Special Education</td>
<td>3</td>
</tr>
<tr>
<td>SPE 3693</td>
<td>Special Education Law</td>
<td>3</td>
</tr>
</tbody>
</table>

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 for Students with Disabilities  3
SPE 3673  Assessment: Students with ASD and Developmental Disabilities  3
SPE 3683  Special Education Across the Lifespan  3
SPE 4683  Communication and Collaboration in Special Education  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 (Introduction)  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 (Advanced)  3
SPE 4673  Instruction for Students with Autism Spectrum Disorders and Developmental Disabilities  3

Student Teaching:
C&I 4716  Student 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

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIS 1203</td>
<td>Academic Inquiry and Scholarship (core)</td>
</tr>
<tr>
<td>BIO 1233</td>
<td>Contemporary Biology I (core)</td>
</tr>
<tr>
<td>MAT 1023</td>
<td>College Algebra with Applications (core)</td>
</tr>
<tr>
<td>POL 1013</td>
<td>Introduction to American Politics (core)</td>
</tr>
<tr>
<td>WRC 1013</td>
<td>Freshman Composition I (core)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Spring</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>AST 1033 or PHY 1013</td>
<td>Exploration of the Solar System (core)</td>
</tr>
<tr>
<td>HIS 2053</td>
<td>Texas History (core)</td>
</tr>
<tr>
<td>IDS 2013</td>
<td>Introduction to Learning and Teaching in a Culturally Diverse Society</td>
</tr>
<tr>
<td>IDS 2113</td>
<td>Society and Social Issues (core and major)</td>
</tr>
<tr>
<td>WRC 1023</td>
<td>Freshman Composition II (core)</td>
</tr>
</tbody>
</table>
## Summer
- AAS 2013 or MAS 2013  Introduction to African American Studies  
- MAS 2023  Latino Cultural Expressions (core)  
- POL 1133  Texas Politics and Society (core)  
- Component Area Option core  

### Second Year

**Fall**
- EDU 2103  Social Foundations for Education in a Diverse U.S. Society  
- ESL 3023  Second Language Teaching and Learning in EC–6  
- IDS 3123  Culture, Literature, and Fine Arts  
- MAT 1153  Essential Elements in Mathematics I  
- RDG 3803  Writing Development and Processes  

**Spring**
- ECE 3603  Language and Literacy Acquisition  
- IDS 3013  Diversity, Equity, and the Social Sciences  
- MAT 1163  Essential Elements in Mathematics II  
- SPE 3603  Introduction to Special Education  
- SPE 3693  Special Education Law  

### Third Year

**Fall**
- Admission to the Teacher Certification Program  
- RDG 3523  Reading for Teachers—Grades 4–8  
- SPE 3623  Assessment of Students with Mild/Moderate Disabilities  
- SPE 3653  Practicum in Special Education (Introduction)  
- SPE 4623  Mathematics Instruction for Students with Disabilities  
- SPE 4643  Instruction for Students with Mild/Moderate Disabilities  

**Spring**
- IDS 3003  STEM in Social Contexts  
- SPE 3633  Classroom and Behavior Management for Students with Disabilities  
- SPE 3673  Assessment: Students with ASD and Developmental Disabilities  
- SPE 3683  Special Education Across the Lifespan  
- SPE 4673  Instruction for Students with Autism Spectrum Disorders and  
  Developmental Disabilities  

### Fourth Year

**Fall**
- IDS 3713  Interdisciplinary Inquiry  
- SPE 4653  Practicum in Special Education (Advanced)  
- SPE 4683  Communication and Collaboration in Special Education  

SPE 4693   Assistive Technology  3
Spring
C&I 4716   Student Teaching: All Level EC–12   6

Total Credit Hours: 120.0

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 8–12) 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 an advisor in the COEHD Advising and Certification Center for information regarding secondary certification requirements and admission to the Teacher Certification Program. Requirements for degrees and certificates 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. Certificate 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 30. 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.)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BBL 3403</td>
<td>Cultural and Linguistic Diversity in a Pluralistic Society</td>
<td>3</td>
</tr>
<tr>
<td>EDP 3203</td>
<td>Learning and Development in the Secondary School Adolescent</td>
<td>3</td>
</tr>
<tr>
<td>EDU 2103</td>
<td>Social Foundations for Education in a Diverse U.S. Society</td>
<td>3</td>
</tr>
<tr>
<td>IDS 2013</td>
<td>Introduction to Learning and Teaching in a Culturally Diverse Society</td>
<td>3</td>
</tr>
<tr>
<td>SPE 3603</td>
<td>Introduction to Special Education</td>
<td>3</td>
</tr>
</tbody>
</table>

Professional Education and Reading Coursework

Students must be admitted to the Teacher Certification Program before enrolling in Professional Education and Student Teaching coursework.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>C&amp;I 4203</td>
<td>Models of Teaching in the Content Areas of the Secondary School</td>
<td>3</td>
</tr>
<tr>
<td>EDP 4203</td>
<td>Assessment and Evaluation</td>
<td>3</td>
</tr>
<tr>
<td>RDG 3773</td>
<td>Reading and Writing Across the Disciplines–Secondary</td>
<td>3</td>
</tr>
</tbody>
</table>

C&I 4203, EDP 4203, and RDG 3773 are restricted classes. Advisor authorization for these classes will be issued only if all prerequisites have been completed. C&I 4203 is not offered in the Summer Semesters.

Student Teaching Component

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>C&amp;I 4646</td>
<td>Student Teaching: Grades 8–12</td>
<td>6</td>
</tr>
</tbody>
</table>

Total Credit Hours: 30
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 Generalist. These students should refer to the section of this catalog for the Bachelor of Arts in Interdisciplinary Studies (Early Childhood–Grade 6 Generalist concentration). Degree and certification advising for this program is conducted by COEHD Advising and Certification Center advisors.

- Undergraduate students interested in teaching **fourth through eighth grades** will declare a major in Interdisciplinary Studies (IDS) with teacher certification in Language Arts/Reading/Social Studies, Mathematics/Science, or Generalist. 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 COEHD 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 Generalist. These students should refer to the section of this catalog for the Bachelor of Arts in Interdisciplinary Studies (Early Childhood–Grade 6 Bilingual Generalist concentration). Degree and certification advising for this program is conducted by COEHD 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 Generalist. These students should refer to the section of this catalog for the Bachelor of Arts in Interdisciplinary Studies (Grades 4–8 Bilingual Generalist concentration). Degree and certification advising for this program is conducted by COEHD 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 Generalist 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 Generalist concentration). Degree and certification advising for this program is conducted by COEHD 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 Generalist 4–8 Language Arts/Reading/Social Studies. 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 COEHD 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 COEHD Advising and Certification Center advisors.

- Undergraduate students interested in teaching **eighth 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 development opportunities.
education coursework for which they will enroll concurrently with degree requirements. Students seeking secondary certification are advised to stay in close contact with COEHD 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 COEHD Advising and Certification Center advisors.
- Students interested in teaching **health in pre-kindergarten through twelfth grades** will declare a major in Health. These students should refer to the “Bachelor of Science Degree in Health” section of this catalog for degree and certification requirements. Degree and certification advising for this program is conducted by COEHD 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 COEHD 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 COEHD 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 Web page (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 Web site: www.tea.state.tx.us.

Additional eligibility requirements for recommendation for the teacher certificate include a 2.50 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 COEHD 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 Web site 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.

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 Web site at www.nasdtec.org 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 COEHD 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

Appeals

- Appeal of Certification Requirements
  Students wishing to appeal admission requirements to the UTSA Teacher Certification Program, prerequisite requirements, and/or coursework requirements should obtain instructions in the COEHD Advising and Certification Center on filing an appeal with the COEHD Appeals Committee. The Appeals Committee is composed of COEHD faculty representatives and meets once per semester. The decision of the Appeals Committee is final.

- Appeal of Non-recommendation
  If a student does not meet certification requirements, the UTSA Certification Officer notifies the student that he or she will not be recommended for certification. The student has the right to submit an appeal to the COEHD Advising and Certification Center. A COEHD Appeals Committee reviews the appeal materials and makes a recommendation to the Associate Dean for Teacher Education. The Associate Dean for Teacher Education makes a final decision on the appeal and so notifies the student.

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 COEHD 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 COEHD 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 COEHD 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 COEHD 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 the *UTSA Information Bulletin* and the COEHD Web site ([http://education.utsa.edu/](http://education.utsa.edu/)) for additional admission requirements to the UTSA Teacher Certification Program.
Student Teaching

Student teaching is an extremely important component of the certification program. The primary purpose of student 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 student teaching component of the certification program will be completed through UTSA.

Admission to Student Teaching

Admission to the professional semester of student teaching must be requested by formal application during the semester before the student plans to student teach. A meeting will be held early in the semester to disseminate application information. The deadline for the application for students who plan to student teach in the Fall Semester is February 15. For students planning to student teach in the Spring Semester, the deadline for the application is October 1. Acceptance into the student teaching program is contingent upon completion of the following requirements:

1. Admission to the UTSA Teacher Certification Program; consult the current UTSA Information Bulletin for admission requirements.
2. A 2.5 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 teaching 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 student teaching.
6. Approval of the Director of Student Teaching.

NOTE: The Professional Semester is a full-time commitment. The student teaching semester is 15 weeks with time divided between school campuses and UTSA. A student 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 student teaching; therefore, it is not possible to register for other courses that meet in the daytime hours. Since performance in the student 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 student teaching semester. There is no special provision for financial support of student 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.

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 COEHD Advising and Certification Center, the Office of the TExES Coordinator, or from the UTSA COEHD Web site.
American Sign Language (ASL) Courses
Department of Interdisciplinary Learning and Teaching, College of Education and Human Development

ASL 1013. American Sign Language: Basic I. (3-0) 3 Credit Hours. (TCCN = SGNL 1301)
A study of American Sign Language, including basic concepts and sign lexicon. Grammatical features, including structure of American Sign Language, will be stressed. Each student will be expected to demonstrate to the instructor basic expressive and receptive ASL skills.

ASL 1023. American Sign Language: Basic II. (3-0) 3 Credit Hours. (TCCN = SGNL 1302)
Prerequisite: ASL 1013 or consent of instructor. Continued study of American Sign Language including sign language colloquialisms used in conversational signing. Expands students’ receptive and expressive ASL skills and provides a summary of information currently available dealing with ASL grammatical structure and its sociolinguistic and pragmatic usage.

Curriculum and Instruction (C&I) Courses
Department of Interdisciplinary Learning and Teaching, College of Education and Human Development

C&I 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 C&I 4646 Student Teaching: Grades 8-12. This course must be completed with a grade of “C-” or better for it to serve as a prerequisite for C&I 4716 Student Teaching: All Level EC–12. Field experience required.

C&I 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.

C&I 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, C&I 4353, C&I 4403, ECE 4203, and RDG 3823. Concurrent enrollment in ECE 4143 and RDG 4833 is required. May not be taken concurrently with C&I 4353, C&I 4403, ECE 4203 or RDG 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. 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 C&I 4616 Student Teaching: Early Childhood–Grade 6. Restricted course; advisor code required for registration. Field experience required.
C&I 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 C&I 4403, ECE 4203 and RDG 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 C&I 4616 Student Teaching: Early Childhood–Grade 6. Restricted course; advisor code required for registration. Field experience required. (Same as BBL 4353. Credit cannot be earned for both C&I 4353 and BBL 4353.).

C&I 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 C&I 4353, ECE 4203 and RDG 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 C&I 4616 Student Teaching: Early Childhood–Grade 6. Restricted course; advisor code required for registration. Field experience required. (Same as BBL 4403. Credit cannot be earned for both C&I 4403 and BBL 4403.).

C&I 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 C&I 4443, C&I 4603, C&I 4623, and RDG 3533 in semester prior to student 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 C&I 4626 Student Teaching: Grades 4–8. (Formerly C&I 4413. Credit cannot be earned for more than one of the following: BBL 4433, C&I 4413, or C&I 4433.).

C&I 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 C&I 4433, C&I 4603, C&I 4623 and RDG 3533 in semester prior to student 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 C&I 4626 Student Teaching: Grades 4–8. (Formerly C&I 4423. Credit cannot be earned for more than one of the following: BBL 4443, C&I 4423, or C&I 4443.).
C&I 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 C&I 4553, C&I 4603, C&I 4623, and RDG 3533 in semester prior to student 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 C&I 4626 Student Teaching: Grades 4–8. (Formerly C&I 4513. Credit cannot be earned for both C&I 4543 and C&I 4513.).

C&I 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 C&I 4553, C&I 4603, C&I 4623, and RDG 3533 in semester prior to student 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 C&I 4626 Student Teaching: Grades 4–8. (Formerly C&I 4523. Credit cannot be earned for both C&I 4553 and C&I 4523.).

C&I 4603. Mathematics and Science Approaches and Classroom Management Strategies–Grades 4–8. (3-0) 3 Credit Hours.
Prerequisites: Must be admitted to the Teacher Certification Program. Concurrent enrollment in C&I 4433, C&I 4443, C&I 4623, and RDG 3533 in semester prior to student teaching for Grades 4–8 Mathematics/Science Certification Option; Concurrent enrollment in C&I 4543, C&I 4553, C&I 4623, and RDG 3533 for Grades 4–8 Language Arts/Reading/Social Studies Certification Option Concurrent enrollment in C&I 4433, C&I 4443, C&I 4543, C&I 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 C&I 4626 Student Teaching: Grades 4–8. (Credit cannot be earned for both C&I 4603 and BBL 4603.).

C&I 4616. Student 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 student teaching semester, and completion of 21 semester credit hours of Professional Education: C&I 4303, C&I 4353, C&I 4403, ECE 4143, ECE 4203, RDG 3823, and RDG 4833. A grade of “B–” or better in C&I 4303, C&I 4353, C&I 4403, RDG 3823, and RDG 4833. A grade of “C–” or better is required for C&I 4616 to be recommended for teacher certification. Individuals must apply to the director of student 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 student teaching semester, completion of 18 semester credit hours of Professional Education: BBL 4033, BBL 4063, BBL 4073, BBL 4353, BBL 4403, and RDG 3823. Full semester of full-day student 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.
C&I 4623. Applied Teaching: Grades 4-8. (3-0) 3 Credit Hours.
Prerequisites: Must be admitted to the Teacher Certification Program. Concurrent enrollment in C&I 4433, C&I 4443, C&I 4603, and RDG 3533 for Grades 4–8 Mathematics/Science Certification Option; C&I 4543, 4553, 4603, and RDG 3533 for Grades 4–8 Language Arts/Reading/Social Studies Certification Option; C&I 4433, C&I 4443, C&I 4543, C&I 4603, and RDG 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 C&I 4626 Student Teaching: Grades 4–8.

C&I 4626. Student Teaching: Grades 4–8. (0-0) 6 Credit Hours.
Prerequisites: Admission to the Teacher Certification Program; completion of all requirements to the 4–8 student teaching semester, including all relevant practice TExES examinations, and completion of 24 semester credit hours: C&I 4533, C&I 4603, EDP 3303, ESL 3063, MAT 1214, RDG 3533, RDG 3633, RDG 3803. A grade of “C-” or better is required for the student teaching course to be recommended for teacher certification. Individuals must apply to the director of student teaching one semester in advance. 4–8 Generalist students: A grade of “B-” or better is required for RDG 3533. A grade of “B-” or better is required for C&I 4533 and C&I 4603. 4–8 Mathematics/Science students: The following courses completed with a grade of “B-” or better: C&I 4433, C&I 4443, C&I 4603, RDG 3523, and RDG 3533. 4–8 Language Arts, Reading, and Social Studies students: The following courses completed with a grade of “B-” or better: C&I 4533, C&I 4543, C&I 4553, RDG 3523, RDG 3533, RDG 3633. 4–8 ESL students: Completion of a minimum of 15 semester credit hours of the ESL specialization; and completion of C&I 4533, 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 student teaching semester, and completion of 15 semester credit hours of Professional Education: BBL 4033, BBL 4063, BBL 4073, C&I 4433 or C&I 4443, and C&I 4603. Full semester of full-day student 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.

C&I 4646. Student Teaching: Grades 8–12. (0-0) 6 Credit Hours.
Prerequisites: Admission to the Teacher Certification Program and the student teaching semester, and completion of C&I 4203, EDP 3203, EDP 4203, and RDG 3773. Can lack no more than 6 hours in content subject matter. A grade of “B-” or better in C&I 4203. A grade of “C-” or better is required for the student teaching course to be recommended for teacher certification. Individuals must apply to the director of student teaching one semester in advance. Full semester of full-day student teaching in grades 8–12. 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.

C&I 4716. Student 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 student teaching semester. All Level Physical Education students: Completion of KIN 4203 and KIN 4303 with a grade of “C-” or better. A grade of “C-” or better is required for the student teaching course to be recommended for teacher certification. All Level Health Education students: Completion of C&I 4203,
and EDP 3303 with a grade of “C-” or better. A grade of “C-” or better is required for the student 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 student teaching. SPE 3653 and SPE 4653 must be completed with a grade of “B-” or better to serve as prerequisites for C&I 4716. A grade of “C-” or better is required for the student teaching course to be recommended for teacher certification. All Level Music students: Completion of C&I 4203, C&I 4213, EDP 3203, and RDG 3773. A grade of “C-” or better in C&I 4203 and C&I 4213. A grade of “C-” or better is required for the student teaching course to be recommended for teacher certification. All Level Art students: Completion of all requirements for admission to the student teaching semester, and C&I 4203, EDU 2103, EDP 3203 or EDP 3303, EDP 4203, and RDG 3523 or RDG 3773. A grade of “B-” or better in C&I 4203. A grade of “C-” or better is required for the student teaching course to be recommended for teacher certification. Languages other than English students: Completion of all requirements for admission to the student teaching semester, and C&I 4203, EDP 3203, EDP 4203, and RDG 3773. Can lack no more than 6 hours in content subject matter. A grade of “B-” or better in C&I 4203. A grade of “C-” or better is required for the student teaching course to be recommended for teacher certification. All courses for degree/certification plan must be completed prior to student teaching. Full semester of full-day student teaching in an elementary or middle school setting and in a high school setting (grades 8–12) in the certificate 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 student teaching requirements for the All-Level certificate. Seminars explore issues in teaching practice. A grade of “C-” or better is required for the student teaching course to be recommended for teacher certification. Individuals must apply to the director of student teaching one semester in advance.

C&I 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.

C&I 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.

C&I 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.

C&I 4923. 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; consent of the COEHD Advising and Certification Center; and consent of the director of student 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. May be repeated for credit.
C&I 4926. 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; consent of the COEHD Advising and Certification Center; and consent of the director of student 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. May be repeated for credit.

Early Childhood (ECE) Courses
Department of Interdisciplinary Learning and Teaching, College of Education and Human Development

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.

ECE 3143. Child Growth and Development. (3-0) 3 Credit Hours.
Concurrent enrollment in ECE 3313 and ECE 3603 is required. 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.).

ECE 3313. Play, Creativity, and Learning. (3-0) 3 Credit Hours.
Concurrent enrollment in ECE 3143 and ECE 3603 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.

ECE 3603. Language and Literacy Acquisition. (3-0) 3 Credit Hours.
Concurrent enrollment in ECE 3143 and ECE 3313 is required. Exploration of theories of language and literacy development in young children with implications for acquisition of language and early literacy concepts for all children. Explores ways that educators can enhance language and literacy development and introduces appropriate, research-based approaches to teach early reading and writing in diverse classroom settings. Field experience required. (Formerly titled “Language and Cognitive Development in EC–4.”).

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.

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.

ECE 4143. Principles and Practices of Differentiated Education EC–6. (3-0) 3 Credit Hours.
Prerequisites: Admission to the Teacher Certification Program, completion of C&I 4353, C&I 4403, ECE 4203, and RDG 3823. Concurrent enrollment in C&I 4303 and RDG 4833 is required. May not be taken concurrently with C&I 4353, C&I 4403, ECE 4203, and RDG 3823. This course addresses the exploration of culturally responsive instruction for diverse groups of learners with a broad range of abilities, interests, and backgrounds. Identification of theoretical perspectives and principles for differentiated education in early childhood and elementary settings will be explored. Emphasis is on the development of effective instructional planning, supportive learning environments, and flexible teaching practices that accommodate individual needs within group settings. Restricted course; advisor code required for registration. Field experience required.

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.

ECE 4203. Assessment and Evaluation in EC–6. (3-0) 3 Credit Hours.

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.
Interdisciplinary Studies (IDS) Courses
Department of Interdisciplinary Learning and Teaching, College of Education and Human Development

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.

IDS 2083. Technology for Learning and Teaching. (3-1) 3 Credit Hours.
This course focuses on integrating instructional technology into learning and teaching environments. Students will investigate theoretical and practical issues surrounding the use of instructional technologies. Participants will gain practical experience in curriculum planning that takes specific advantage of technology to enhance and extend learning. Course requirements are aligned with national and state technology standards.

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.

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.).

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.).

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.”).

**IDS 3013. Diversity, Equity, and the Social Sciences. (3-0) 3 Credit Hours.**
Prerequisite: IDS 2113. An exploration of knowledge, and the construction of knowledge, in the social sciences. The course emphasizes an in-depth inquiry of diversity and equity, critical reflection and discourse, as well as individual, social, and civic responsibility and action.

**IDS 3123. Culture, Literature, and Fine Arts. (3-0) 3 Credit Hours.**
Prerequisites: IDS 2113, WRC 1013, and WRC 1023. An interdisciplinary study of local and global cultures through diverse genres, including investigation of cultural expressions across literature and the arts, music, film and other forms of popular culture. This course, addressing both historical and contemporary genres, will foster interdisciplinary inquiry, knowledge of primary sources, theory development, and critical reflection and analysis of identities and their representations.

**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.).

**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.").

**IDS 3224. Earth Systems Science Investigations. (2-4) 4 Credit Hours.**
Prerequisite: 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.

**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.
IDS 3713. Interdisciplinary Inquiry. (3-0) 3 Credit Hours.
Prerequisites: IDS 2113, IDS 3003, IDS 3013, IDS 3123, WRC 1013, and WRC 1023. An interdisciplinary study of thought in the fields of sciences, social studies, mathematics, language arts, and fine arts. Course experiences include modeling, practice, and analysis of modes of inquiry in the disciplines, and their implications for interdisciplinary inquiry. Students will demonstrate their ability to engage in interdisciplinary inquiry by means of writing a unique interdisciplinary and scholarly paper.

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.

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.

**Reading (RDG) Courses**
Department of Interdisciplinary Learning and Teaching, College of Education and Human Development

RDG 3513. Children’s Literature–EC–6. (3-0) 3 Credit Hours.
Designed to familiarize students with children’s books from diverse cultures that are appropriate for EC–grade 6. Topics will include: the contributions of children’s books, criteria for selecting materials, the evaluation of individual books, a survey of the genres of children’s literature, literary response, and the discussion of current issues in the field of children’s literature. Restricted course; advisor code required for registration.

RDG 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 C&I 4626 Student Teaching: Grades 4–8. Field experience required.

RDG 3533. Reading and Writing Across the Disciplines–Grades 4–8. (3-0) 3 Credit Hours.
Prerequisite: RDG 3523. Concurrent enrollment in C&I 4533, C&I 4543, C&I 4553, and EDP 4203 in semester prior to student teaching for Grades 4–8 LA/RDG/SS certification. Concurrent enrollment in C&I 4533 for Grades 4–8 ESL 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 C&I 4626 Student Teaching: Grades 4–8. Field experience required. (Formerly titled “Content Area Reading-Grades 4–8.”).

**RDG 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 C&I 4626 Student Teaching: Grades 4–8. Field experience required.

**RDG 3673. Reading for Secondary Teachers–Grades 8–12. (3-0) 3 Credit Hours.**

An overview of the developmental nature of reading across the grades with an emphasis on grades 8 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 C&I 4626 Student Teaching: Grades 4–8. Field experience required.

**RDG 3773. Reading and Writing Across the Disciplines–Secondary. (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 C&I 4626 Student Teaching: Grades 4–8. Field experience required. (Formerly titled “Introduction to Content Area Reading–Secondary.”).

**RDG 3803. Writing Development and Processes. (3-0) 3 Credit Hours.**

Prerequisite to Teacher Certification. 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 C&I 4616 Student Teaching: Early Childhood–Grade 6 and C&I 4626 Student Teaching: Grades 4–8. Restricted course; advisor code required for registration.

**RDG 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 C&I 4353, C&I 4403, and ECE 4203 is required. May not be taken concurrently with C&I 4303, ECE 4143, and RDG 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 C&I 4616 Student Teaching: Early Childhood–Grade 6. Restricted course; advisor code required for registration. Field experience required. (Credit cannot be earned for both RDG 3823 and BBL 3823.).

RDG 4833. Organizing Reading Programs for Differentiated Instruction–EC–6. (2-2) 3 Credit Hours.
Prerequisites: Admission to Teacher Certification Program, ECE 3143, ECE 3313, ECE 3603, RDG 3513, and RDG 3823. Concurrent enrollment in C&I 4303 and ECE 4143 is required. Course is designed to familiarize students with a variety of reading programs and to implement differentiated reading instruction in individual, small group, and whole-class contexts. Students will learn to use and interpret assessment to gain a holistic view of students’ strengths and areas of need to inform instruction. For EC–6 generalists, this course must be completed with a grade of “B-” or better for it to serve as a prerequisite for C&I 4616 Student Teaching: Early Childhood–Grade 6. Restricted course; advisor code required for registration. Field experience required.

RDG 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.

Special Education (SPE) Courses
Department of Interdisciplinary Learning and Teaching, College of Education and Human Development

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 ATE 3603, EDP 3603, and IDS 3303. Credit cannot be earned for more than one of the following: ATE 3603, EDP 3603, IDS 3303, or SPE 3603.) (Formerly titled "Introduction to Exceptionality.").

SPE 3623. Assessment of Students with Mild/Moderate Disabilities. (3-0) 3 Credit Hours.
Prerequisite: Admission to Teacher Certification Program, SPE 3603, SPE 3693, and ECE 3603. Concurrent enrollment in SPE 3653, SPE 4623, and SPE 4643 is required. 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 C&I 4716 Student Teaching: All Level EC–12. (Formerly EDP 3623. Credit cannot be earned for both SPE 3623 and EDP 3623.) (Formerly titled “Assessment of Exceptional Children.”).
SPE 3633. Classroom and Behavior Management for Students with Disabilities. (3-0) 3 Credit Hours.
Prerequisites: Admission to Teacher Certification Program, SPE 3603, SPE 3623, SPE 3653, SPE 3693, SPE 4623, SPE 4643, ECE 3603, and RDG 3523. Concurrent enrollment in SPE 3673, SPE 3683, and SPE 4673 is required. A study of common behavior problems in children with disabilities, behavior management, and other research-supported strategies for addressing behavior issues in children with disabilities. Research related to alternative explanations for behavior and behavior change will be included. Planning, application, and evaluation of a behavior change project is required. (Formerly ATE 3633 and EDP 3633. Credit cannot be earned for more than one of the following: ATE 3633, EDP 3633, or SPE 3633.) (Formerly titled “Classroom and Behavior Management for Exceptional Children.”).

SPE 3653. Practicum in Special Education (Introduction). (3-0) 3 Credit Hours.
Prerequisites: Admission to Teacher Certification Program, SPE 3603, SPE 3693, and ECE 3603. Concurrent enrollment in SPE 3623, SPE 4623, and SPE 4643 is required. 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 C&I 4716 Student Teaching: All Level EC–12. Restricted course; advisor code required for registration. (Formerly EDP 3653. Credit cannot be earned for both SPE 3653 and EDP 3653.).

SPE 3673. Assessment: Students with ASD and Developmental Disabilities. (3-0) 3 Credit Hours.
Prerequisites: Admission to Teacher Certification Program, SPE 3603, SPE 3693, ECE 3603, and RDG 3523. Concurrent enrollment in SPE 3633, SPE 3683, and SPE 4673 is required. An introduction to formal and informal standardized assessment procedures for students with autism spectrum disorders and developmental disabilities. Course emphasis will be on the evaluation of instruction through assessment and using assessment for instructional design and programmatic planning for students with autism spectrum disorders and developmental disabilities. This course must be completed with a grade of “B-” or better for it to serve as a prerequisite for C&I 4716 Student Teaching: All Level EC–12.

SPE 3683. Special Education Across the Lifespan. (3-0) 3 Credit Hours.
Prerequisites: Admission to Teacher Certification Program, SPE 3603, SPE 3693, ECE 3603, and RDG 3523. Concurrent enrollment in SPE 3633, SPE 3673, and SPE 4673 is required. 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.

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.

SPE 4623. Mathematics Instruction for Students with Disabilities. (3-0) 3 Credit Hours.
Prerequisites: Admission to Teacher Certification Program, SPE 3603, SPE 3693, ECE 3603, MAT 1153, and MAT 1163. Concurrent enrollment in SPE 3623, SPE 3653, and SPE 4643 is required. 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 C&I 4716 Student Teaching: All Level EC–12.

SPE 4643. Instruction for Students with Mild/Moderate Disabilities. (3-0) 3 Credit Hours.
Prerequisites: Admission to Teacher Certification Program, SPE 3603, SPE 3693, and ECE 3603. Concurrent enrollment in SPE 3623, SPE 3653, and SPE 4623 is required. 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 C&I 4716 Student Teaching: All Level EC–12. (Formerly titled “Specialized Instructional Methods for Students with Exceptionalities.”).

SPE 4653. Practicum in Special Education (Advanced). (3-0) 3 Credit Hours.
Prerequisites: Admission to Teacher Certification Program, SPE 3603, SPE 3623, SPE 3633, SPE 3653, SPE 3673, SPE 3683, SPE 3693, SPE 4623, SPE 4643, SPE 4673, ECE 3603, and RDG 3523. Concurrent enrollment in SPE 4683 and SPE 4693 is required. 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 C&I 4716 Student Teaching: All Level EC–12. Restricted course; advisor code required for registration. (Formerly EDP 4653. Credit cannot be earned for both SPE 4653 and EDP 4653.).

SPE 4673. Instruction for Students with Autism Spectrum Disorders and Developmental Disabilities. (3-0) 3 Credit Hours.
Prerequisites: Admission to Teacher Certification Program, SPE 3603, SPE 3693, ECE 3603, and RDG 3523. Concurrent enrollment in SPE 3633, SPE 3673, and SPE 3683 is required. This course is a study of the development and implementation of research-validated instructional strategies for students with autism spectrum disorders and developmental disabilities. Course topics will include the use of formal and informal assessments to determine appropriate academic, social, and behavioral goals and objectives for students and identifying research-validated strategies to assist students with meeting these goals. This course must be completed with a grade of "B-" or better for it to serve as a prerequisite for C&I 4716 Student Teaching: All Level EC–12.

SPE 4683. Communication and Collaboration in Special Education. (3-0) 3 Credit Hours.
Prerequisites: Admission to Teacher Certification Program, SPE 3603, SPE 3623, SPE 3633, SPE 3653, SPE 3673, SPE 3683, SPE 3693, SPE 4623, SPE 4643, SPE 4673, ECE 3603, and RDG 3523. Concurrent enrollment in SPE 4653 and SPE 4693 is required. This course will focus on the collaborative roles and responsibilities of teachers, school district personnel, and parents/families in providing individualized educational programs to students with disabilities. Effective strategies for communication and collaboration
will be studied. Additional course topics include consultation, collaborating with general education teachers, and designing and managing the activities of paraprofessionals.

SPE 4693. Assistive Technology. (3-0) 3 Credit Hours.
Prerequisites: Admission to Teacher Certification Program, SPE 3603, SPE 3623, SPE 3633, SPE 3653, SPE 3673, SPE 3683, SPE 3693, SPE 4623, SPE 4643, SPE 4673, ECE 3603, and RDG 3523. Concurrent enrollment in SPE 4653 and SPE 4683 is required. 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.

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.
6. College of Engineering

The College of Engineering offers five Bachelor of Science degree programs in: Biomedical Engineering (BME); Civil Engineering (CE); Computer Engineering (CmpE); Electrical Engineering (EE); and Mechanical Engineering (ME). The three programs of CE, EE and ME are accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (EAC/ABET). The BME and CmpE are newly established programs. While the latter are not currently ABET accredited, plans are underway for the accreditation of these programs.

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.

This engineering education incorporates demonstrable attributes of ABET-2000 criteria as core values. Graduates from the College of Engineering should have excellent opportunities for employment and pursuit of graduate degrees.

College Honors

The College of Engineering designates certain of its outstanding students as Honors students and provides the opportunity for advanced study under close faculty supervision. 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. 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. Students applying for College Honors must enroll in EGR 4993 Honors Research during their final two semesters. The completed research paper must be approved by the supervising faculty sponsor and by at least one of the faculty members in the student’s major discipline. Students interested in this program should contact a faculty advisor for additional information.

Admission to the College of Engineering

The admission to any undergraduate program in the College of Engineering at UTSA is based on UTSA’s undergraduate admission requirements plus the following additional admission criteria for the College of Engineering. A student is admitted directly into a major only if all College of Engineering admission criteria are met. Students interested in pursuing the Biomedical Engineering major must meet additional requirements. See the Department of Biomedical Engineering section for information on admission to the Biomedical Engineering major.

The following are the requirements for direct admission to the College of Engineering majors including Civil Engineering, Computer Engineering, Electrical Engineering, and Mechanical Engineering:

1. Requirements for direct admission to a College of Engineering major for new freshmen or freshman transfers who have been admitted to the University (freshman transfers are transfer students who have earned fewer than 30 hours):
   a. Qualify for enrollment in MAT 1214 Calculus I
   b. Graduated in the top quartile of their high school graduating class, or
   ii. Graduated in the second quartile of their high school class and have a combined SAT critical reading and mathematics score of at least 1100 with a minimum mathematics score of 550, or an ACT score of at least 24, or
iii. Must be granted admission into a College of Engineering major by holistic review by the College of Engineering if not meeting the criteria in i. and ii. above.

c. New freshmen and freshman transfers applying for admission to the College of Engineering and not meeting the mathematics requirement in the above criteria (criterion a) will be placed into University College as pre-engineering majors.

New freshmen and freshman transfers not admitted directly to a College of Engineering major, nor placed into University College as a pre-engineering major, must select a different major at the University.

2. Requirements for direct admission to a College of Engineering major for transfer students who have earned 30 or more hours and have been admitted to the University:

   a. Completed MAT 1214 Calculus I, or the equivalent with a grade of “C–” or better.

   b. Have a transfer grade point average of at least 2.50 and a grade point average of at least 2.50 in all mathematics, sciences, and engineering coursework, or

   i. Have a transfer grade point average of at least 2.25 and a grade point average of at least 2.25 in all mathematics, sciences, and engineering coursework, and be granted admission to the College of Engineering major by holistic review by the College.

   c. Transfer students not admitted directly to a College of Engineering major should select a different major at the University.

Pre-engineering majors who have at least a 2.50 grade point average in each of the three components of the Three Calculation Grade Point Average (see below) should apply for admission to a College of Engineering major after completing 15 credit hours of required courses, including MAT 1214 Calculus I with a grade of “C–” or better. Pre-engineering students have a maximum of three semesters from the first semester enrolled to convert their status to an engineering major.

**Placement as an Engineering Major**

Incoming students who meet all admission criteria either directly from high school or with transfer credits will be admitted into one of the following majors: Biomedical Engineering (BME), Civil Engineering (CE), Computer Engineering (CmpE), Electrical Engineering (EE), or Mechanical Engineering (ME). All students admitted to engineering majors should follow their major curriculum. If a student cannot meet all the admission criteria for an engineering major, he or she may be admitted as a pre-engineering student in University College.

**“C–” Grade Rule**

A grade of “D+” or lower in any science or mathematics course required for an engineering degree or any other course that is a prerequisite to a required Biomedical Engineering (BME), Civil Engineering (CE), Electrical Engineering (EE), Mechanical Engineering (ME), or Engineering (EGR) course indicates unsatisfactory preparation for further engineering education. Any such course in which a grade of “D+,” “D,” “D–,” “F,” or “W” is received must be repeated before enrolling in any course for which it is a prerequisite. This requirement is subject to the three-attempt limit.

**Three-Attempt Limit for the College of Engineering**

A student unable to achieve the minimum required grade in a required engineering course or in a prerequisite to a required engineering course within three enrollments (attempts) shall be required to change his or her major to a field outside of the College of Engineering. Enrollment in a course for a period of time sufficient for assignment of a grade, including a grade of “W,” is considered an attempt.
Three-Calculation Grade Point Average

The three grade point average calculations employ only the grades received in courses that are applicable to the engineering degree being sought. The grade point averages used in the three-calculation grade point average (GPA) are:

- overall grade point average of all courses (Overall GPA),
- grade point average of all mathematics, science, and engineering courses, and
- grade point average of all courses taken in the discipline of the major subject (Major GPA).

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 1-semester-credit-hour 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.

Students may petition to apply 3 semester credit hours of Engineering Co-op as a technical elective toward their degree in engineering. They must petition prior to co-op activities.

To qualify for the Cooperative Education in Engineering Program, a student must: have declared a major in the College of Engineering; have completed at least 36 semester credit hours of major and support work, including 7 hours of college-level calculus and 8 hours of college-level physics; 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 the University.

For more information and to apply to the Cooperative Education in Engineering Program, students should contact the College of Engineering Advising Center.

Degree Requirements Common to All Engineering Programs

During their first semester, students should specify their interest in a specific engineering program by selecting biomedical, 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 the College office or a faculty advisor in the appropriate discipline.

Prerequisites for Biomedical Engineering (BME), Civil Engineering (CE), Computer Engineering (CmpE), Electrical Engineering (EE), Mechanical Engineering (ME), and Engineering (EGR) courses must be completed with a grade of “C−” or better. A minimum grade of “C−” is required for all science and mathematics courses required in the Engineering programs. 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.
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:

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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHE 1103</td>
<td>General Chemistry I</td>
<td>3</td>
</tr>
<tr>
<td>EGR 2323</td>
<td>Applied Engineering Analysis I</td>
<td>3</td>
</tr>
<tr>
<td>MAT 1214</td>
<td>Calculus I</td>
<td>4</td>
</tr>
<tr>
<td>MAT 1224</td>
<td>Calculus II</td>
<td>4</td>
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<tr>
<td>PHY 1943</td>
<td>Physics for Scientists and Engineers I</td>
<td>4</td>
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<tr>
<td>&amp; PHY 1951</td>
<td>and Physics for Scientists and Engineers I Laboratory</td>
<td>4</td>
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<tr>
<td>PHY 1963</td>
<td>Physics for Scientists and Engineers II</td>
<td>4</td>
</tr>
<tr>
<td>&amp; PHY 1971</td>
<td>and Physics for Scientists and Engineers II Laboratory</td>
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</table>

Total Credit Hours: 22

III. 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.

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 Bachelor of Science 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 Bachelor of Science of 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 Bachelor of Science 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
Engineering (EGR) Courses

EGR 1303. Exploring the Engineering Profession. (3-1) 3 Credit Hours.
Engineering as a career; contemporary issues; academic and career resources; written and oral communication; effective team membership; professional and ethical responsibilities; professional registration; engineering problem formulation and solution; engineering design. One hour of recitation per week.

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.

EGR 1323. Physics with Engineering Applications. (3-2) 3 Credit Hours.
Prerequisite: EGR 1313. The second of a two-part integrated physics and calculus course. Calculus topics include applications of derivatives to maximization and curve sketching, evaluation of definite and indefinite integrals and an introduction to differential equations. Physics topics include applications of Newton’s Laws and the concepts of momentum, energy, work and power. Classes meet weekly for three hours of lecture and two hours of problem solving tutorials.

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 non-engineering 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.

EGR 1403. Technical Communication. (3-0) 3 Credit Hours.
Prerequisite: WRC 1013. Oral, written, graphical and visual communication; technical instructions; design project with presentation; team-work; and personal responsibility. May be applied toward the Core Curriculum requirement in the Component Area Option.

EGR 2103. Statics. (3-0) 3 Credit Hours. (TCCN = ENGR 2301)
Prerequisites: MAT 1224 and PHY 1943. 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.

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.
EGR 2323. Applied Engineering Analysis I. (3-1) 3 Credit Hours. (TCCN = MATH 2321)
Prerequisite: MAT 1224. Application of mathematical principles to the analysis of engineering problems using linear algebra and ordinary differential equations (ODE’s). Use of software tools. 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; systems of coupled first-order ODE’s; 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; solution of an ODE via Laplace transform; numerical solution of ODE’s. One hour of problem solving recitation.

EGR 2513. Dynamics. (3-0) 3 Credit Hours. (TCCN = ENGR 2302)
Prerequisite: EGR 2103. Kinetics of particles and plane rigid bodies, work and energy, impulse and momentum, equations of motion and engineering applications.

EGR 3301. Engineering Co-op. (0-0) 1 Credit Hour.
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. May be repeated for credit, but 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, students must petition and get approval of a faculty advisor prior to co-op activities. The grade report for the course is either “CR” (satisfactory performance) or “NC” (unsatisfactory performance).

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.

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.

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.

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.
DEPARTMENT OF BIOMEDICAL ENGINEERING

The Department of Biomedical Engineering offers a Bachelor of Science degree in Biomedical Engineering.

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 in-depth focus areas 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).

Admission Requirements

A first-time, full-time freshman admitted as a biomedical engineering major must meet the minimum admission criteria of the College of Engineering. These criteria are:

- Students must meet all UTSA admission requirements;
- Students must have credit for MAT 1214 Calculus I or have completed all necessary prerequisites to enroll in MAT 1214 Calculus I (through a mathematics placement test or credit for MAT 1093 Precalculus or an equivalent).
- Students must:
  1. have graduated in the top quartile of their high school graduation class, or
  2. have graduated in the second quartile of their high school class and have a combined SAT critical reading and mathematics score of at least 1100 with a minimum mathematics score of 550, or an ACT composite score of at least 24, or,
  3. be granted admission into a College of Engineering major by holistic review by the College of Engineering if not meeting the criteria in 1 and 2 above.

All students applying for admission to the Biomedical Engineering program must submit the following supplemental documents to the Department of Biomedical Engineering:

- two (2) letters of recommendation,
- a copy of the transcript, and
- a statement of their interests, professional career goals and how the Biomedical Engineering program will help achieve those goals.

All transfer students must meet the aforementioned minimum admission requirements for the College of Engineering and the Biomedical Engineering program. Transfer students must also meet the minimum Good Academic Standing Requirements for a Biomedical Engineering Major (see below) in order to be considered for admission to the Biomedical Engineering program. Additionally, transfer students should also have completed at least 15 semester credit hours of mathematics, science, or engineering courses, and have an overall grade point average of a 3.0 or better.
Admissions to the biomedical engineering program will be competitive; meeting the aforementioned requirements does not guarantee admission to the program. Admission will be restricted only to the most qualified applicants.

**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 graduates from the UTSA Biomedical Engineering program will be able to:

- contribute positively in 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 Bachelor of Science 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. For a complete listing of courses that satisfy the Core Curriculum requirements, see chapter 1 of this catalog.

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.

**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 Calculus II 4
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

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 2114 Cellular Biology for Biomedical Engineering 4
BME 2203 Biomechanics I 3
BME 2211 Biomedical Engineering Laboratory I 1
BME 2403 Biomaterials I 3
BME 3013 Clinical Internship in Biomedical Engineering 3
BME 3022 Biomedical Engineering Technology and Product Development 2
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

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 concentrations. The
remaining semester credit hours must be selected from other 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 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 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. Depending on interest, students should select appropriate courses in sciences and engineering in order to enhance their basic engineering and scientific training. Examples of Technical Electives are:

**Engineering Courses**

- EE 2213 Electric Circuits and Electronics
- EE 2423 Network Theory
EE 3533  Random Signals and Noise
EGR 2103  Statics
ME 3293  Thermodynamics I
ME 3813  Mechanics of Solids

Science Courses
BIO 1413  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

Total Credit Hours: 65

B.S. in Biomedical Engineering – Recommended Four-Year Academic Plan

First Year

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<td>AIS 1203</td>
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<td>BIO 1404</td>
<td>Biosciences I (core and major)</td>
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<td>CHE 1103</td>
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<td>MAT 2214</td>
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<td>Fourth Year</td>
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Biomedical Engineering (BME) Courses
Department of Biomedical Engineering, College of Engineering

BME 1002. Introduction to Biomedical Engineering. (2-0) 2 Credit Hours.
Prerequisites: A grade of “C-” or better in BIO 1404, CHE 1103, and MAT 1214, and concurrent enrollment in CHE 1113, MAT 1224, PHY 1943, and PHY 1951. 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.

BME 2103. Physiology for Biomedical Engineering. (3-1) 3 Credit Hours.
Prerequisites: Major in Biomedical Engineering and a grade of “C-” or better in BME 1002 and CHE 1113. 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.

BME 2114. 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 and CHE 1113. 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.

BME 2203. Biomechanics I. (3-1) 3 Credit Hours.
Prerequisites: A grade of “C-” or better in EGR 2323 and PHY 1963, and concurrent enrollment in BME 2114 and BME 2211. Introduction to the fundamental engineering mechanics with focus on the human body. This course includes a 3 hour lecture and a 1 hour recitation.

BME 2211. Biomedical Engineering Laboratory I. (0-4) 1 Credit Hour.
Prerequisites: A grade of “C-” or better in EGR 2323, PHY 1963, and STA 1403, and concurrent enrollment in BME 2203 and BME 2403. A biomedical engineering lab in biomechanics and biomaterials. This lab-based course will emphasize on the synthesis and characterization of mechanical properties as well as physical and chemical properties of biomaterials.

BME 2403. Biomaterials I. (3-1) 3 Credit Hours.
Prerequisites: A grade of “C-” or better in BME 2103 and EGR 2323 and concurrent enrollment in BME 2114 and BME 2211. 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.

BME 3013. Clinical Internship in Biomedical Engineering. (0-0) 3 Credit Hours.
Prerequisites: A grade of “C-” or better in BME 2114, BME 2203, and BME 2403. This course will introduce students to the clinical environment, interacting with clinicians on current clinical problems and engineering approaches.
BME 3022. Biomedical Engineering Technology and Product Development. (2-0) 2 Credit Hours.
Prerequisite: A grade of “C-” or better in BME 3013. This course will introduce students to current biomedical
technologies and product development. (Formerly BME 3023. Credit cannot be earned for both BME 3022 and
BME 3023.).

BME 3033. Biomedical Engineering Internship. (0-0) 3 Credit Hours.
Prerequisite: A grade of “C-” or better in BME 3022. 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.

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.

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.

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.

BME 3203. Biomechanics II: Cardiovascular. (3-0) 3 Credit Hours.
Prerequisites: A grade of “C-” or better in BME 2203 and BME 2211. Continuation of fundamental
biomechanics to include elasticity, viscoelasticity, deformation, stress analysis, blood flow in the systemic and
pulmonary circulation, and fluid-structure interaction.

BME 3303. Bioinstrumentation. (3-1) 3 Credit Hours.
Prerequisites: A grade of “C-” or better in BME 2114, BME 2203, EGR 2323, and PHY 1923, and concurrent
enrollment in 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.

BME 3311. Biomedical Engineering Laboratory II. (0-4) 1 Credit Hour.
Prerequisites: A grade of “C-” or better in BME 2114, BME 2211, and STA 1403, and concurrent enrollment in
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.

BME 3403. Biomaterials II. (1-5) 3 Credit Hours.
Prerequisites: A grade of “C-” or better in BME 2211 and BME 2403. 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.
BME 3413. Biocompatibility of Materials: Tissue-Biomaterial Interaction. (3-0) 3 Credit Hours.
Prerequisites: A grade of “C-” or better in BME 2211 and BME 2403. This course is an introduction to biocompatibility with special emphasis on the interaction 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 orthopaedic implants are discussed to illustrate that selection of biocompatible materials is a key aspect of implant design and a crucial choice for the success of various biomedical applications (e.g., tissue engineering and biotechnology) which require regeneration of tissues.

BME 3503. Nanomaterials and Nanobiotechnology. (3-0) 3 Credit Hours.
Prerequisites: A grade of “C-” or better in BME 2211 and BME 2403. 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.”).

BME 3703. Biotransport Phenomena. (3-1) 3 Credit Hours.
Prerequisites: A grade of “C-” or better in BME 2114, BME 3303, EGR 2323 and PHY 1923, and concurrent enrollment in 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.

BME 3711. Biomedical Engineering Laboratory III. (0-4) 1 Credit Hour.
Prerequisites: A grade of “C-” or better in BME 2114, BME 3303, and STA 1403, and concurrent enrollment in 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.

BME 4203. Biomechanics III. (3-0) 3 Credit Hours.
Prerequisites: A grade of “C-” or better in BME 3203. 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.

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.

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 3203. 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.
BME 4403. Molecular Techniques for Cell-Biomaterials Interactions. (2-4) 3 Credit Hours.
Prerequisites: A grade of “C-” or better in BME 2403. 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.

BME 4423. Tissue Engineering. (3-0) 3 Credit Hours.
Prerequisite: A grade of “C-” or better in BME 2403. This course is an introduction to the current status of,
practice, and advances in tissue engineering, 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 and biophysical
stimuli. 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 directions are discussed.

BME 4483. Topics in Biomaterials. (3-0) 3 Credit Hours.
Prerequisite: Senior status with a major in Biomedical Engineering and a grade of “C-” or better in BME 3403.
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.

BME 4493. Topics in Tissue Engineering. (3-0) 3 Credit Hours.
Prerequisite: Senior status with a major in Biomedical Engineering and a grade of “C-” or better in BME 4423.
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.

BME 4503. Biosensors. (3-0) 3 Credit Hours.
Prerequisites: A grade of “C-” or better in BME 3503. Basics to biological detection and in-depth view of
device design and performance analyses. Topics may include optical, electrochemical, acoustic, piezoelectric,
and nanobiosensors.

BME 4603. Biophotonics. (3-0) 3 Credit Hours.
Prerequisites: A grade of “C-” or better in BME 3303. 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.

BME 4613. Biomedical Imaging. (3-0) 3 Credit Hours.
Prerequisites: A grade of “C-” or better in BME 4603. 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.
BME 4623. Biomedical Optics. (3-0) 3 Credit Hours.
Prerequisite: A grade of “C-” or better in BME 3303. 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.

BME 4703. Biomedical Engineering Thermodynamics. (3-1) 3 Credit Hours.
Prerequisites: A grade of “C-” or better in BME 3703 and EGR 2323. 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.

BME 4713. Cellular Engineering. (3-0) 3 Credit Hours.
Prerequisites: A grade of “C-” or better in BME 3703. 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.

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 4713. 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.

BME 4803. Fundamental Computational Bioengineering. (3-0) 3 Credit Hours.
Prerequisites: Major in Biomedical Engineering and a grade of “C-” or better in BME 2114 and EGR 2323. This course will include fundamental knowledge and skills of mathematical modeling, computer simulation and visualization, with applications in biomedical engineering.

BME 4903. Senior BME Design I. (3-0) 3 Credit Hours.
Prerequisite: Senior status with a major in Biomedical Engineering and a grade of “C-” or better in BME 3023 and STA 1403. Development of project proposals and presentation of conceptual designs. Industrial collaboration and/or faculty sponsorship of these projects is encouraged.

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.
DEPARTMENT OF CIVIL AND ENVIRONMENTAL ENGINEERING

The Department of Civil Engineering offers a Bachelor of Science degree in Civil Engineering.

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 providing a learning environment which encourages discovery and advancement for the betterment of its students and the community. Through its research, public service, and instructional programs, the Department seeks to serve the needs of San Antonio and South Texas by providing educational and research opportunities contributing to the technological and economic development of the region.

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 (2009). The educational objectives of the Civil Engineering undergraduate program are to produce Bachelor of Science graduates who:

- 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 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 next in detail.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the Bachelor of Science degree in Civil 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. For a complete listing of courses that satisfy the Core Curriculum requirements, see chapter 1 of this catalog.

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
Civil Engineering Degree Requirements

In addition to Core Curriculum and General Engineering requirements, students seeking a Bachelor 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 the remaining 6 can be satisfied from CE elective courses.

A. Required courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CE 1301</td>
<td>Introduction to Civil Engineering</td>
<td>1</td>
</tr>
<tr>
<td>CE 2103</td>
<td>Civil Engineering Measurements</td>
<td>3</td>
</tr>
<tr>
<td>CE 2633</td>
<td>Environmental Engineering</td>
<td>3</td>
</tr>
<tr>
<td>CE 3103</td>
<td>Mechanics of Solids</td>
<td>3</td>
</tr>
<tr>
<td>CE 3113</td>
<td>Structural Analysis</td>
<td>3</td>
</tr>
<tr>
<td>CE 3173</td>
<td>Numerical Methods</td>
<td>3</td>
</tr>
<tr>
<td>CE 3213</td>
<td>Reinforced Concrete Design</td>
<td>3</td>
</tr>
<tr>
<td>CE 3233</td>
<td>Steel Design</td>
<td>3</td>
</tr>
<tr>
<td>CE 3243</td>
<td>Properties and Behavior of Engineering Materials</td>
<td>3</td>
</tr>
<tr>
<td>CE 3413</td>
<td>Geotechnical Engineering and Applications</td>
<td>3</td>
</tr>
<tr>
<td>CE 3603</td>
<td>Fluid Mechanics</td>
<td>3</td>
</tr>
<tr>
<td>CE 4123</td>
<td>Highway Engineering</td>
<td>3</td>
</tr>
<tr>
<td>CE 4313</td>
<td>Computer-Aided Design in Civil Engineering</td>
<td>3</td>
</tr>
<tr>
<td>CE 4543</td>
<td>Project Design and Construction Management</td>
<td>3</td>
</tr>
<tr>
<td>CE 4603</td>
<td>Water Resources Engineering</td>
<td>3</td>
</tr>
<tr>
<td>CE 4633</td>
<td>Water and Wastewater Treatment</td>
<td>3</td>
</tr>
<tr>
<td>CE 4813</td>
<td>Civil Engineering Design</td>
<td>3</td>
</tr>
<tr>
<td>EGR 1403</td>
<td>Technical Communication</td>
<td>3</td>
</tr>
<tr>
<td>EGR 2103</td>
<td>Statics</td>
<td>3</td>
</tr>
<tr>
<td>EGR 2513</td>
<td>Dynamics</td>
<td>3</td>
</tr>
<tr>
<td>GEO 4023</td>
<td>Engineering Geology</td>
<td>3</td>
</tr>
<tr>
<td>STA 2303</td>
<td>Applied Probability and Statistics for Engineers</td>
<td>3</td>
</tr>
</tbody>
</table>
B. Civil Engineering technical electives

Select two of the following. 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 4013  Civil Engineering Systems Analysis
CE 4103  Advanced Steel Design
CE 4133  Advanced Reinforced Concrete
CE 4153  Prestressed Concrete
CE 4253  Introduction to Masonry and Timber Design
CE 4293  Geographic Information Systems (GIS)
CE 4303  Hydrometeorology
CE 4403  Advanced Characterization of Highway Materials
CE 4453  Transportation Engineering
CE 4463  Foundation Engineering
CE 4613  Environmental Chemistry
CE 4723  Hydraulic Systems Design
CE 4733  Applied Hydrology

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 required to take the Fundamentals of Engineering (FE) Examination as administered by the National Council of Examiners for Engineering and Surveying. Graduates are expected to pursue lifelong 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 4123 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 Bachelor degree in Civil Engineering.
# B.S. in Civil Engineering – Recommended Four-Year Academic Plan

## First Year

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIS 1203  Academic Inquiry and Scholarship (core)</td>
<td>3</td>
</tr>
<tr>
<td>CE 1301  Introduction to Civil Engineering</td>
<td>1</td>
</tr>
<tr>
<td>CE 2103  Civil Engineering Measurements</td>
<td>3</td>
</tr>
<tr>
<td>CHE 1103 General Chemistry I (core and major)</td>
<td>3</td>
</tr>
<tr>
<td>MAT 1214 Calculus I (core and major)</td>
<td>4</td>
</tr>
<tr>
<td>WRC 1013 Freshman Composition I (core)</td>
<td>3</td>
</tr>
</tbody>
</table>

**Spring**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 1173 Data Analysis and Visualization using MATLAB (core)</td>
<td>3</td>
</tr>
<tr>
<td>EGR 1403 Technical Communication</td>
<td>3</td>
</tr>
<tr>
<td>MAT 1224 Calculus II</td>
<td>4</td>
</tr>
<tr>
<td>PHY 1943 Physics for Scientists and Engineers I (core and major)</td>
<td>3</td>
</tr>
<tr>
<td>PHY 1951 Physics for Scientists and Engineers I Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>WRC 1023 Freshman Composition II (core)</td>
<td>3</td>
</tr>
</tbody>
</table>

## Second Year

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>EGR 2103 Statics</td>
<td>3</td>
</tr>
<tr>
<td>EGR 2323 Applied Engineering Analysis I</td>
<td>3</td>
</tr>
<tr>
<td>PHY 1963 Physics for Scientists and Engineers II (core and major)</td>
<td>3</td>
</tr>
<tr>
<td>PHY 1971 Physics for Scientists and Engineers II Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>STA 2303 Applied Probability and Statistics for Engineers</td>
<td>3</td>
</tr>
<tr>
<td>American History core</td>
<td>3</td>
</tr>
</tbody>
</table>

**Spring**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CE 2633 Environmental Engineering</td>
<td>3</td>
</tr>
<tr>
<td>CE 3103 Mechanics of Solids</td>
<td>3</td>
</tr>
<tr>
<td>CE 3173 Numerical Methods</td>
<td>3</td>
</tr>
<tr>
<td>ECO 2013 or 2023 Introductory Macroeconomics (core)</td>
<td>3</td>
</tr>
<tr>
<td>EGR 2513 Dynamics</td>
<td>3</td>
</tr>
<tr>
<td>Language, Philosophy &amp; Culture core</td>
<td>3</td>
</tr>
</tbody>
</table>

## Third Year

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CE 3113 Structural Analysis</td>
<td>3</td>
</tr>
<tr>
<td>CE 3233 Steel Design</td>
<td>3</td>
</tr>
<tr>
<td>CE 3243 Properties and Behavior of Engineering Materials</td>
<td>3</td>
</tr>
<tr>
<td>CE 3603 Fluid Mechanics</td>
<td>3</td>
</tr>
<tr>
<td>EGR 3713 Engineering Economic Analysis</td>
<td>3</td>
</tr>
</tbody>
</table>
American History core  

**Spring**  
CE 3213  Reinforced Concrete Design  
CE 3413  Geotechnical Engineering and Applications  
CE 4633  Water and Wastewater Treatment  
GEO 4023  Engineering Geology  
POL 1013  Introduction to American Politics (core)  

**Fourth Year**  

**Fall**  
CE 4123  Highway Engineering  
CE 4313  Computer-Aided Design in Civil Engineering  
CE 4543  Project Design and Construction Management  
CE 4603  Water Resources Engineering  
POL 1133  Texas Politics and Society (core)  

**Spring**  
CE 4813  Civil Engineering Design  
CE Technical elective  
CE Technical elective  
Creative Arts core  

Students must take FE exam during this semester  

Total Credit Hours: 128.0  

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**Civil Engineering (CE) Courses**  
Department of Civil and Environmental Engineering, College of Engineering  

**CE 1301. Introduction to Civil Engineering.** (1-0) 1 Credit Hour.  
Prerequisites or concurrent enrollment: 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.  

**CE 2103. Civil Engineering Measurements.** (2-3) 3 Credit Hours.  
Prerequisites or concurrent enrollment: MAT 1214 and CE 1301. Principles of measurement and error analysis; application of equipment to acquire, analyze, and control data in civil engineering systems; and introduction to plane surveying.  

**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.
CE 3103. Mechanics of Solids. (2-3) 3 Credit Hours.
Prerequisites: EGR 2103 and MAT 1224. Internal forces and deformations in solids; stress, strain, and their relations; stresses and deflections in beams column theory and analysis; and engineering applications.

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.

CE 3173. Numerical Methods. (3-0) 3 Credit Hours.
Prerequisite: EGR 2323. Use of computing languages (Matlab and Visualbasic) and numerical methods in solving civil and environmental engineering problems. Techniques for computer solution of linear and nonlinear simultaneous equations; eigenvalues; finite differences; numerical integration; numerical solutions to ordinary differential equations. Case studies in various civil engineering areas.

CE 3213. Reinforced Concrete Design. (2-3) 3 Credit Hours.
Prerequisites or concurrent enrollment: CE 3113 and CE 3243. Ultimate strength theory and design for reinforced concrete members.

CE 3233. Steel Design. (2-3) 3 Credit Hours.
Prerequisites or concurrent enrollment: CE 3113 and CE 3243. Analysis and design of steel tension members, beams, columns, and bolted or welded connections.

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.

CE 3413. Geotechnical Engineering and Applications. (2-3) 3 Credit Hours.
Prerequisite: CE 3103. Prerequisites or concurrent enrollment: CE 3173 and GEO 4023. 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.

CE 3603. Fluid Mechanics. (2-3) 3 Credit Hours.
Prerequisites: EGR 2103 and EGR 2513. Fluid properties, fluid statics concepts, equations of fluid flow in pipes and open channels, and flow-through porous media.

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.).

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.
CE 4123. Highway Engineering. (3-0) 3 Credit Hours.
Prerequisites: CE 2103 and CE 3243. General characteristics of highway design; horizontal and vertical alignment, cross-sections, earthwork, drainage, and pavement; and economic analysis.

CE 4133. Advanced Reinforced Concrete. (3-0) 3 Credit Hours.
Prerequisite: CE 3213. Technical elective course. Torsion design, design of stairs, bending of curved elements, biaxial loads on columns, slenderness effects, joint design, yield line theory, two-way slab systems, strut-and-tie methods, seismic detailing, relationship between research and building code.

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.

CE 4253. Introduction to Masonry and Timber Design. (2-3) 3 Credit Hours.
Prerequisites or concurrent enrollment: CE 3113 and CE 3243. Technical elective course. Design philosophy and methodology for masonry and timber structures. Flexure design, axial load design, and shear design of basic masonry and timber components. (Formerly CE 3253. Credit cannot be earned for both CE 4253 and CE 3253.).

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.

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.

CE 4313. Computer-Aided Design in Civil Engineering. (3-0) 3 Credit Hours.
Prerequisites: CE 1403, CE 2103, and CE 3603. Organization and programming of civil engineering problems for computer solutions; application of computer-aided design in civil engineering.

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.
CE 4453. Transportation Engineering. (3-0) 3 Credit Hours.
Prerequisite: CE 4123. 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.).

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.).

CE 4543. Project Design and Construction Management. (3-0) 3 Credit Hours.
Prerequisites: CE 3113, EGR 3713, 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.).

CE 4603. Water Resources Engineering. (3-0) 3 Credit Hours.
Prerequisites: CE 2633 and CE 3603. Corequisite: CE 4633. Analysis and design of surface and subsurface water resource facilities. Design of water supply, wastewater collection, and storm water systems.

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.

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.).

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.

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.).

**CE 4813. Civil Engineering Design. (3-0) 3 Credit Hours.**
Prerequisites: CE 3213 or CE 3233, CE 3413, CE 3603 and CE 4543. 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. Students must take the FE (Fundamentals of Engineering) exam during the semester they take this course. Students that pass the FE exam during their last semester of study qualify for a Professional Alumni Award.

**CE 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. 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.

**CE 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.

**CE 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. 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.

**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.
DEPARTMENT OF ELECTRICAL AND COMPUTER ENGINEERING

The Department of Electrical and Computer Engineering (ECE) offers 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 and Computer Engineering programs are that our graduates will:

1. contribute their technical knowledge to better their lives,
2. assume positions of leadership and responsibility in their careers,
3. pursue graduate and professional studies, and
4. conduct themselves in a professional manner that meets or exceeds the expectations of their employers.

Meeting Program Objectives

To meet the program objectives, the curriculum for the Bachelor of Science degree in Electrical Engineering and the curriculum for the Bachelor of Science degree in Computer Engineering are organized into a flexible 125-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 Bachelor of Science 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 (4 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 three technical electives (9 semester credit hours) from the chosen area. The remaining two technical electives (6 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 three semesters (1 semester credit hour each semester) 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 4811 Electrical and Computer Engineering Design I and EE 4813 Electrical and 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.

**Bachelor of Science Degree in Electrical Engineering**

The Bachelor of Science 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 accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (EAC/ABET). The Bachelor of Science 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 125, 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 Bachelor of Science 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. For a complete listing of courses that satisfy the Core Curriculum requirements, see chapter 1 of this catalog.

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.

**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** Calculus II 4
- **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
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

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EE 1322</td>
<td>Introduction to Electrical and Computer Engineering</td>
<td>2</td>
</tr>
<tr>
<td>EE 2423</td>
<td>Network Theory</td>
<td>3</td>
</tr>
<tr>
<td>EE 2511</td>
<td>Logic Design Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>EE 2513</td>
<td>Logic Design</td>
<td>3</td>
</tr>
<tr>
<td>EE 3113</td>
<td>Electrical and Computer Engineering Laboratory I</td>
<td>3</td>
</tr>
<tr>
<td>EE 3213</td>
<td>Electromagnetic Engineering</td>
<td>3</td>
</tr>
<tr>
<td>EE 3313</td>
<td>Electronic Circuits I</td>
<td>3</td>
</tr>
<tr>
<td>EE 3323</td>
<td>Electronic Devices</td>
<td>3</td>
</tr>
<tr>
<td>EE 3413</td>
<td>Analysis and Design of Control Systems</td>
<td>3</td>
</tr>
<tr>
<td>EE 3423</td>
<td>Signals and Systems I</td>
<td>3</td>
</tr>
<tr>
<td>EE 3463</td>
<td>Microcomputer Systems I</td>
<td>3</td>
</tr>
<tr>
<td>EE 3523</td>
<td>Signals and Systems II</td>
<td>3</td>
</tr>
<tr>
<td>EE 4113</td>
<td>Electrical and Computer Engineering Laboratory II</td>
<td>3</td>
</tr>
<tr>
<td>EE 4313</td>
<td>Electronic Circuits II</td>
<td>3</td>
</tr>
<tr>
<td>EE 4811</td>
<td>Electrical and Computer Engineering Design I</td>
<td>1</td>
</tr>
<tr>
<td>EE 4813</td>
<td>Electrical and Computer Engineering Design II</td>
<td>3</td>
</tr>
<tr>
<td>EGR 2213</td>
<td>Statics and Dynamics</td>
<td>3</td>
</tr>
<tr>
<td>EGR 3323</td>
<td>Applied Engineering Analysis II</td>
<td>3</td>
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2. Supporting courses

<table>
<thead>
<tr>
<th>Course</th>
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<th>Credits</th>
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<tbody>
<tr>
<td>CS 2073</td>
<td>Computer Programming with Engineering Applications</td>
<td>3</td>
</tr>
<tr>
<td>EE 3533</td>
<td>Random Signals and Noise</td>
<td>3</td>
</tr>
<tr>
<td>or STA 3533</td>
<td>Probability and Random Processes</td>
<td></td>
</tr>
</tbody>
</table>

B. Electrical engineering elective courses

Select at least three courses from one of the following concentrations. Topics offered under EE 4953 Special Studies in Electrical Engineering may be approved as technical electives in the relevant concentration.

**Communication Concentration**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>EE 4613</td>
<td>Communication Systems</td>
</tr>
<tr>
<td>EE 4653</td>
<td>Digital Communications</td>
</tr>
<tr>
<td>EE 4673</td>
<td>Data Communication and Networks</td>
</tr>
</tbody>
</table>
EE 4683 Wireless Communications
EE 4693 Fiber Optic Communications

**Computer Engineering Concentration**
EE 3223 C++ and Data Structures
or CS 3733 Operating Systems
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 4453 Selected Topics in Digital Signal Processing
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 Micro and Nanotechnology
EE 4533 Principles of Microfabrication
EE 4543 Advanced Topics in Micro and Nanotechnology

**Systems and Control Concentration**
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:** 70
# B.S. in Electrical Engineering – Recommended Four-Year Academic Plan

## First Year

<table>
<thead>
<tr>
<th></th>
<th>Fall</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>AIS 1203</td>
<td>Academic Inquiry and Scholarship (core)</td>
<td>3</td>
</tr>
<tr>
<td>CHE 1103</td>
<td>General Chemistry I</td>
<td>3</td>
</tr>
<tr>
<td>EE 1322</td>
<td>Introduction to Electrical and Computer Engineering</td>
<td>2</td>
</tr>
<tr>
<td>MAT 1214</td>
<td>Calculus I (core and major)</td>
<td>4</td>
</tr>
<tr>
<td>WRC 1013</td>
<td>Freshman Composition I (core)</td>
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### Spring

<table>
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<tr>
<td>EE 2511</td>
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</tr>
<tr>
<td>EE 2513</td>
<td>Logic Design</td>
<td>3</td>
</tr>
<tr>
<td>CS 2073</td>
<td>Computer Programming with Engineering Applications</td>
<td>3</td>
</tr>
<tr>
<td>MAT 1224</td>
<td>Calculus II</td>
<td>4</td>
</tr>
<tr>
<td>PHY 1943</td>
<td>Physics for Scientists and Engineers I (core and major)</td>
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<td>PHY 1951</td>
<td>Physics for Scientists and Engineers I Laboratory</td>
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<tr>
<td>WRC 1023</td>
<td>Freshman Composition II (core)</td>
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## Second Year

### Fall

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<th>Credit Hours</th>
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<tr>
<td>EE 2423</td>
<td>Network Theory</td>
<td>3</td>
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<tr>
<td>EGR 2213</td>
<td>Statics and Dynamics</td>
<td>3</td>
</tr>
<tr>
<td>EGR 2323</td>
<td>Applied Engineering Analysis I</td>
<td>3</td>
</tr>
<tr>
<td>PHY 1963</td>
<td>Physics for Scientists and Engineers II (core and major)</td>
<td>3</td>
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<td>PHY 1971</td>
<td>Physics for Scientists and Engineers II Laboratory</td>
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<tr>
<td>American History core</td>
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### Spring

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<tr>
<th></th>
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<th>Credit Hours</th>
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<tbody>
<tr>
<td>EE 3313</td>
<td>Electronic Circuits I</td>
<td>3</td>
</tr>
<tr>
<td>EE 3423</td>
<td>Signals and Systems I</td>
<td>3</td>
</tr>
<tr>
<td>EE 3463</td>
<td>Microcomputer Systems I</td>
<td>3</td>
</tr>
<tr>
<td>EGR 3323</td>
<td>Applied Engineering Analysis II</td>
<td>3</td>
</tr>
<tr>
<td>American History core</td>
<td></td>
<td>3</td>
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</table>

## Third Year

### Fall

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>EE 3113</td>
<td>Electrical and Computer Engineering Laboratory I</td>
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<tr>
<td>EE 3323</td>
<td>Electronic Devices</td>
<td>3</td>
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<td>EE 3523</td>
<td>Signals and Systems II</td>
<td>3</td>
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<tr>
<td>EE 4313</td>
<td>Electronic Circuits II</td>
<td>3</td>
</tr>
<tr>
<td>Language, Philosophy &amp; Culture core</td>
<td></td>
<td>3</td>
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</tbody>
</table>
Bachelor of Science Degree in Computer Engineering

The Bachelor of Science 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. While the B.S. in CpE is not currently ABET accredited as it is a newly established program in 2010, plans are underway for the accreditation of the program at the earliest opportunity.

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. 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 Bachelor of Science 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. For a complete listing of courses that satisfy the Core Curriculum requirements, see chapter 1 of this catalog.

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.

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  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: 22

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 3313  Electronic Circuits I  3
      - EE 3323  Electronic Devices  3
      - EE 3423  Signals and Systems I  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
EE 4513 Introduction to VLSI Design 3
EE 4811 Electrical and Computer Engineering Design I 1
EE 4813 Electrical and Computer Engineering Design II 3
EGR 3323 Applied Engineering Analysis II 3

2. Supporting courses
CS 2073 Computer Programming with Engineering Applications 3
CS 2233 Discrete Mathematical Structures 3
EE 3533 Random Signals and Noise 3
or STA 3533 Probability and Random Processes

B. Computer engineering electives
Select five of the following: 15
CS 3733 Operating Systems
CS 3773 Software Engineering
CS 4353 Unix and Network Security
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)

Total Credit Hours: 70

B.S. in Computer Engineering – Recommended Four-Year Academic Plan

First Year

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<th>Credit Hours</th>
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<tbody>
<tr>
<td>AIS 1203</td>
<td>Academic Inquiry and Scholarship (core) 3</td>
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<td>Introduction to Electrical and Computer Engineering 2</td>
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<td>General Chemistry I 3</td>
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<tr>
<td>MAT 1214</td>
<td>Calculus I (core and major) 4</td>
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<td>WRC 1013</td>
<td>Freshman Composition I (core) 3</td>
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</table>

Spring

<table>
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<tr>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>EE 2511</td>
<td>Logic Design Laboratory 1</td>
</tr>
<tr>
<td>EE 2513</td>
<td>Logic Design 3</td>
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UTSA 2014-15 Undergraduate Catalog
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<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tr>
<td>CS 2073</td>
<td>Computer Programming with Engineering Applications</td>
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<td>MAT 1224</td>
<td>Calculus II</td>
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<td>PHY 1943</td>
<td>Physics for Scientists and Engineers I (core and major)</td>
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</tr>
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<td>PHY 1951</td>
<td>Physics for Scientists and Engineers I Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>WRC 1023</td>
<td>Freshman Composition II (core)</td>
<td>3</td>
</tr>
</tbody>
</table>

**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

**Spring**
- EE 3313  Electronic Circuits I 3
- EE 3423  Signals and Systems I 3
- EE 3463  Microcomputer Systems I 3
- EGR 3323 Applied Engineering Analysis II 3
- American History core 3

**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

**Spring**
- EE 3533 or STA 3533 Random Signals and Noise 3
- EE 4243  Computer Organization and Architecture 3
- EE 4513  Introduction to VLSI Design 3
- POL 1013 Introduction to American Politics (core) 3
- Technical elective 3

**Fourth Year**

**Fall**
- EE 4113  Electrical and Computer Engineering Laboratory II 3
- EE 4811  Electrical and Computer Engineering Design I 1
- POL 1133 Texas Politics and Society (core) 3
- Technical elective 3
Technical elective                         3
Creative Arts core                         3

Spring
ECO 2023        Introductory Microeconomics (core)                         3
EE 4813        Electrical and Computer Engineering Design II                      3
Technical elective                         3
Technical elective                         3
Component Area Option core                  3

Total Credit Hours: 125.0

Electrical Engineering (EE) Courses
Department of Electrical and Computer Engineering, College of Engineering

EE 1322. Introduction to Electrical and Computer Engineering. (2-1) 2 Credit Hours.
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.).

EE 2213. Electric Circuits and Electronics. (3-0) 3 Credit Hours. (TCCN = ENGR 2305)
Prerequisite: PHY 1963. Corequisite: 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.).

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 SPICE to solve network problems. One hour of problem solving recitation per week.

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.
EE 2513. Logic Design. (3-1) 3 Credit Hours.
Prerequisites: EE 1322 and completion of or concurrent enrollment in CS 2073. Number systems, Boolean algebra, combinational and sequential circuit design; and minimization and implementation. One hour of problem solving recitation per week.

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.

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.

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.

EE 3313. Electronic Circuits I. (3-1) 3 Credit Hours.
Prerequisites: EE 2423 and PHY 1963. Electrical properties of semiconductors; P-N junctions; diode circuits; BJTs and FETs; application to digital and analog circuits; and use of SPICE to solve simple circuits. One hour of problem solving recitation per week.

EE 3323. Electronic Devices. (3-0) 3 Credit Hours.
Prerequisites: CHE 1103 and EE 3313. 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 (MOSFETS, complementary MOSFETS or CMOS, JFETS and MESFET), photodetectors and optoelectronic devices.

EE 3413. Analysis and Design of Control Systems. (3-1) 3 Credit Hours.
Prerequisites: EGR 2213 and EGR 2323 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.

EE 3423. Signals and Systems I. (3-1) 3 Credit Hours.
Prerequisites: EE 2423 and EGR 2323. Frequency response and complex variables, Fourier series, Fourier transforms, Dirac Delta function, convolution, mathematical modeling of systems. MATLAB exercises. One hour of problem solving recitation per week.
EE 3463. Microcomputer Systems I. (3-1) 3 Credit Hours.
Prerequisites: EE 2513 and CS 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.

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.

EE 3523. Signals and Systems II. (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.

EE 3533. Random Signals and Noise. (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.

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.

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.

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.

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.

EE 4313. Electronic Circuits II. (3-0) 3 Credit Hours.
Prerequisite: EE 3313. Multiple transistor circuits; feedback and frequency response analysis; operational amplifier analysis and design; power semiconductors; and other topics. Design of analog and digital circuits; and use of SPICE to analyze complex circuits.

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 and completion of or concurrent enrollment in EE 4353 for Topic 2. 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.

**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.

**EE 4453. Selected Topics in Digital Signal Processing. (3-0) 3 Credit Hours.**
Prerequisite: EE 4643. Theoretical basis for signal processing and applications. Topics include modeling of biological systems; signal processing in computer security; data and image encryption; digital image compression; pattern recognition; biomedical signal and image processing; signal processing for system biology; genomic signal processing and statistics; speech and audio signal processing; multimedia signal processing. May be repeated for credit when topics vary. (Formerly titled “Principles of Bioengineering and Bioinstrumentation.”).

**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.

**EE 4523. Introduction to Micro and Nanotechnology. (2-3) 3 Credit Hours.**
Prerequisite: Completion of or concurrent enrollment in EE 3323. Survey of microfabrication techniques, scaling laws, mechanical, optical and thermal transducers, microfluidic applications, nanostructures. (Credit cannot be earned for both EE 4523 and PHY 4653.).

**EE 4533. Principles of Microfabrication. (1-6) 3 Credit Hours.**
Prerequisite: Completion of or concurrent enrollment in EE 3323. Photolithography, thin film deposition, doping, wet patterning, plasma etching, thin film characterization. Students will fabricate simple microstructures such as coplanar waveguides, microfluidic devices and nanopowder silica films.

**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.

**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.

**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.

**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.

**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.

**EE 4613. Communication Systems. (3-0) 3 Credit Hours.**
Prerequisites: EE 3423 and EE 3533 or STA 3533. Basic theory and principles of modern analog and digital communication systems; signal and noise analysis, signal-to-noise ratio, and circuit implementations.

**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.

**EE 4643. Digital Signal Processing. (3-0) 3 Credit Hours.**
Prerequisites: Completion of or concurrent enrollment in EE 3523, and EE 3533 or STA 3533. Sampling and reconstruction; quantization, A/D and D/A converters; discrete time representation and analysis of filters; DTFT computation, FFT algorithms, discrete cosine transform, fast convolution; and algorithms, methods, and applications of signal processing.

**EE 4653. Digital Communications. (3-0) 3 Credit Hours.**
Prerequisites: EE 3423 and STA 3533 or 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.

**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; future 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.
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.

EE 4683. Wireless Communications. (3-0) 3 Credit Hours.
Prerequisite: EE 3423, EE 3533 or STA 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.

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.

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.).

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.

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.

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.

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.

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.
EE 4811. Electrical and Computer Engineering Design I. (1-1) 1 Credit Hour.
Prerequisites: EE 4313 for Electrical Engineering majors or EE 3563 for Computer Engineering majors, and completion of or concurrent enrollment in 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.

EE 4813. Electrical and Computer Engineering Design II. (2-3) 3 Credit Hours.
Prerequisites: EE 4113 and EE 4811. Complex system design; advanced ATE; project management, proposals, status reporting, formal oral and written technical reports, and business plans; open-ended design project considering safety, reliability, environmental, economic, and other constraints; and ethical and social impacts.

EE 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. 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.

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.

EE 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. 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.

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.
DEPARTMENT OF MECHANICAL ENGINEERING

The Department of Mechanical Engineering offers a Bachelor of Science degree in Mechanical Engineering (ME). The program is accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (EAC/ABET). 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 nearly all industries, including companies or government agencies associated with aerospace, automotive, energy, petroleum, manufacturing, 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 five areas of concentration within the Mechanical Engineering program are:

1. General Mechanical Engineering
2. Energy, Thermal and Fluid Systems
3. Manufacturing Engineering and Systems
4. Mechanical Systems and Design
5. Mechanics and Materials

The Mechanical Engineering curriculum provides education and basic engineering training in all specializations through the required coursework. Students may develop a degree of specialization and depth in one of the concentration areas through the selection of technical elective courses. The design experience is integrated throughout the program. 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 all 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.
Educational Objectives

The program educational objectives of the Bachelor of Science degree in the Mechanical Engineering program are to provide graduates with opportunities to:

1. Have engineering careers in industry or government and/or pursue advanced graduate or professional degrees.
2. Apply their engineering skills to their careers.
3. Continue to advance their knowledge, communication and leadership skills by using technology, continuing education, solving problems, and serving in technical or professional societies.
4. Apply their understanding of societal, environmental, and ethical issues to their professional activities.

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.

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. For a complete listing of courses that satisfy the Core Curriculum requirements, see chapter 1 of this catalog.

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 1951 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 as well as one of the major requirements.

General Engineering Requirements

Students seeking the Bachelor of Science degree in Mechanical Engineering must complete the following 22 semester credit hours:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHE 1103</td>
<td>General Chemistry I</td>
<td>3</td>
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<tr>
<td>EGR 2323</td>
<td>Applied Engineering Analysis I</td>
<td>3</td>
</tr>
<tr>
<td>MAT 1214</td>
<td>Calculus I</td>
<td>4</td>
</tr>
<tr>
<td>MAT 1224</td>
<td>Calculus II</td>
<td>4</td>
</tr>
<tr>
<td>PHY 1943</td>
<td>Physics for Scientists and Engineers I</td>
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<tr>
<td>&amp; PHY 1951</td>
<td>and Physics for Scientists and Engineers I Laboratory</td>
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<td>PHY 1963</td>
<td>Physics for Scientists and Engineers II</td>
<td>4</td>
</tr>
<tr>
<td>&amp; PHY 1971</td>
<td>and Physics for Scientists and Engineers II Laboratory</td>
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</tr>
</tbody>
</table>

Total Credit Hours: 22

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 1403    Technical Communication    3
EGR 2103    Statics    3
EGR 2513    Dynamics    3
EGR 3323    Applied Engineering Analysis II    3
ME 1302    Introduction to Mechanical Engineering    2
ME 1402    Mechanical Engineering Practice and Graphics    2
ME 2173    Numerical Methods    3
ME 3113    Measurements and Instrumentation    3
ME 3244    Materials Engineering and Laboratory    4
ME 3263    Manufacturing Engineering    3
ME 3293    Thermodynamics I    3
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 4313    Heat Transfer    3
ME 4543    Mechatronics    3
ME 4733    Mechanical Engineering Laboratory    3
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 concentration listed below. Students may also select courses to earn a Certificate in Oil/Gas.

C. Approved mathematics or basic science elective courses

Select 3 semester credit hours of approved mathematics or basic science elective courses. A list of acceptable courses is available in the College of Engineering Undergraduate Advising Center.

Concentration: 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
**Concentration: Manufacturing Engineering and Systems**
ME 4563  Computer Integrated Manufacturing  
ME 4573  Facilities Planning and Design  
ME 4583  Enterprise Process Engineering  

**Concentration: Mechanical Systems and Design**
ME 3323  Mechanical Vibration  
ME 3513  Mechanism Design  
ME 4433  Machine Element Design II  
ME 4553  Automotive Vehicle Dynamics  
ME 4723  Reliability and Quality Control in Engineering Design  
ME 4773  Fundamentals of Robotics  

**Concentration: Mechanics and Materials**
ME 4243  Intermediate Materials Engineering  
ME 4603  Finite Element Analysis  
ME 4963  Mechanical Engineering Applications to Biomedical Systems  

**Concentration: General Mechanical Engineering**
Courses selected from any of the previous areas  
EGR 4993  Honors Research  
ME 4953  Special Studies in Mechanical Engineering  

Graduate Courses in Mechanical Engineering  

Total Credit Hours: 76

1 With prior approval, these courses may be used as a technical elective.  
2 Graduate courses require approval. Forms are available in the College of Engineering Undergraduate Advising Center.

**B.S. in Mechanical Engineering – Recommended Four-Year Academic Plan**

**First Year**

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>AIS 1203  Academic Inquiry and Scholarship</td>
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</tr>
<tr>
<td>CHE 1103  General Chemistry I</td>
<td>3</td>
</tr>
<tr>
<td>MAT 1214  Calculus I (core and major)</td>
<td>4</td>
</tr>
<tr>
<td>ME 1302  Introduction to Mechanical Engineering</td>
<td>2</td>
</tr>
<tr>
<td>WRC 1013  Freshman Composition I (core)</td>
<td>3</td>
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<tr>
<th>Spring</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>MAT 1224  Calculus II</td>
<td>4</td>
</tr>
<tr>
<td>ME 1402  Mechanical Engineering Practice and Graphics</td>
<td>2</td>
</tr>
<tr>
<td>WRC 1023  Freshman Composition II (core)</td>
<td>3</td>
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<tr>
<td>Course Code</td>
<td>Course Title</td>
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</tr>
<tr>
<td>PHY 1943</td>
<td>Physics for Scientists and Engineers I (core and major)</td>
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<tr>
<td>PHY 1951</td>
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**Second Year**

**Fall**

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<tr>
<td>EGR 2103</td>
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<tr>
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<td>Applied Engineering Analysis I</td>
<td>3</td>
</tr>
<tr>
<td>ME 2173</td>
<td>Numerical Methods</td>
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</tr>
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<td>Physics for Scientists and Engineers II (core and major)</td>
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<td>PHY 1971</td>
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<td>American History core</td>
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**Spring**

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</tr>
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<td>ME 3244</td>
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<tr>
<td>ME 3293</td>
<td>Thermodynamics I</td>
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<td>Math/Science elective</td>
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**Third Year**

**Fall**

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<tr>
<td>EE 2213</td>
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<td>Dynamic Systems and Control</td>
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<td>Mechanics of Solids</td>
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<td>ME 4293</td>
<td>Thermodynamics II</td>
<td>3</td>
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<td>Language, Philosophy &amp; Culture core</td>
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**Spring**

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<td>POL 1013</td>
<td>Introduction to American Politics (core)</td>
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<td>Creative Arts core</td>
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</table>

**Fourth Year**

**Fall**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ME 4543</td>
<td>Mechatronics</td>
<td>3</td>
</tr>
<tr>
<td>ME 4733</td>
<td>Mechanical Engineering Laboratory</td>
<td>3</td>
</tr>
<tr>
<td>ME 4812</td>
<td>Senior Design I</td>
<td>2</td>
</tr>
<tr>
<td>ME Technical elective</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>
### 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:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ME 3113</td>
<td>Measurements and Instrumentation</td>
<td>3</td>
</tr>
<tr>
<td>ME 3823</td>
<td>Machine Element Design I</td>
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</table>

ME Electives. Three courses selected from the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>ME 3323</td>
<td>Mechanical Vibration</td>
</tr>
<tr>
<td>ME 4373</td>
<td>Separation Processes</td>
</tr>
<tr>
<td>ME 4643</td>
<td>Pressure Vessel and Piping Design</td>
</tr>
<tr>
<td>ME 4653</td>
<td>Oil and Gas Engineering and Reservoir Geomechanics</td>
</tr>
</tbody>
</table>

**Total Credit Hours:** 15

To earn an Oil/Gas certificate, 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 in Oil/Gas are eligible to seek...
enrollment in the certificate program. An undergraduate wishing to enroll in the certificate program should contact the Mechanical Engineering Certificate Program Advisor and request permission to enter into the program. Approval is needed to enter into a certificate program and must be granted by the Certificate Program Advisor and the Dean of the College of Engineering.

Students not currently admitted to UTSA who wish to earn an undergraduate Certificate in Oil/Gas 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 desire to pursue the requirements for an undergraduate Oil/Gas certificate program. 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 of Engineering.

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 a graduate certificate program.

**Mechanical Engineering (ME) Courses**

Department of Mechanical Engineering, College of Engineering

**ME 1302. Introduction to Mechanical Engineering. (2-0) 2 Credit Hours. (TCCN = ENGR 1201)**

Engineering ethics, principles and fundamentals of engineering design, decision-making processes in cases of mechanical engineering design. (Formerly ME 1301. Credit cannot be earned for both ME 1302 and ME 1301.).

**ME 1402. Mechanical Engineering Practice and Graphics. (1-3) 2 Credit Hours. (TCCN = ENGR 1204)**

Prerequisite: ME 1302. Introduction to 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 1403. Credit cannot be earned for both ME 1402 and ME 1403.) (Formerly titled “Engineering Graphics.”).

**ME 2173. Numerical Methods. (3-0) 3 Credit Hours.**

Prerequisite: MAT 1224. Introduction to the fundamentals of syntax and debugging techniques for interpreted and structured programming languages with an emphasis on engineering applications. Cross-platform interchange of data and use of visualization tools for effective communication of computational results. Error and computer arithmetic, root finding, interpolation and extrapolation, curve-fitting, matrix manipulation, numerical integration, solution methods for systems of linear equations and differential equations. (Formerly ME 3173. Credit cannot be earned for both ME 3173 and ME 2173.).

**ME 3113. Measurements and Instrumentation. (3-1) 3 Credit Hours.**

Prerequisites: EE 2213, EGR 2513, PHY 1911, and PHY 1931. Fundamentals of measurement systems, descriptive statistics, probability, error, error propagation, confidence intervals, hypothesis testing, correlation, linear regression, data acquisition.
ME 3244. Materials Engineering and Laboratory. (3-3) 4 Credit Hours.
Prerequisites: CHE 1103 and EGR 2103. Fundamentals in structures, properties, fabrication, and mechanical behavior of engineering materials. Investigation of the properties of engineering materials, with emphasis on metals, sample preparation, metallography, and foundry processes. (Formerly ME 3241 and ME 3243. Credit cannot be earned for ME 3244 and ME 3241/ME 3243. Prior completion of ME 3241 and ME 3243 can be substituted for this course.).

ME 3263. Manufacturing Engineering. (3-0) 3 Credit Hours.
Prerequisite: EGR 2513. An integrated coverage of mechanical properties of materials, tolerances, measurement and quality assurance, manufacturing processes, and manufacturing systems, fundamental definitions, design for manufacturing, and mathematical models, hands-on applications related to measurement and manufacturing processes. (Formerly titled “Materials Processing.”).

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.

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.

ME 3513. Mechanism Design. (3-0) 3 Credit Hours.
Prerequisite: EGR 2513. Introduction to mechanisms, graphical and linear analytical methods for kinematic synthesis mechanisms; cam design; gearing fundamentals, force analysis, ordinary and planetary gear trains; and computer-aided design projects.

ME 3543. Dynamic Systems and Control. (3-0) 3 Credit Hours.
Prerequisites: EE 2213, EGR 2513 and EGR 3323. 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.).

ME 3663. Fluid Mechanics. (3-0) 3 Credit Hours.
Prerequisites: EGR 2323, EGR 2513 and 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.

ME 3813. Mechanics of Solids. (3-0) 3 Credit Hours.
Internal forces and deformations in solids, stress, strain and their relations, torsion, stresses and deflections in beams, and elastic behavior of columns.

ME 3823. Machine Element Design I. (3-0) 3 Credit Hours.
Prerequisites: ME 1402, ME 3244 (or ME 3241 and ME 3243 in previous catalogs), and ME 3813. Introduction to design of machine elements, pressurized cylinders, press and shrink fits, curved beams and contact stresses, static and fatigue theories of failure, shafts and shaft components, welded and bolted
ME 4183. Compressible Flow and Propulsion Systems. (3-0) 3 Credit Hours.
Prerequisites: ME 3293 and ME 3663. Application of mass, energy, and force balance to compressible fluids, analysis of one-dimensional steady flow, isentropic flow, adiabatic flow, flow with heat addition, supersonic flow, and shock waves. Introduction to the analysis and design of air-breathing engines for aeronautical transportation. (Formerly EGR 4183. Credit cannot be earned for both ME 4183 and EGR 4183.).

ME 4243. Intermediate Materials Engineering. (3-0) 3 Credit Hours.
Prerequisites: ME 3244 (or ME 3241 and ME 3243 in previous catalogs) and ME 3813. Selected topics in macroscopic and microscopic aspects of the mechanical behavior of metals, ceramics, polymers and composites, introduction to dislocation theory, temperature dependent deformations, engineering failures, and fracture mechanics.

ME 4293. Thermodynamics II. (3-0) 3 Credit Hours.
Prerequisites: EGR 2323 and ME 3293. Energy and availability analysis, reactive and nonreactive mixtures, moist air properties, psychometric systems and analysis, vapor and gas power cycles, refrigeration and heat-pump cycles, thermodynamic relations, and chemical equilibria.

ME 4313. Heat Transfer. (3-0) 3 Credit Hours.
Prerequisites: EGR 3323 and ME 3663. Generalized potential distribution and gradients, transient and steady heat transfer including conduction, forced and free convection, radiation, and thermal boundary layers.

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.

ME 4343. Heating, Air Conditioning, and Refrigeration Design. (3-0) 3 Credit Hours.
Prerequisites: ME 4293 and ME 4313. Moist air properties, human comfort, solar radiation, heating loads, design selection, construction, and operation of air conditioning equipment, and duct design.

ME 4373. Separation Processes. (3-0) 3 Credit Hours.
Prerequisites: ME 4293 and ME 4313. Rate- and equilibrium-controlled separation, mass transfer, phase equilibrium, absorption, distillation, extraction, adsorption and membranes.

ME 4433. Machine Element Design II. (3-0) 3 Credit Hours.
Prerequisite: ME 3823. Design of spur, helical, bevel and worm gears; journal and rolling bearings; design of couplings, clutches, brakes, and flywheels; and computer-aided design projects.

ME 4543. Mechatronics. (2-3) 3 Credit Hours.
Prerequisites: ME 3113 and ME 3543. Study of electromechanical design as coupled with control systems; integration of sensors; topics in input signal conditions (aliasing, quantization, etc.). Lab will include use of MATLAB® and Simulink®, modeling and hardware-in-the-loop testing.
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.

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.

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.

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.

ME 4593. Alternative Energy Sources. (3-0) 3 Credit Hours.
Prerequisites: ME 4293 and ME 4313. 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.).

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.

ME 4613. Power Plant System Design. (3-0) 3 Credit Hours.
Prerequisites: ME 4293 and ME 4313. 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.

ME 4623. Internal Combustion Engines. (3-0) 3 Credit Hours.
Prerequisites: ME 4293 and ME 4313. 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.

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.

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.
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.

ME 4733. Mechanical Engineering Laboratory. (2-3) 3 Credit Hours.
Prerequisites: ME 3113 and ME 3813. Completion of or concurrent enrollment in ME 4313 is required. Transducers and signal conditioning, strain, force, acceleration, controls, vibration, rotating machinery, fluid flow, heat transfer, thermodynamics, internal combustion engines, and design of experiments. (Formerly ME 4702. Credit cannot be earned for ME 4702 and ME 4733. Prior completion of ME 4702 and ME 4802 can be substituted for this course.).

ME 4773. Fundamentals of Robotics. (3-0) 3 Credit Hours.
Prerequisite: ME 3543. Fundamental analysis and control methods of robot manipulators will be taught in this course. Kinematics and dynamics of robotic systems will be studied. Project for the design and analysis of a robotic system with practical application is expected.

ME 4812. Senior Design I. (2-0) 2 Credit Hours.
Prerequisites: ME 3263, ME 3543 and ME 3823. Completion of or concurrent enrollment in ME 4313, ME 4543 (or ME 3513 in previous catalogs) and ME 4733 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. (Formerly ME 4811. Credit cannot be earned for both ME 4811 and ME 4812.).

ME 4813. Senior Design II. (2-3) 3 Credit Hours.
Prerequisite: 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.

ME 4911. Independent Study. (0-0) 1 Credit Hour.
Prerequisite: 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.

ME 4912. Independent Study. (0-0) 2 Credit Hours.
Prerequisite: 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.

ME 4913. Independent Study. (0-0) 3 Credit Hours.
Prerequisite: 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.
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 6 semester credit hours, regardless of discipline, will apply to a bachelor’s degree.

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.").
7. 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 11 departments in the fine arts, humanities, and social sciences. COLFA is the largest UTSA college. It 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 and 26 minors. 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.
DEPARTMENT OF ANTHROPOLOGY

The Department of Anthropology offers a Bachelor of Arts degree in Anthropology and minors in Anthropology and American Indian Studies. 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 are expected to enroll in the appropriate honors thesis courses 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 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, or service learning as part of their undergraduate program of study. Internships are arranged through the Department Chair 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. 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 Bachelor of Arts 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. For a complete listing of courses that satisfy the Core Curriculum requirements, see chapter 1 of this catalog.

The following four courses satisfy both degree requirements of the major as well as component requirements of the Core Curriculum. 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 not a requirement of
the major in anthropology; however, it will satisfy the Social and Behavioral Sciences component requirement of the Core Curriculum.

**Degree Requirements**

A. Semester credit hours in the major, 27 of which must be at the upper-division level

1. Required courses:
   - ANT 2033  Introduction to Physical 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 chosen in consultation with the student's advisor:
   - Archaeology  3
   - Cultural Anthropology  3
   - Physical Anthropology  3

3. Additional upper-division semester credit hours of anthropology electives, excluding ANT 4913 Independent Study, chosen in consultation with the student's advisor  18

B. Upper-division coursework from another discipline that supports the study of anthropology  9

The support area must form a cohesive program of study and must be chosen in consultation with the student’s faculty advisor after completion of 12 semester credit hours of anthropology. Recommended areas for support work include, but are not limited to, foreign languages, statistics, computer science, earth sciences, environmental sciences, and social sciences. The student should file a statement of intent and the list of courses to be taken in the support area with the undergraduate advisor for Anthropology in the College of Liberal and Fine Arts Advising Center.

C. Electives
   Select 30 semester credit hours of electives  30

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 advisors in the College of Liberal and Fine Arts Undergraduate Advising Center 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**

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<tr>
<td>ANT 2043</td>
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<tr>
<td>HIS 1043, 1053, or 2053</td>
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<tr>
<td>WRC 1013</td>
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<tr>
<td>Other core course or free elective</td>
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**Spring**

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<td>ANT 2033</td>
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<td>HIS 1043, 1053, or 2053</td>
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<tr>
<td>WRC 1023</td>
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<td>Mathematics core</td>
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**Second Year**

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<td>POL 1013</td>
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<td>Free elective</td>
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**Spring**

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<tr>
<td>Upper-division Cultural Anthropology course</td>
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**Third Year**

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<td>Upper-division ANT elective</td>
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<td>Upper-division Physical Anthropology course</td>
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<tr>
<td>Upper-division free elective</td>
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<tr>
<td>Upper-division support work</td>
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**Spring**

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<td>Upper-division ANT elective</td>
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<tr>
<td>Free elective</td>
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</tbody>
</table>
Minor in Anthropology

All students pursuing a Minor in Anthropology must complete 18 semester credit hours.

A. Select 3 of the following:  
   ANT 2033 Introduction to Physical Anthropology  
   ANT 2043 Introduction to Archaeology  
   ANT 2053 Introduction to Cultural Anthropology  
   ANT 2063 Language, Thought, and Culture  

B. Additional upper-division semester credit hours  
   Archaeology upper-division course  3  
   Cultural anthropology upper-division course  3  
   Physical 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 the undergraduate advisor for Anthropology in the College of Liberal and Fine Arts Advising Center.
Minor in American Indian Studies

Eighteen (18) semester credit hours are required for the Minor in American Indian Studies, 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 America 3
- **ANT 3153** Indians of the Great Plains 3
- **ANT 3203** Native North Americans 3
- **ANT 3253** The Archeology of South America 3
- **ANT 3263** Archaeology of North America 3
- **ANT 3273** Civilizations of Mexico 3
- **ANT 3363** Indians of Mesoamerica 3
- **ANT 3383** Indians of Texas 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 the undergraduate advisor for Anthropology in the College of Liberal and Fine Arts Advising Center.

**Anthropology (ANT) Courses**

Department of Anthropology, College of Liberal and Fine Arts

**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. ANT 1013 fulfills all required learning objectives for the Social and Behavioral Sciences component of the core curriculum.

**ANT 1103. 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.

**ANT 2033. Introduction to Physical 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.

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.

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.

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.

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.

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.

ANT 3193. Drug Cultures. (3-0) 3 Credit Hours.
This course will examine different aspects of Western and non-Western drug cultures in historical and contemporary society. Topics may include traditional, medicinal and illicit drug use, food drugs, ethnomedicine, spirituality and altered states, indigenous property rights, as well as the drug trade, markets and globalization.

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.
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.”).

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.

ANT 3253. The Archeology 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.

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.

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.”).

ANT 3293. Analytical Methods in Anthropology. (3-0) 3 Credit Hours.
Prerequisites: Completion of Core Curriculum requirement in mathematics recommended; ANT 2043 or ANT 2053 recommended. Qualitative and quantitative analysis and computer applications as used in anthropological research.

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.

ANT 3333. Physical Anthropology of Human Populations. (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.
ANT 3343. The Contemporary Pacific. (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.

ANT 3363. Indians of Mesoamerica. (3-0) 3 Credit Hours.  
Prerequisite: ANT 1013 or ANT 2053 recommended. Survey of the indigenous peoples of Mexico and Central America, including Maya, Zapotec, Mixtec, and Nahua (Aztec) cultures, from before the Spanish conquest to the present. The course emphasizes interactions between native peoples and the Spanish colonial and modern national regimes and processes of culture change.

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.

ANT 3403. Field Course in Archaeology. (0-0) 3 Credit Hours.  
Prerequisites: Upper-division standing, consent of instructor, and at least one previous anthropology or archaeology course. 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.

ANT 3406. Field Course in Archaeology. (0-0) 6 Credit Hours.  
Prerequisites: Upper-division standing, consent of instructor, and at least one previous anthropology or archaeology course. 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.

ANT 3413. The Fieldwork Experience. (3-0) 3 Credit Hours.  
Prerequisite: ANT 2053 or consent of instructor. Drawing upon the field experiences of major figures in anthropology, the course explores the scientific and humanistic aspects of research in cultural anthropology. Ethnographic methods and techniques are discussed, with emphasis on participant observation and ethical considerations.

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.

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.
ANT 3523. Medical Anthropology. (3-0) 3 Credit Hours.
Prerequisite: ANT 1013, ANT 2033, or ANT 2053 recommended. This course approaches the study of health and disease patterns in human populations through the combined perspectives of culture, biology, and ecology.

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.

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.

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.”).

ANT 3723. Ancient Civilizations. (3-0) 3 Credit Hours.
Prerequisite: ANT 1013 or ANT 2043 recommended. Cross-cultural exploration of the development of ancient civilizations and their social, economic, and political institutions, using archaeological remains, ancient art, and ancient writing. The course compares ancient civilizations of Mesoamerica, South America, Africa, and Asia. (Formerly titled “Ancient Complex Society.”).

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.

ANT 3743. The Anthropology of Cyber Cultures. (3-0) 3 Credit Hours.
Prerequisite: ANT 1013 recommended. This course focuses on the cultural and historical dimensions of cyberspace. Consideration will be given to a variety of topics that may include virtual worlds and gaming, online communities, social networking, the political economy of information as well as cross-cultural theories of identity, location, and space as these apply to cyber cultures.

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.

ANT 3823. Applied Anthropology. (3-0) 3 Credit Hours.
Prerequisite: ANT 1013 or ANT 2053 recommended. Applied cultural anthropology directly addresses the needs and problems of communities and organizations throughout the world. Topics include the history of applied anthropology; a conceptual framework for understanding the different styles of applied research; methods of applied anthropology; domains of applied anthropology: international development, medicine, education, business, criminal justice, and the environment; career options and becoming a professional.

ANT 3833. Indians of Texas. (3-0) 3 Credit Hours.
Prerequisite: ANT 1013 or ANT 2053 recommended. Ethnological survey of the Indian populations of Texas from the early historic period to the present. (Formerly ANT 4133. Credit cannot be earned for both ANT 3833 and ANT 4133.).

ANT 3843. Introduction to Primate Diversity. (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.

ANT 3853. Modern Ape Behavior and Ecology. (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.

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.

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.

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.
ANT 3893. Primate 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.

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 more than one of these courses.).

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.

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.

ANT 4113. Archaeology of Texas. (3-0) 3 Credit Hours.
Prerequisite: ANT 2043, ANT 3263, or ANT 3663 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.

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.

ANT 4143. Primate Feeding Biology. (3-0) 3 Credit Hours.
Prerequisite: ANT 2033, ANT 3843, or ANT 3893 recommended. An investigation into the ecology and evolution of wild primate feeding biology and nutrition. Topics include primate-plant interactions, nutritional requirements, plant defensive chemistry, foraging theory, sensory ecology, evolution of body size and its implications for feeding, and evolution of primate feeding-related anatomy.

ANT 4183. Diet, Nutrition and the Human Brain. (3-0) 3 Credit Hours.
Prerequisite: ANT 2033, ANT 3843, or ANT 3893 recommended. An investigation into the impact of digestion, food and diet on human brain evolution. Topics include a review of macronutrients and metabolism, brain and gut anatomy and physiology, the interactions between the central nervous system and enteric nervous system, food and cognition, and the roles of hunting, meat consumption, and cooking in human evolutionary history.
ANT 4233. Conservation of Primates in Global Perspective. (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.

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.

ANT 4263. Anthropology of Globalization and Development. (3-0) 3 Credit Hours.
Prerequisite: ANT 1013 or ANT 2053 recommended. Anthropological perspectives on the nature, causes, and consequences of social and cultural change, with an emphasis on how local cultures are shaped by and resist the process of globalization and development. (Formerly titled “Social and Cultural Change.”).

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.

ANT 4283. Culture in Theory and Practice. (3-0) 3 Credit Hours.
Prerequisite: ANT 2033, ANT 2043, ANT 2053, or ANT 2063 recommended. Examines philosophical approaches to culture and their applications within anthropology. Readings will include significant theoretical works from within anthropology and influential texts from related disciplines. Case studies will be used to illustrate these perspectives.

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.

ANT 4363. Primate Evolutionary Biology. (3-0) 3 Credit Hours.
Prerequisite: ANT 2033 or consent of Instructor. 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.

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.

ANT 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 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.

**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.

**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.

**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.

**ANT 4953. Special Studies in Anthropology.** *(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.

**ANT 4983. Anthropology Honors Research.** *(0-0) 3 Credit Hours.*
Prerequisites: Enrollment limited to candidates for Department Honors during their last two semesters; 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.

**ANT 4993. Honors Thesis.** *(0-0) 3 Credit Hours.*
Prerequisites: Enrollment limited to candidates for University Honors in Anthropology during their last two semesters; and consent of the Honors College. Supervised research and preparation of an honors thesis. May be repeated once with advisor’s approval.
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 4983 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.

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 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 which 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.

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 at least six original examples or a CD/DVD digital portfolio of artworks completed for each upper-division course taken at another institution for which the student wishes to receive credit.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the Bachelor of Arts 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. For a complete listing of courses that satisfy the Core Curriculum requirements, see chapter 1 of this catalog.

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, or AHC 1133 Survey of Modern Art may be used to satisfy the core requirement in Creative Arts as well as a major requirement.

Major Requirements

A. Required lower-division art and art history and criticism foundation courses

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<tr>
<th>Course</th>
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<tr>
<td>AHC 1113</td>
<td>Survey of Art and Architecture from Prehistoric Times to 1350</td>
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<td>AHC 1123</td>
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<td>AHC 1133</td>
<td>Survey of Modern Art</td>
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<tr>
<td>ART 1003</td>
<td>Two Dimensional Foundations</td>
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<td>ART 1013</td>
<td>Three Dimensional Foundations</td>
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<td>ART 1213</td>
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<td>ART 1223</td>
<td>Drawing II</td>
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B. Additional 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
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 12

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. 6

E. Free Electives
Select 33 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 College of Education and Human Development Advising and Certification Center. 33

Total Credit Hours: 81

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 advisors in the College of Liberal and Fine Arts Undergraduate Advising Center 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 – Four-Year Academic Plan

#### First Year

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<th>Term</th>
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<td><strong>Fall</strong></td>
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<tr>
<td></td>
<td>AHC 1113</td>
<td>Survey of Art and Architecture from Prehistoric Times to 1350 (core and major)</td>
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<td></td>
<td>AIS 1203</td>
<td>Academic Inquiry and Scholarship (core)</td>
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<td></td>
<td>ART 1003</td>
<td>Two Dimensional Foundations</td>
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<td>ART 1213</td>
<td>Drawing I</td>
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<td></td>
<td>WRC 1013</td>
<td>Freshman Composition I (core)</td>
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<td><strong>Spring</strong></td>
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<tr>
<td></td>
<td>AHC 1123</td>
<td>Survey of Art and Architecture in Europe and the New World from 1350 to 1750</td>
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<td>Three Dimensional Foundations</td>
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<td>ART 1223</td>
<td>Drawing II</td>
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<td></td>
<td>WRC 1023</td>
<td>Freshman Composition II (core)</td>
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<td>Mathematics core</td>
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#### Second Year

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<tr>
<td></td>
<td>POL 1013</td>
<td>Introduction to American Politics (core)</td>
<td>3</td>
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<tr>
<td></td>
<td>Foreign Language (semester I)</td>
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<tr>
<td></td>
<td>Lower-division Studio ART Basic</td>
<td>3</td>
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</tr>
<tr>
<td></td>
<td>Life &amp; Physical Sciences core</td>
<td>3</td>
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<tr>
<td><strong>Spring</strong></td>
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<td></td>
<td>ECO 2003, 2013, or 2023  Economic Principles and Issues (core)</td>
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<td>POL 1133</td>
<td>Texas Politics and Society (core)</td>
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<td>Foreign Language (semester II)</td>
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<tr>
<td></td>
<td>Life &amp; Physical Sciences core</td>
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#### Third Year

<table>
<thead>
<tr>
<th>Term</th>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td><strong>Fall</strong></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>HIS 1043, 1053, or 2053 United States History: Pre-Columbus to Civil War Era (core)</td>
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<tr>
<td></td>
<td>Lower-division Studio ART Basic</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Upper-division AHC elective</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Upper-division free elective</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Component Area Option core</td>
<td>3</td>
<td></td>
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<tr>
<td><strong>Spring</strong></td>
<td></td>
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<tr>
<td></td>
<td>HIS 1043, 1053, or 2053 United States History: Pre-Columbus to Civil War Era</td>
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Upper-division AHC elective 3
Upper-division free elective 3
Upper-division free elective 3
Upper-division Studio ART elective 3

**Fourth Year**

<table>
<thead>
<tr>
<th>Semester</th>
<th>Courses</th>
<th>Credits</th>
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<tbody>
<tr>
<td><strong>Fall</strong></td>
<td>Language, Philosophy &amp; Culture core</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Upper-division free elective</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Upper-division free elective</td>
<td>3</td>
</tr>
<tr>
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<td>Upper-division Studio ART elective</td>
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<td>Upper-division Studio ART elective</td>
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<table>
<thead>
<tr>
<th>Semester</th>
<th>Courses</th>
<th>Credits</th>
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<td>Free elective (to meet 120 hour minimum)</td>
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<td>Free elective</td>
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<td>Upper-division free elective</td>
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<tr>
<td></td>
<td>Upper-division free elective</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Upper-division Studio ART elective</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Credit Hours: 120.0

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: ceramics, new media, painting, photography, printmaking, or sculpture. The University is an accredited institutional member of the National Association of Schools of Art and Design.

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 at least six original examples or a CD/DVD digital portfolio of artworks 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 College of Education and Human Development 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).

**Core Curriculum Requirements (42 semester credit hours)**

Students seeking the Bachelor of Fine Arts 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. For a complete listing of courses that satisfy the Core Curriculum requirements, see chapter 1 of this catalog.

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, or AHC 1133 Survey of Modern Art may be used to satisfy the core requirement in Creative Arts as well as a major requirement.

**Major Requirements**

**A. Specifically required lower-division studio art and art history foundation courses completed as part of the first 60 hours of the curriculum**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AHC 1113</td>
<td>Survey of Art and Architecture from Prehistoric Times to 1350</td>
<td>3</td>
</tr>
<tr>
<td>AHC 1123</td>
<td>Survey of Art and Architecture in Europe and the New World from 1350 to 1750</td>
<td>3</td>
</tr>
<tr>
<td>AHC 1133</td>
<td>Survey of Modern Art</td>
<td>3</td>
</tr>
<tr>
<td>ART 1003</td>
<td>Two Dimensional Foundations</td>
<td>3</td>
</tr>
<tr>
<td>ART 1013</td>
<td>Three Dimensional Foundations</td>
<td>3</td>
</tr>
<tr>
<td>ART 1213</td>
<td>Drawing I</td>
<td>3</td>
</tr>
<tr>
<td>ART 1223</td>
<td>Drawing II</td>
<td>3</td>
</tr>
<tr>
<td>ART 2113</td>
<td>Painting: Basic</td>
<td>3</td>
</tr>
<tr>
<td>ART 2223</td>
<td>New Media: Basic</td>
<td>3</td>
</tr>
<tr>
<td>ART 2313</td>
<td>Photography: Basic</td>
<td>3</td>
</tr>
<tr>
<td>ART 2413</td>
<td>Printmaking: Basic</td>
<td>3</td>
</tr>
<tr>
<td>ART 2613</td>
<td>Sculpture: Basic</td>
<td>3</td>
</tr>
<tr>
<td>ART 2713</td>
<td>Ceramics: Basic</td>
<td>3</td>
</tr>
</tbody>
</table>

**B. Upper-division art courses including**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART 3033</td>
<td>Contemporary Studio: Concepts and Practice</td>
<td>3</td>
</tr>
<tr>
<td>ART 4983</td>
<td>Senior Seminar and Exhibition</td>
<td>3</td>
</tr>
</tbody>
</table>

Upper-division art courses in one of the following specialized areas of study: ceramics, drawing, new media, painting, photography, printmaking, or sculpture.

**C. Upper-division art history and criticism courses**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AHC 3113</td>
<td>Contemporary Art</td>
<td>3</td>
</tr>
</tbody>
</table>

Select 6 elective hours of upper-division art history and criticism courses. 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.

D. Art courses Electives
Select 12 additional semester credit hours of art course electives, at least 9 hours of which must be upper-division. The ART course prefix must precede course numbers for all classes used to fulfill these degree requirements.

Total Credit Hours: 81

**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 advisors in the College of Liberal and Fine Arts Undergraduate Advising Center 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**

<table>
<thead>
<tr>
<th>First Year</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fall</strong></td>
<td></td>
</tr>
<tr>
<td>AHC 1113</td>
<td>Survey of Art and Architecture from Prehistoric Times to 1350 (core and major) ¹</td>
</tr>
<tr>
<td>AIS 1203</td>
<td>Academic Inquiry and Scholarship (core)</td>
</tr>
<tr>
<td>ART 1003</td>
<td>Two Dimensional Foundations ¹</td>
</tr>
<tr>
<td>ART 1213</td>
<td>Drawing I ¹</td>
</tr>
<tr>
<td>WRC 1013</td>
<td>Freshman Composition I (core)</td>
</tr>
<tr>
<td><strong>Spring</strong></td>
<td></td>
</tr>
<tr>
<td>AHC 1123</td>
<td>Survey of Art and Architecture in Europe and the New World from 1350 to 1750 ¹</td>
</tr>
<tr>
<td>ART 1013</td>
<td>Three Dimensional Foundations ¹</td>
</tr>
<tr>
<td>ART 1223</td>
<td>Drawing II ¹</td>
</tr>
<tr>
<td>WRC 1023</td>
<td>Freshman Composition II (core)</td>
</tr>
<tr>
<td>Mathematics core</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Second Year</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fall</strong></td>
<td></td>
</tr>
<tr>
<td>AHC 1133</td>
<td>Survey of Modern Art ¹</td>
</tr>
<tr>
<td>ART 2113</td>
<td>Painting: Basic</td>
</tr>
</tbody>
</table>
ART 2413       Printmaking: Basic            3
ECO 2003, 2013, or 2023  Economic Principles and Issues (core)  3
Life & Physical Sciences core  3

**Spring**
ART 2223       New Media: Basic            3
ART 2313       Photography: Basic          3
HIS 1043, 1053, or 2053 United States History: Pre-Columbus to Civil War Era (core)  3
Life & Physical Sciences core  3
Upper-division ART specialization  3

**Third Year**

**Fall**
AHC 3113       Contemporary Art            3
ART 2613       Sculpture: Basic             3
HIS 1043, 1053, or 2053 United States History: Pre-Columbus to Civil War Era (core)  3
POL 1013       Introduction to American Politics (core)  3
Upper-division ART specialization  3

**Spring**
ART 2713       Ceramics: Basic              3
POL 1133       Texas Politics and Society (core)  3
Upper-division AHC elective  3
Upper-division ART elective  3
Upper-division ART specialization  3

**Fourth Year**

**Fall**
ART 3033       Contemporary Studio: Concepts and Practice  3
Language, Philosophy & Culture core  3
Upper-division AHC elective  3
Upper-division ART elective  3
Upper-division ART specialization  3

**Spring**
ART 4983       Senior Seminar and Exhibition  3
ART Elective  3
Upper-division ART Elective  3
Upper-division ART specialization  3
Component Area Option core  3

Total Credit Hours: 120.0

1 Must be completed with a grade of “C-” or better.
Bachelor of Arts Degree in Art History and Criticism

The Bachelor of Arts degree in Art History and Criticism is awarded upon the completion of 120 hours, of which, 42 hours are Core Curriculum requirements. Thirty-nine of the total semester credit hours required for the degree must be at the upper-division level.

The B.A. 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.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the Bachelor of Arts 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. For a complete listing of courses that satisfy the Core Curriculum requirements, see chapter 1 of this catalog.

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, or AHC 1133 Survey of Modern Art may be used to satisfy the core requirement in Creative Arts as well as a major requirement.

Major Requirements

A. Lower-division art history and criticism foundation courses
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

B. Upper-division art history and criticism courses
AHC 3113 Contemporary Art 3
AHC 3423 Arts of Ancient America 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 3
ART 1013 Three Dimensional Foundations 3
ART 1213 Drawing I 3

D. Support work
Select 9 additional semester credit hours in support work to be chosen from offerings within the College of Liberal and Fine Arts, which may include 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.

E. Electives
Select 33 semester credit hours of electives, at least 21 of which must be upper-division, and including as many semesters of a single language other than English as are necessary for the completion of the fourth UTSA semester course of that language.

Total Credit Hours: 75

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, and the 9 hours of support work.

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 advisors in the College of Liberal and Fine Arts Undergraduate Advising Center 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

<table>
<thead>
<tr>
<th>First Year</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td><strong>Fall</strong></td>
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<tr>
<td>AHC 1113</td>
<td>Survey of Art and Architecture from Prehistoric Times to 1350 (core and major) 1</td>
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<tr>
<td>AIS 1203</td>
<td>Academic Inquiry and Scholarship (core)</td>
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<td>ART 1003</td>
<td>Two Dimensional Foundations</td>
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<tr>
<td>ART 1213</td>
<td>Drawing I</td>
</tr>
<tr>
<td>WRC 1013</td>
<td>Freshman Composition I (core)</td>
</tr>
<tr>
<td><strong>Spring</strong></td>
<td></td>
</tr>
<tr>
<td>AHC 1123</td>
<td>Survey of Art and Architecture in Europe and the New World from 1350 to 1750 1</td>
</tr>
<tr>
<td>ART 1013</td>
<td>Three Dimensional Foundations</td>
</tr>
<tr>
<td>WRC 1023</td>
<td>Freshman Composition II (core)</td>
</tr>
<tr>
<td>Language (semester I)</td>
<td>3-4</td>
</tr>
<tr>
<td>Mathematics core</td>
<td>3</td>
</tr>
</tbody>
</table>
### Second Year

**Fall**
- AHC 1133  Survey of Modern Art $^1$  
  Language (semester II)  
  Language, Philosophy & Culture core  
  Life & Physical Sciences core  
  Support work  

**Spring**
- ECO 2003, 2013, or 2023  Economic Principles and Issues (core)  
- POL 1013  Introduction to American Politics (core)  
  Language (semester III)  
  Life & Physical Sciences core  
  Upper-division AHC  

### Third Year

**Fall**
- POL 1133  Texas Politics and Society (core)  
  Language (semester IV)  
  Support work  
  Upper-division AHC  
  Component Area Option core  

**Spring**
- HIS 1043, 1053, or 2053  United States History: Pre-Columbus to Civil War Era (core)  
  Support work  
  Upper-division AHC  
  Upper-division free elective  
  Upper-division free elective  

### Fourth Year

**Fall**
- HIS 1043, 1053, or 2053  United States History: Pre-Columbus to Civil War Era (core)  
  Upper-division AHC  
  Upper-division AHC  
  Upper-division free elective  
  Upper-division free elective  

**Spring**
- Free elective (to meet 120 hour minimum)  
  Upper-division AHC  

$^1$
Upper-division free elective 3
Upper-division free elective 3
Upper-division free elective 3

Total Credit Hours: 120.0

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:

- 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:

- AHC 3113 Contemporary Art
- AHC 3423 Arts of Ancient America
- AHC 3523 Latin American Art
- AHC 3523 Latin American Art
- AHC 4333 Topics in Art History and Criticism
- AHC 4933 Art Gallery and Museum Internship

Total Credit Hours: 18
Art (ART) Courses
Department of Art and Art History, College of Liberal and Fine Arts

NOTE: Due to the instructional format of studio/laboratory classes, auditors will not be approved for 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.”).

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.”).

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.

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 be applied to the Creative Arts Core Curriculum requirement for non-art majors. May not be applied to the degree requirements for a major in art.

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.

ART 1223. Drawing II. (0-6) 3 Credit Hours. (TCCN = ARTS 1317)
Prerequisites: 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.
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.

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, providing an opportunity to learn a broad range of skills and techniques such as the fundamentals of Adobe Photoshop® and Illustrator®, preparation for printing, digital still cameras, scanning, and CD burning. Basic digital concepts covered include the operating system, storage media, directory structure, bitmap vs. vector graphic, and file conversions.

ART 2313. Photography: Basic. (0-6) 3 Credit Hours. (TCCN = ARTS 2348)
Prerequisite: ART 1003. This introductory level course will offer instruction on camera controls, black & white and color image development in a 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. Projects emphasize both aesthetic and conceptual development through the introduction of historic and contemporary photographic genres. Students must have access to a digital SLR camera. Previous computer experience is helpful, but not required. Transfer students who have not had experience with digital darkroom must enroll in this course before proceeding to Photography: Intermediate and Advanced Topics (ART 3513 and ART 4533). (Formerly ART 2513.).

ART 2413. Printmaking: Basic. (0-6) 3 Credit Hours. (TCCN = ARTS 2333)
Prerequisites: ART 1003 and ART 1223. Introduction to printmaking processes, concepts, and materials.

ART 2613. Sculpture: Basic. (0-6) 3 Credit Hours. (TCCN = ARTS 2326)
Prerequisite: ART 1013. Instruction in basic sculptural concepts and materials.

ART 2713. Ceramics: Basic. (0-6) 3 Credit Hours. (TCCN = ARTS 2346)
Prerequisite: ART 1003. 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.

ART 3023. Color Theory and Practice. (0-6) 3 Credit Hours.
Prerequisites: ART 1003, ART 1013, and ART 1223. 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.

ART 3033. Contemporary Studio: Concepts and Practice. (0-6) 3 Credit Hours.
Prerequisites: 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 the 1970s to the present. Projects are intended to encourage collaborative efforts and nontraditional solutions. Required of all B.F.A. degree candidates.
ART 3113. Painting II. (0-6) 3 Credit Hours.
Prerequisites: ART 1003, 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.

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.

ART 3223. Drawing: Figure. (0-6) 3 Credit Hours.
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.

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.

ART 3513. Photography: Intermediate. (0-6) 3 Credit Hours.
Prerequisite: ART 2313. Students will build on technical knowledge through introduction of 35mm and medium film formats as well as black & white techniques and laboratory procedures. Students will 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. This course cannot be repeated for additional credit.

ART 4033. Studio Art Problems. (0-6) 3 Credit Hours.
Prerequisite: Satisfactory completion of any two 2000-level art courses. 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.

ART 4133. Painting / Drawing IV. (0-6) 3 Credit Hours.
Prerequisites: ART 3133 or ART 3233 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.

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.”).

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.”).

ART 4433. Printmaking. (0-6) 3 Credit Hours.
Prerequisite: 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.

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, 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 must enroll in ART 2313 and ART 3513 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 process(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.”).

ART 4673. Sculpture. (0-6) 3 Credit Hours.
Prerequisites: ART 1003 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 process(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.

**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 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 ceramics especially directed towards the interests and investigations
of the student.

**ART 4833. Internship in the Visual Arts. (0-0) 3 Credit Hours.**
Prerequisite: Permission in writing (departmental form available). 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.”).

**ART 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 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.

**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.
ART 4983. 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.

Art History and Criticism (AHC) Courses
Department of Art and Art History, College of Liberal and Fine Arts

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.

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.

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.

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.).

AHC 3423. Arts of Ancient America. (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 the Western Hemisphere. (Formerly titled “Pre-Columbian Art and Architecture of Mesoamerica.”).

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.

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.
AHC 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 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.

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 credit. Enrollment limited to juniors and seniors with declared major or minor in Art History and Criticism.
DEPARTMENT OF COMMUNICATION

The Department of Communication offers a Bachelor of Arts degree and a minor in Communication. Honors may also be earned in Communication. If a student majors in Communication, he or she may choose to concentrate his or her coursework in either Public Relations or Digital Communication.

Declaration of Major Policy

Before declaring a major in Communication, students must complete the pre-Communication sequence detailed below with a “C–” or better in each course. After satisfactory completion of pre-Communication sequence, students seeking a B.A. in Communication must declare their major by submitting a Declaration of Major form to the College of Liberal and Fine Arts Advising Center. Students may not enroll in specified 3000- and 4000-level courses in the Department of Communication before declaring a major.

Direct Admission Criteria

Transfer students who have completed transferable college credit in courses equivalent to the 18-semester-credit-hour pre-Communication sequence with a “C-” or better in each course will be directly admitted to the Communication major.

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.

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 or COM 4933 Internship in Communication.

Pre-Communication Sequence

In order to declare a Communication major, students must first earn a grade of “C–” or better in each course in the pre-Communication sequence that includes COM 2113 Public Speaking, COM 3023 Foundations of Communication, COM 3073 Conduct of Communication Inquiry, COM 3083 Language and Communication Theory, COM 3553 Intercultural Communication or COM 3563 International Communication, and ENG 2413 Technical Writing. Each COM course may be taken no more than three (3) times to improve a grade (however, students should refer to the UTSA Information Bulletin for the potential consequences of repeating courses).

Students who declare a concentration in Public Relations or Digital Communication must complete each course required for the concentration with a grade of “C–” or better.
Core Curriculum Requirements (42 semester credit hours)

Students seeking the Bachelor of Arts 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. For a complete listing of courses that satisfy the Core Curriculum requirements, see chapter 1 of this catalog.

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.

Degree Requirements

A. Pre-Communication Sequence

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>COM 2113</td>
<td>Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>COM 3023</td>
<td>Foundations of Communication</td>
<td>3</td>
</tr>
<tr>
<td>COM 3073</td>
<td>Conduct of Communication Inquiry</td>
<td>3</td>
</tr>
<tr>
<td>COM 3083</td>
<td>Language and Communication Theory</td>
<td>3</td>
</tr>
<tr>
<td>COM 3553</td>
<td>Intercultural Communication</td>
<td>3</td>
</tr>
<tr>
<td>or COM 3563</td>
<td>International Communication</td>
<td>3</td>
</tr>
<tr>
<td>ENG 2413</td>
<td>Technical Writing</td>
<td>3</td>
</tr>
</tbody>
</table>

B. Single foreign language

Select 6 semester credit hours in a single foreign language

6

C. Free Electives

Select 15 semester credit hours of free electives

15

Total Credit Hours: 39

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

COM 4813 Theory and Practice of Social Interaction

3

C. Approved support work

Select 15 semester credit hours of approved support work in one of the following areas, 9 semester credit hours of which must be at the upper-division level:
intercultural/international studies
English language and composition, philosophy, and visual arts
social and behavioral sciences
business, management, marketing, and information systems
other subjects as may be individually justified by the student and approved by the undergraduate advisor

Total Credit Hours: 39

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 advisors in the College of Liberal and Fine Arts Undergraduate Advising Center 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

<table>
<thead>
<tr>
<th>First Year</th>
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</thead>
<tbody>
<tr>
<td><strong>Fall</strong></td>
</tr>
<tr>
<td>AIS 1203</td>
</tr>
<tr>
<td>HIS 1043, 1053, or 2053</td>
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<tr>
<td>WRC 1013</td>
</tr>
<tr>
<td>Foreign Language (semester I) (core)</td>
</tr>
<tr>
<td>Mathematics core</td>
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<tr>
<td><strong>Spring</strong></td>
</tr>
<tr>
<td>COM 2113</td>
</tr>
<tr>
<td>HIS 1043, 1053, or 2053</td>
</tr>
<tr>
<td>WRC 1023</td>
</tr>
<tr>
<td>Foreign Language (semester II)</td>
</tr>
<tr>
<td>Life &amp; Physical Sciences core</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Second Year</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fall</strong></td>
</tr>
<tr>
<td>COM 3023</td>
</tr>
<tr>
<td>COM 3083</td>
</tr>
<tr>
<td>ENG 2413</td>
</tr>
<tr>
<td>POL 1013</td>
</tr>
<tr>
<td>Life &amp; Physical Sciences core</td>
</tr>
</tbody>
</table>
### Spring
- **COM 3073** Conduct of Communication Inquiry 1 3
- **COM 3553 or 3563** Intercultural Communication 1 3
- **POL 1133** Texas Politics and Society (core) 3
- Free elective 3
- Social and Behavioral Sciences core 3

### Third Year

#### Fall
- Free elective 3
- Free elective 3
- Support work 3
- Upper-division COM elective 3
- Upper-division COM elective 3

#### Spring
- Creative Arts core 3
- Free elective 3
- Upper-division COM elective 3
- Upper-division COM elective 3
- Upper-division support work 3

### Fourth Year

#### Fall
- COM elective 3
- Free elective 3
- Support work/Free elective 3
- Upper-division COM elective 3
- Upper-division support work 3

#### Spring
- **COM 4813** Theory and Practice of Social Interaction 3
- COM elective 3
- Free elective 3
- Free elective (to meet 120 hour minimum) 3-1
- Upper-division support work 3

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**Total Credit Hours: 120.0**

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 Public Relations, COM 3533 Writing for Public Relations, COM 3623 Commercial Publications, COM 4523 Case Studies in Public Relations, and COM 4533 Public Relations Planning and Campaigns with a grade of “C–” or better in each course.

A. Public Relations Concentration courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>COM 3523</td>
<td>Public Relations</td>
<td>3</td>
</tr>
<tr>
<td>COM 3533</td>
<td>Writing for Public Relations</td>
<td>3</td>
</tr>
<tr>
<td>COM 3623</td>
<td>Commercial Publications</td>
<td>3</td>
</tr>
<tr>
<td>COM 4523</td>
<td>Case Studies in Public Relations</td>
<td>3</td>
</tr>
<tr>
<td>COM 4533</td>
<td>Public Relations Planning and Campaigns</td>
<td>3</td>
</tr>
</tbody>
</table>

B. Additional courses in Communication

Select 9 additional semester credit hours in Communication, at least one at the upper-division level

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
</table>

C. Required support work

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 2003</td>
<td>Foundations of Accounting</td>
<td>3</td>
</tr>
<tr>
<td>or ACC 2013</td>
<td>Principles of Accounting I</td>
<td></td>
</tr>
<tr>
<td>ECO 2023</td>
<td>Introductory Microeconomics</td>
<td>3</td>
</tr>
<tr>
<td>FIN 3003</td>
<td>Survey of Finance</td>
<td>3</td>
</tr>
</tbody>
</table>

D. Approved support work

Select 6 semester credit hours of approved support work in one of the following areas, at the upper-division level:

- intercultural/international studies
- English language and composition, philosophy, and visual arts
- social and behavioral sciences
- business, management, marketing, and information systems
- other subjects as may be individually justified by the student and approved by the undergraduate advisor

Total Credit Hours: 39

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 Editing, COM 2733 Introduction to Communication Technologies, COM 3413 Digital Media Production I, COM 3623 Commercial Publications, and COM 4723 Digital Media Production II with a grade of “C–” or better in each course.
A. Digital Communication Concentration courses

COM 2433  Editing  3
COM 2733  Introduction to Communication Technologies  3
COM 3413  Digital Media Production I  3
COM 3623  Commercial Publications  3
COM 4723  Digital Media Production II  3

B. Additional Communication Courses

(Select 9 additional semester credit hours in Communication, at least one course at the upper-division level  9

C. Required Support work

ACC 2003  Foundations of Accounting  3
or ACC 2013  Principles of Accounting I
ECO 2023  Introductory Microeconomics  3
FIN 3003  Survey of Finance  3

D. Approved support work

Select 6 semester credit hours of approved support work in one of the following areas, at the upper-division level  6

  - intercultural/international studies
  - English language and composition, philosophy, and visual arts
  - social and behavioral sciences
  - business, management, marketing, and information systems
  - other subjects as may be individually justified by the student and approved by the undergraduate advisor

Total Credit Hours: 39

Course Sequence Guide for B.A. Degree in Communication with a Public Relations or Digital 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 advisors in the College of Liberal and Fine Arts Undergraduate Advising Center 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

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIS 1203</td>
<td>Academic Inquiry and Scholarship (core)</td>
</tr>
<tr>
<td>HIS 1043, 1053, or 2053</td>
<td>United States History: Pre-Columbus to Civil War Era (core)</td>
</tr>
<tr>
<td>WRC 1013</td>
<td>Freshman Composition I (core)</td>
</tr>
<tr>
<td>Foreign Language (semester I)</td>
<td>3-4</td>
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<tr>
<td>Mathematics core</td>
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<table>
<thead>
<tr>
<th>Spring</th>
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<tbody>
<tr>
<td>COM 2113</td>
<td>Public Speaking (core and major)</td>
</tr>
<tr>
<td>HIS 1043, 1053, or 2053</td>
<td>United States History: Pre-Columbus to Civil War Era (core)</td>
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<tr>
<td>WRC 1023</td>
<td>Freshman Composition II (core)</td>
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<td>Life &amp; Physical Sciences core</td>
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#### Second Year

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>COM 3023</td>
<td>Foundations of Communication</td>
</tr>
<tr>
<td>COM 3083</td>
<td>Language and Communication Theory</td>
</tr>
<tr>
<td>ENG 2413</td>
<td>Technical Writing</td>
</tr>
<tr>
<td>POL 1013</td>
<td>Introduction to American Politics (core)</td>
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<td>Life &amp; Physical Sciences core</td>
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<table>
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<tr>
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<tbody>
<tr>
<td>COM 3073</td>
<td>Conduct of Communication Inquiry</td>
</tr>
<tr>
<td>COM 3553 or 3563</td>
<td>Intercultural Communication</td>
</tr>
<tr>
<td>ECO 2023</td>
<td>Introductory Microeconomics (core)</td>
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<tr>
<td>POL 1133</td>
<td>Texas Politics and Society (core)</td>
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#### Third Year

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<tr>
<td>ACC 2003 or 2013</td>
<td>Foundations of Accounting</td>
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<tr>
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<tr>
<td>COM 2433</td>
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<tr>
<td>COM 3523</td>
<td>Public Relations</td>
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<tr>
<td>COM 2733</td>
<td>Introduction to Communication Technologies</td>
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## Spring

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<td>FIN 3003</td>
<td>Survey of Finance</td>
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<tr>
<td>Free elective</td>
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<tr>
<td>Creative Arts core</td>
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<td>Select one of the following:</td>
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<tr>
<td>COM 3533</td>
<td>Writing for Public Relations (^1,^2)</td>
<td>3</td>
</tr>
<tr>
<td>COM 3413</td>
<td>Digital Media Production I (^1,^3)</td>
<td>3</td>
</tr>
<tr>
<td>Select one of the following:</td>
<td>3</td>
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<tr>
<td>COM 3623</td>
<td>Commercial Publications (^1,^2)</td>
<td>3</td>
</tr>
<tr>
<td>Upper-division COM elective (^1,^3)</td>
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## Fourth Year

### Fall

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<thead>
<tr>
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<tr>
<td>COM elective</td>
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<tr>
<td>Free elective</td>
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<tr>
<td>Support work/Free elective</td>
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<tr>
<td>Upper-division support work</td>
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<tr>
<td>Select one of the following:</td>
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<tr>
<td>COM 4523</td>
<td>Case Studies in Public Relations (^1,^2)</td>
<td>3</td>
</tr>
<tr>
<td>COM 3623</td>
<td>Commercial Publications (^1,^3)</td>
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### Spring

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<td>COM elective</td>
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<td>Free elective (to meet 120 hour minimum)</td>
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<td>Upper-division support work</td>
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<tr>
<td>World Society &amp; Issues core</td>
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<tr>
<td>Select one of the following:</td>
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<tr>
<td>COM 4533</td>
<td>Public Relations Planning and Campaigns (^1,^2)</td>
<td>3</td>
</tr>
<tr>
<td>COM 4723</td>
<td>Digital Media Production II (^1,^3)</td>
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</tbody>
</table>

Total Credit Hours: 120.0

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1. Must be completed with a grade of “C-” or better.
2. Public Relations concentration only.
3. Digital 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.

To declare a Minor in Communication, obtain advice, obtain lists of relevant courses, or seek approval of substitutions for course requirements, students should consult the undergraduate advisor for Communication in the College of Liberal and Fine Arts Advising Center.

Communication (COM) Courses
Department of Communication, College of Liberal and Fine Arts

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.

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.

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.

COM 2123. Oral Interpretation. (3-0) 3 Credit Hours. (TCCN = SPCH 2341)
Prerequisites: WRC 1013 and WRC 1023. Study of verbal and nonverbal communication, especially for aesthetic purposes, and of the dramaturgical skills that relate to the performing arts. Emphasis is given to those skills that promote oral proficiency.

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.

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.)
COM 2733. Introduction to Communication Technologies. (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.

COM 2801. Forensic Activities. (1-0) 1 Credit Hour. (TCCN = SPCH 2144)
Prerequisite: Consent of instructor. Opportunity to study the preparation and presentation of oral argument or speaking in competitive situations. May be repeated for credit.

COM 3023. Foundations of Communication. (3-0) 3 Credit Hours.
Prerequisites: WRC 1013 and WRC 1023. 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. Required of and restricted to pre-Communication students, or students majoring or minoring in Communication.

COM 3073. Conduct of Communication Inquiry. (3-0) 3 Credit Hours.
Prerequisite: COM 3023. 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. Required of and restricted to pre-Communication students, or students majoring or minoring in Communication.

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. Required of and restricted to pre-Communication students, or students majoring or minoring in Communication.

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.

COM 3243. Persuasion. (3-0) 3 Credit Hours.
Prerequisite: Enrollment as a Communication major. Theory and practice of influencing attitudes, beliefs, opinions, and actions. Emphasis on critical evaluation of persuasive messages and design of persuasive campaigns.

COM 3253. Rhetorical Communication Analysis. (3-0) 3 Credit Hours.
Prerequisite: Enrollment as a Communication major. Study of classical and contemporary rhetorical theory. Critical evaluation of communication messages and techniques of delivery.

COM 3383. Interpersonal Communication. (3-0) 3 Credit Hours.
Prerequisite: COM 1053 or COM 3023. 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.).
COM 3393. Communication for Health Professionals. (3-0) 3 Credit Hours.
Prerequisite: Restricted to students participating in the FAME program. This course will offer a broad overview of both theoretical and applied approaches to health communication that align with the TIME (Transformation in Medical Education) competencies. The overall goal for this course is to prepare students to communicate effectively with patients, families, and the public, as appropriate, across a broad range of socioeconomic and cultural backgrounds. Students will be exposed to a variety of health communication topics, including issues in provider-recipient communication, decision-making, social identity, family dynamics, the role of culture in health and disease, and healthcare delivery. Specifically, students will study how to engage in difficult conversations with families and patients regarding end of life treatment options and palliative care; delivery of bad news to patients and family members using a patient-centered approach; and verbal and nonverbal communication competencies when engaged as part of an interdisciplinary team. Additionally, a specific focus will be placed on conveying respect, compassion and empathy during medical interviews and delivering diagnoses and treatment. All theoretical and applied healthcare contexts examined in this course will be aligned with five core communication principles including: awareness, verbal communication, nonverbal communication, listening, and adapting.

COM 3413. 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 titled “Writing for New Media.”).

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.

COM 3533. Writing for Public Relations. (3-0) 3 Credit Hours.
Prerequisites: 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.).

COM 3553. Intercultural Communication. (3-0) 3 Credit Hours.
Prerequisites: COM 3023, and completion of or concurrent enrollment in 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.

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.

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.
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.

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.

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.).

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.

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 once for credit when topics vary.

COM 4523. Case Studies in Public Relations. (3-0) 3 Credit Hours.
Prerequisites: COM 3073, COM 3523, and COM 3533. Advanced study of public relations functions, principles, and practices using local, regional, and national organizations as examples.

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.

COM 4723. Digital Media Production II. (3-0) 3 Credit Hours.
Prerequisites: COM 2433 and COM 3413, 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.

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.

**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.

**COM 4912. Independent Study in Communication. (0-0) 2 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.

**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.

**COM 4933. Internship in Communication. (0-0) 3 Credit Hours.**
Prerequisites: Enrollment as a Communication major, senior 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.

**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.
DEPARTMENT OF ENGLISH

The department offers a Bachelor of Arts degree in English with concentrations in professional writing, creative writing, and English language arts and reading as well as a minor in English Literature and a minor in Professional Writing. 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.

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 College of Education and Human Development 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 Bachelor of Arts 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. For a complete listing of courses that satisfy the Core Curriculum requirements, see chapter 1 of this catalog.

ENG 2213 Literary Criticism and Analysis may be used to satisfy the core requirement in Language, Philosophy, and Culture as well as a major requirement. ENG 2413 Technical Writing may be used to satisfy the core
requirement in Component Area Option as well as a major requirement for a Bachelor of Arts in English with a Concentration in Professional Writing or for a minor in Professional Writing.

Note: Students seeking the Bachelor of Arts degree in English with a Concentration in Creative Writing are encouraged to complete the Creative Arts core requirement with ENG 1113 Introduction to Creative Literary Arts.

Degree Requirements

A. English major courses

1. Required courses in English

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<td>ENG 2213</td>
<td>Literary Criticism and Analysis</td>
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<tr>
<td>ENG 2223</td>
<td>British Literature I</td>
<td>3</td>
</tr>
<tr>
<td>ENG 2233</td>
<td>British Literature II</td>
<td>3</td>
</tr>
<tr>
<td>ENG 2263</td>
<td>American Literature I</td>
<td>3</td>
</tr>
<tr>
<td>ENG 2293</td>
<td>American Literature II</td>
<td>3</td>
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<tr>
<td>ENG 3223</td>
<td>Shakespeare: The Early Plays</td>
<td>3</td>
</tr>
<tr>
<td>or ENG 3233</td>
<td>Shakespeare: The Later Plays</td>
<td>3</td>
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<tr>
<td>ENG 4973</td>
<td>Seminar for English Majors</td>
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2. 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

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<td>ENG 3033</td>
<td>American Literature, 1945 to Present</td>
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<td>ENG 3063</td>
<td>American Literature, 1870–1945</td>
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<td>ENG 4013</td>
<td>Restoration and Eighteenth-Century Literature</td>
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<td>ENG 4023</td>
<td>Romantic Literature</td>
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<tr>
<td>ENG 4053</td>
<td>Modern British and American Poetry</td>
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<td>ENG 4063</td>
<td>Medieval English Literature</td>
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<td>ENG 4113</td>
<td>Renaissance Literature</td>
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<tr>
<td>ENG 4143</td>
<td>Victorian Literature</td>
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<td>HUM 3023</td>
<td>The Medieval World</td>
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<tr>
<td>HUM 3033</td>
<td>Renaissance Ideas</td>
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<td>HUM 3043</td>
<td>Classicism and Enlightenment</td>
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<td>HUM 3053</td>
<td>The Romantic Age</td>
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<tr>
<td>HUM 3063</td>
<td>The Modern World</td>
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b. Linguistics, Rhetoric, Theory

<table>
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<tr>
<td>ENG 3303</td>
<td>Theory and Practice of Composition</td>
<td>3</td>
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<tr>
<td>ENG 3313</td>
<td>Advanced Composition</td>
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<tr>
<td>ENG 3323</td>
<td>History of the English Language</td>
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<tr>
<td>ENG 3333</td>
<td>Introduction to the Structure of English</td>
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ENG 3343 Principles of English Linguistics
ENG 3393 Literary Theories
ENG 3413 Specialized Professional Writing
ENG 3423 Topics in Creative Writing
ENG 3363 Topics in Rhetoric and Composition
ENG 3383 Writing in Public, Professional, and Workplace Contexts
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

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

c. Cross-Cultural, Gender Studies, and Race & Ethnic Studies

ENG 4933 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

CLA 2023 Introduction to Ancient Rome
CLA 3053 Topics in Classical Genres
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 3273 Milton
B. Approved support work

Select 12 additional semester credit hours of approved support work in one of the following categories, at least 6 hours of which must be at the upper-division level, which may also be used to satisfy a Core Curriculum requirement.

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
12. Other subjects as may be individually justified by the student, recommended by the academic advisor, and approved by the Department Chair.

C. Single language other than English

Select 6 semester credit hours in a single language other than English

D. Electives

Select 27 semester credit hours of electives

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 advisors in the College of Liberal and Fine Arts Undergraduate Advising Center 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**

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIS 1203 Academic Inquiry and Scholarship (core)</td>
<td>3</td>
</tr>
<tr>
<td>WRC 1013 Freshman Composition I (core)</td>
<td>3</td>
</tr>
<tr>
<td>Mathematics core</td>
<td>3</td>
</tr>
<tr>
<td>American History core</td>
<td>3</td>
</tr>
<tr>
<td>Life &amp; Physical Sciences core</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Spring</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>WRC 1023 Freshman Composition II (core)</td>
<td>3</td>
</tr>
<tr>
<td>Free elective</td>
<td>3</td>
</tr>
<tr>
<td>American History core</td>
<td>3</td>
</tr>
<tr>
<td>Life &amp; Physical Sciences core</td>
<td>3</td>
</tr>
<tr>
<td>Social &amp; Behavioral Sciences core</td>
<td>3</td>
</tr>
</tbody>
</table>

**Second Year**

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 2213 Literary Criticism and Analysis (core and major)</td>
<td>3</td>
</tr>
<tr>
<td>Component Area Option core</td>
<td>3</td>
</tr>
<tr>
<td>Foreign language (semester I)</td>
<td>3-4</td>
</tr>
<tr>
<td>Free elective</td>
<td>3</td>
</tr>
<tr>
<td>Government-Political Science core</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Spring</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 2223 British Literature I</td>
<td>3</td>
</tr>
<tr>
<td>ENG 2263 American Literature I</td>
<td>3</td>
</tr>
<tr>
<td>Foreign language (semester II)</td>
<td>3-4</td>
</tr>
<tr>
<td>Creative Arts core</td>
<td>3</td>
</tr>
<tr>
<td>Government-Political Science core</td>
<td>3</td>
</tr>
</tbody>
</table>

**Third Year**

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 2233 British Literature II</td>
<td>3</td>
</tr>
<tr>
<td>ENG 2293 American Literature II</td>
<td>3</td>
</tr>
<tr>
<td>Free elective</td>
<td>3</td>
</tr>
<tr>
<td>Support work</td>
<td>3</td>
</tr>
<tr>
<td>Upper-division free elective</td>
<td>3</td>
</tr>
</tbody>
</table>
### Spring
- Upper-division Literature category (a) ¹ 3
- Upper-division Literature category (b) ¹ 3
- Support work 3
- Upper-division support work 3
- Free elective 3

### Fourth Year

#### Fall
- ENG 3223 or 3233 Shakespeare: The Early Plays 3
- Free elective 3
- Free elective 3
- Upper-division free elective 3
- Upper-division Literature category (c) ¹ 3

#### Spring
- ENG 4973 Seminar for English Majors 3
- Free elective 3
- Free elective (to meet 120 hour minimum) 3-1
- Upper-division Literature category (d) ¹ 3
- Upper-division support work 3

Total Credit Hours: 120.0

¹ At least one of the courses from categories (a), (b), (c), or (d) must include the study of American literature.

### Bachelor of Arts Degree in English with a Professional Writing Concentration

All candidates for the Bachelor of Arts 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:

(b) Linguistics, Rhetoric, Theory
(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. Four courses in professional writing including the following:
ENG 2413 Technical Writing
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 24 semester credit hours of electives 24

Total Credit Hours: 81

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 advisors in the College of Liberal and Fine Arts Undergraduate Advising Center 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

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<table>
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<tr>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIS 1203</td>
<td>Academic Inquiry and Scholarship (core)</td>
</tr>
<tr>
<td>WRC 1013</td>
<td>Freshman Composition I (core)</td>
</tr>
<tr>
<td>Mathematics core</td>
<td>3</td>
</tr>
<tr>
<td>American History core</td>
<td>3</td>
</tr>
<tr>
<td>Life &amp; Physical Sciences core</td>
<td>3</td>
</tr>
</tbody>
</table>

Spring

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>WRC 1023</td>
<td>Freshman Composition II (core)</td>
</tr>
</tbody>
</table>
Free elective 3
American History core 3
Life & Physical Sciences core 3
Social & Behavioral Sciences core 3

Second Year

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall</td>
<td>ENG 2213</td>
<td>Literary Criticism and Analysis (core and major)</td>
</tr>
<tr>
<td>Fall</td>
<td>ENG 2413</td>
<td>Technical Writing (core and major)</td>
</tr>
<tr>
<td>Fall</td>
<td>Free elective</td>
<td></td>
</tr>
<tr>
<td>Fall</td>
<td>Foreign language (semester I)</td>
<td>3-4</td>
</tr>
<tr>
<td>Fall</td>
<td>Government-Political Science core</td>
<td>3</td>
</tr>
</tbody>
</table>

Spring

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 2223</td>
<td>British Literature I</td>
</tr>
<tr>
<td>ENG 2433</td>
<td>Editing</td>
</tr>
<tr>
<td>POL 1133</td>
<td>Texas Politics and Society (Government-Political Science core)</td>
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</table>

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foreign language (semester II)</td>
<td>3-4</td>
</tr>
<tr>
<td>Creative Arts core</td>
<td>3</td>
</tr>
</tbody>
</table>

Third Year

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall</td>
<td>ENG 2233</td>
<td>British Literature II</td>
</tr>
<tr>
<td>Fall</td>
<td>ENG 2263</td>
<td>American Literature I</td>
</tr>
<tr>
<td>Fall</td>
<td>ENG 2293</td>
<td>American Literature II</td>
</tr>
<tr>
<td>Fall</td>
<td>ENG 3313</td>
<td>Advanced Composition</td>
</tr>
<tr>
<td>Fall</td>
<td>Free elective</td>
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</table>

Spring

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 3223 or 3233</td>
<td>Shakespeare: The Early Plays</td>
</tr>
<tr>
<td>ENG 3413</td>
<td>Specialized Professional Writing</td>
</tr>
<tr>
<td>Upper-division free elective</td>
<td>3</td>
</tr>
<tr>
<td>Upper-division free elective</td>
<td>3</td>
</tr>
<tr>
<td>Upper-division Literature category (b)</td>
<td>3</td>
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</tbody>
</table>

Fourth Year

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall</td>
<td>ENG 4433</td>
<td>Advanced Professional Writing</td>
</tr>
<tr>
<td>Fall</td>
<td>ENG 4933</td>
<td>Internship</td>
</tr>
<tr>
<td>Fall</td>
<td>Free elective</td>
<td></td>
</tr>
<tr>
<td>Fall</td>
<td>Free elective</td>
<td></td>
</tr>
<tr>
<td>Fall</td>
<td>Upper-division Literature category (c)</td>
<td>3</td>
</tr>
</tbody>
</table>
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 for the Bachelor of Arts 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  Shakespeare: The Early Plays  3
   - or ENG 3233  Shakespeare: The Later Plays
   - 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 three of the following, at least two of which must be at the 4000 level:  
   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

C. Electives
Select 27 semester credit hour electives. Students are encouraged to repeat upper-level workshops, and to include ENG 2433 in their electives.

Total Credit Hours: 78

**Course Sequence Guide for B.A. Degree in English with a Concentration in Creative Writing**

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**B.A. in English, Concentration in Creative Writing – Four-Year Academic Plan**

**First Year**

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIS 1203</td>
<td>3</td>
</tr>
<tr>
<td>WRC 1013</td>
<td>3</td>
</tr>
<tr>
<td>American History core</td>
<td>3</td>
</tr>
<tr>
<td>Life &amp; Physical Sciences core</td>
<td>3</td>
</tr>
<tr>
<td>Mathematics core</td>
<td>3</td>
</tr>
</tbody>
</table>

**Spring**

| ENG 1113        | 3            |
| WRC 1023        | 3            |
| American History core | 3 |
| Life & Physical Sciences core | 3 |
| Social & Behavioral Sciences core | 3 |

**Second Year**

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 2213</td>
<td>3</td>
</tr>
<tr>
<td>Foreign language (semester I)</td>
<td>3-4</td>
</tr>
<tr>
<td>Free Elective</td>
<td>3</td>
</tr>
</tbody>
</table>
Component Area Option core  3
Government-Political Science core  3

**Spring**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 2223</td>
<td>British Literature I</td>
<td>3</td>
</tr>
<tr>
<td>ENG 2263</td>
<td>American Literature I</td>
<td>3</td>
</tr>
<tr>
<td>ENG 2323, 2333, or 2343</td>
<td>Creative Writing: Fiction</td>
<td>3</td>
</tr>
<tr>
<td>Foreign language (semester II)</td>
<td></td>
<td>3-4</td>
</tr>
<tr>
<td>Government-Political Science core</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

**Third Year**

**Fall**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 2233</td>
<td>British Literature II</td>
<td>3</td>
</tr>
<tr>
<td>ENG 2293</td>
<td>American Literature II</td>
<td>3</td>
</tr>
<tr>
<td>ENG 2333, 2323, or 2343</td>
<td>Creative Writing: Poetry</td>
<td>3</td>
</tr>
<tr>
<td>Free elective</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Upper-division free elective</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

**Spring**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 3223 or 3233</td>
<td>Shakespeare: The Early Plays</td>
<td>3</td>
</tr>
<tr>
<td>ENG 3423</td>
<td>Topics in Creative Writing</td>
<td>3</td>
</tr>
<tr>
<td>Free elective</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Upper-division free elective</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Upper-division Literature category (a)</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

**Fourth Year**

**Fall**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 4523 or 4533</td>
<td>Writer’s Workshop: Advanced Fiction Writing</td>
<td>3</td>
</tr>
<tr>
<td>Free elective</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Upper-division free elective</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Upper-division free elective</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Upper-division Literature category (c)</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

**Spring**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 4533 or 4523</td>
<td>Writer’s Workshop: Advanced Poetry Writing</td>
<td>3</td>
</tr>
<tr>
<td>ENG 4973</td>
<td>Seminar for English Majors</td>
<td>3</td>
</tr>
<tr>
<td>Free elective (to meet 120 hour minimum)</td>
<td></td>
<td>3-1</td>
</tr>
<tr>
<td>Upper-division free elective</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Upper-division Literature category (d)</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

Total Credit Hours: 120.0

1 At least one of the courses from categories (a), (c), or (d) must include the study of American literature.
Bachelor of Arts Degree in English with an English Language Arts and Reading Concentration

The Bachelor of Arts degree in English with an English Language Arts and Reading concentration is designed for students intending to teach English at the secondary school level.

All candidates for this degree must fulfill the Core Curriculum requirements and the degree requirements listed below.

Students seeking teacher certification should contact the College of Education and Human Development (COEHD) 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/](http://www.tea.state.tx.us/).

Degree Requirements

A. Courses in English

1. Required courses in English

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 2213</td>
<td>Literary Criticism and Analysis</td>
<td>3</td>
</tr>
<tr>
<td>ENG 2223</td>
<td>British Literature I</td>
<td>3</td>
</tr>
<tr>
<td>ENG 2233</td>
<td>British Literature II</td>
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<td>ENG 2293</td>
<td>American Literature II</td>
<td>3</td>
</tr>
<tr>
<td>ENG 3223</td>
<td>Shakespeare: The Early Plays</td>
<td>3</td>
</tr>
<tr>
<td>or ENG 3233</td>
<td>Shakespeare: The Later Plays</td>
<td>3</td>
</tr>
<tr>
<td>ENG 4973</td>
<td>Seminar for English Majors</td>
<td>3</td>
</tr>
</tbody>
</table>

2. Upper-division courses

Select one additional upper-division course in English from the following categories, at least one must include the study of American literature:

(a) American, English, Historical

(d) Authors and Genres listed above under degree requirements for the B.A. in English

3. Select one of the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 3033</td>
<td>American Literature, 1945 to Present</td>
</tr>
<tr>
<td>ENG 3513</td>
<td>Mexican American Literature</td>
</tr>
<tr>
<td>ENG 3613</td>
<td>African American Literature</td>
</tr>
<tr>
<td>ENG 3713</td>
<td>Topics in Multiethnic Literatures of the United States</td>
</tr>
</tbody>
</table>
4. 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 3343  Principles of English Linguistics  

B. Professional Education and Reading Coursework

BBL 3403  Cultural and Linguistic Diversity in a Pluralistic Society  3
C&I 4203  Models of Teaching in the Content Areas of the Secondary School  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 3063  Second Language Acquisition in Early Adolescence  3
IDS 2013  Introduction to Learning and Teaching in a Culturally Diverse Society  3
RDG 3673  Reading for Secondary Teachers–Grades 8–12  3
RDG 3773  Reading and Writing Across the Disciplines–Secondary  3
SPE 3603  Introduction to Special Education  3

C. Student Teaching

C&I 4646  Student Teaching: Grades 8–12  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 advisors in the College of Liberal and Fine Arts Undergraduate Advising Center 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

<table>
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<tr>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIS 1203  Academic Inquiry and Scholarship (core)</td>
<td>3</td>
</tr>
<tr>
<td>WRC 1013  Freshman Composition I (core)</td>
<td>3</td>
</tr>
<tr>
<td>Foreign language (semester I)</td>
<td>3-4</td>
</tr>
</tbody>
</table>
### American History core
- 3

### Life & Physical Sciences core
- 3

### 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

### Second Year

#### Fall
- ENG 2213 Literary Criticism and Analysis (core and major) 3
- ENG 3333 Introduction to the Structure of English 3
- Creative Arts core 3
- Government-Political Science core 3
- Language, Philosophy & Culture core 3

#### 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

### Third Year

#### Fall
- BBL 3403 Cultural and Linguistic Diversity in a Pluralistic Society 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 or 3343 History of the English Language 3
- SPE 3603 Introduction to Special Education 3

#### Spring
- EDP 3203 Learning and Development in the Secondary School Adolescent 3
- ENG 3223 or 3233 Shakespeare: The Early Plays 3
- ESL 3063 Second Language Acquisition in Early Adolescence 3
- RDG 3673 Reading for Secondary Teachers–Grades 8–12 3
- Upper-division Literature category (a) 3
- Select one of the following: 3
- ENG 3033 American Literature, 1945 to Present 3
Minor in English Literature

All students pursuing the Minor in English Literature must complete 21 semester credit hours of English and American literature.

21 semester credit hours of required courses:

1. Required course
   ENG 2213  Literary Criticism and Analysis  3

2. 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

3. Select one of the following:
   ENG 3223  Shakespeare: The Early Plays
   ENG 3233  Shakespeare: The Later Plays

4. Select two upper-division courses in literature in English, one course must include the study of American Literature  6

Total Credit Hours: 18
Minor in Professional Writing

All students pursuing the Minor in Professional Writing must complete 21 semester credit hours of professional writing:

A. Required courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ENG 2413</td>
<td>Technical Writing</td>
<td>3</td>
</tr>
<tr>
<td>ENG 2433</td>
<td>Editing</td>
<td>3</td>
</tr>
<tr>
<td>ENG 3313</td>
<td>Advanced Composition</td>
<td>3</td>
</tr>
<tr>
<td>ENG 3333</td>
<td>Introduction to the Structure of English</td>
<td>3</td>
</tr>
<tr>
<td>ENG 3413</td>
<td>Specialized Professional Writing</td>
<td>3</td>
</tr>
</tbody>
</table>

B. Select two from the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 3303</td>
<td>Theory and Practice of Composition</td>
<td>3</td>
</tr>
<tr>
<td>ENG 3323</td>
<td>History of the English Language</td>
<td>3</td>
</tr>
<tr>
<td>or ENG 3343</td>
<td>Principles of English Linguistics</td>
<td></td>
</tr>
<tr>
<td>ENG 3363</td>
<td>Topics in Rhetoric and Composition</td>
<td></td>
</tr>
<tr>
<td>ENG 3383</td>
<td>Writing in Public, Professional, and Workplace Contexts</td>
<td></td>
</tr>
<tr>
<td>ENG 4433</td>
<td>Advanced Professional Writing</td>
<td></td>
</tr>
<tr>
<td>ENG 4933</td>
<td>Internship</td>
<td></td>
</tr>
</tbody>
</table>

Total Credit Hours: 21

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.
English (ENG) Courses
Department of English, College of Liberal and Fine Arts

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. May be applied toward the Core Curriculum requirement in Creative Arts.

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.

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.

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.

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.

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.

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.

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.

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.
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.

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.

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.

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.

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.).

ENG 2443. Introduction to Rhetoric. (3-0) 3 Credit Hours.
Prerequisite: Completion of Core Curriculum requirement in Communication. Introduces students to key concepts and frameworks useful for analysis of texts, events, communication, and contexts by focusing on the traditional rhetorical canons of invention, arrangement, style, delivery, and memory.

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.

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.

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.).
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.

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.

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.

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.

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.

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.

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.

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 English novels. May be repeated for credit when topics vary.

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.

ENG 3273. Milton. (3-0) 3 Credit Hours.
Prerequisite: Completion of the Core Curriculum requirement in Language, Philosophy, and Culture. Reading and analysis of Milton’s major poems and selected prose in the context of his times.

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.
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.

ENG 3323. History of the English Language. (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.

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.

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.).

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.

ENG 3383. Writing in Public, Professional, and Workplace Contexts. (3-0) 3 Credit Hours.
Prerequisite: ENG 2413. Study of the fundamental 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.

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.

ENG 3413. Specialized Professional Writing. (3-0) 3 Credit Hours.
Prerequisite: ENG 2413. Writing for specialized purposes such as news releases, feature articles, reports, newsletters, speeches, scriptwriting, advertising, and professional correspondence.

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.
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.

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.

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.

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.

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.

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.

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.

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.

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.
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).

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.

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.

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.

ENG 4433. Advanced Professional Writing. (3-0) 3 Credit Hours.
Prerequisite: ENG 2413 or the equivalent. Development of complex documents such as manuals, proposals, grants, environmental impact studies, newsletters, and brochures. Extensive practice in writing, layout and design, and preparation of professional documents. May be repeated for credit when topics vary.

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.

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.

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.

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.
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.

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.

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.

ENG 4933. Internship. (0-0) 3 Credit Hours.
Prerequisite: Consent of instructor. 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.

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.

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.

ENG 4991. Honors Thesis. (0-0) 1 Credit Hour.
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.

ENG 4992. Honors Thesis. (0-0) 2 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.

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.
Theater (THR) Courses
Department of English, College of Liberal and Fine Arts

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.

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.

THR 2113. Intermediate Acting I. (3-0) 3 Credit Hours.
Prerequisite: 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.

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.
DEPARTMENT OF HISTORY

The Department of History offers Bachelor of Arts 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 (including support work) 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 both the major and support work 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.

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 Bachelor of Arts 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. For a complete listing of courses that satisfy the Core Curriculum requirements, see chapter 1 of this catalog.

AMS 2043 may be used to satisfy the core requirement in Social and Behavioral Sciences as well as a major requirement.

Degree Requirements

A. American Studies major courses

Courses must be approved by the American Studies advisor. At least 21 semester credit hours must be at the upper-division level.
1. 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
   Two courses of American culture: 6
   AMS 3013 Early American Culture 3
   or AMS 3023 Modern American Culture
   AMS 4823 Topics in American Culture (may be repeated for credit as long as the topics differ. 3
   Students can also take AMS 4983 Senior Thesis in their last semester in partial fulfillment of this requirement.)
   Advanced seminar course:
   AMS 4973 Advanced Seminar in American Studies 3
   Students who complete an Honor’s Thesis may substitute AMS 4993 for AMS 4973.

2. Select 15 semester credit hours of support work in upper-division courses focused on the Americas from at least two disciplines. American content may be interpreted as North, South and Central America, and the Caribbean. The American Studies faculty advisor must approve all support work.
   Up to 9 hours of Foreign Language study may be counted as support work. Students can also take 3 semester credit hours of AMS 4933 Internship in American Studies in partial fulfillment of this requirement.

B. Electives
   Select 39 semester credit hours of electives 39
   Total Credit Hours: 84

Students majoring in American Studies are encouraged to make advising appointments with faculty in AMS 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 advisors in the College of Liberal and Fine Arts Undergraduate Advising Center 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

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course Code</th>
<th>Course Name</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td><strong>Fall</strong></td>
<td>AIS 1203</td>
<td>Academic Inquiry and Scholarship (core)</td>
<td>3</td>
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<td>HIS 1043, 1053, or 2053</td>
<td>United States History: Pre-Columbus to Civil War Era (core)</td>
<td>3</td>
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<td></td>
<td>POL 1013</td>
<td>Introduction to American Politics (core)</td>
<td>3</td>
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<td>WRC 1013</td>
<td>Freshman Composition I (core)</td>
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<td>Mathematics core</td>
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<td><strong>Spring</strong></td>
<td>HIS 1043, 1053, or 2053</td>
<td>United States History: Pre-Columbus to Civil War Era (core)</td>
<td>3</td>
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<tr>
<td></td>
<td>POL 1133</td>
<td>Texas Politics and Society (core)</td>
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<td>WRC 1023</td>
<td>Freshman Composition II (core)</td>
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<td>Life &amp; Physical Sciences core</td>
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#### Second Year

<table>
<thead>
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<th>Course Name</th>
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<tbody>
<tr>
<td><strong>Fall</strong></td>
<td>AMS 2043</td>
<td>Approaches to American Culture (core and major)</td>
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<td>ECO 2003, 2013, or 2023</td>
<td>Economic Principles and Issues (core)</td>
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<td>Language, Philosophy &amp; Culture core</td>
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<td>Life &amp; Physical Sciences core</td>
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#### Third Year

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<tr>
<td><strong>Fall</strong></td>
<td>AMS 3123</td>
<td>Applications of American Studies</td>
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<td>AMS 3243</td>
<td>Studies in Transnationalism</td>
<td>3</td>
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<td></td>
<td>Free elective</td>
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<td></td>
<td>Free elective</td>
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<td>Upper-division support work</td>
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<td><strong>Spring</strong></td>
<td>AMS 3343</td>
<td>Studies in Race and Ethnicity</td>
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<tr>
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<td>AMS 3443</td>
<td>Studies in Gender and Sexuality</td>
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</table>
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. For a complete listing of courses that satisfy the Core Curriculum requirements, see chapter 1 of this catalog.

Courses taken to satisfy 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 & Culture:
Degree Requirements

A. History major courses

21 semester credit 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 2003 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
   HIS 2133 Introduction to World Civilization since the Fifteenth Century
   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
   9

3. Select 18 upper division history credit hours of history courses, including at least one U.S., one European, and one Latin American, African, or Asian studies course.
   18

4. Seminar or Honors Thesis
   HIS 4973 Seminar in History (HIS 2003 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. Approved upper-division courses from other disciplines that support the study of history

Select three courses in approved upper-division courses from other disciplines that support the study of history. The student must consult with his or her faculty advisor to define a cohesive support area, and the faculty advisor’s signed approval is required for each course. The student must turn in a completed Support Work form to the COLFA Advising Office at least one semester prior to their graduating semester.

Recommended areas for support work include, but are not limited to:
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 advisors in the College of Liberal and Fine Arts Undergraduate Advising Center 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

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIS 1203</td>
<td>Academic Inquiry and Scholarship (core)</td>
</tr>
<tr>
<td>HIS 1043, 1053, or 2053</td>
<td>United States History: Pre-Columbus to Civil War Era (core)</td>
</tr>
<tr>
<td>POL 1013</td>
<td>Introduction to American Politics (core)</td>
</tr>
<tr>
<td>WRC 1013</td>
<td>Freshman Composition I (core)</td>
</tr>
<tr>
<td>Mathematics core</td>
<td></td>
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</table>

Spring

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIS 1043, 1053, or 2053</td>
<td>United States History: Pre-Columbus to Civil War Era (core)</td>
</tr>
<tr>
<td>POL 1133</td>
<td>Texas Politics and Society (core)</td>
</tr>
<tr>
<td>WRC 1023</td>
<td>Freshman Composition II (core)</td>
</tr>
<tr>
<td>Free elective</td>
<td></td>
</tr>
<tr>
<td>Life &amp; Physical Sciences core</td>
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</table>

Second Year

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td></td>
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</tr>
</tbody>
</table>
ECO 2003, 2013, or 2023  Economic Principles and Issues (core)  3  
HIS 2003  Historical Methods  3  
Foreign language (semester I)  3-4  
Language, Philosophy & Culture core  3  
Component Area Option core  3  
**Spring**  
Civilization course  3  
Foreign language (semester II)  3-4  
Free elective  3  
Free elective  3  
Life & Physical Sciences core  3  

**Third Year**  
**Fall**  
Civilization course  3  
Free elective  3  
Upper-division HIS elective  3  
Upper-division U.S. HIS  3  
Upper-division support work  3  
**Spring**  
Civilization course  3  
Free elective  3  
Upper-division European HIS  3  
Upper-division HIS elective  3  
Upper-division support work  3  

**Fourth Year**  
**Fall**  
Free elective  3  
Upper-division African/Asian/Latin American HIS  3  
Upper-division HIS Elective  3  
Upper-division support work  3  
Creative Arts core  3  
**Spring**  
HIS 4973  Seminar in History  3  
Free elective (to meet 120 hour minimum)  3-1  
Upper-division free elective  3  
Upper-division free elective  3  
Upper-division free elective  3  

Total Credit Hours: 120.0
Bachelor of Arts Degree in History with a Concentration in Social Studies

The Bachelor of Arts 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 132, 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 Bachelor of Arts 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. For a complete listing of the courses that satisfy the Core Curriculum requirements, see chapter 1 of this catalog.

GRG 2613 may be used to satisfy the 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. ECO 2003 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.

Degree Requirements

A. Required courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANT 1013</td>
<td>Introduction to Anthropology</td>
<td>3</td>
</tr>
<tr>
<td>ECO 2003</td>
<td>Economic Principles and Issues</td>
<td>3</td>
</tr>
<tr>
<td>ECO 2013</td>
<td>Introductory Macroeconomics</td>
<td>3</td>
</tr>
<tr>
<td>GRG 1013</td>
<td>Fundamentals of Geography</td>
<td>3</td>
</tr>
<tr>
<td>GRG 1023</td>
<td>World Regional Geography</td>
<td>3</td>
</tr>
<tr>
<td>GRG 2613</td>
<td>Physical Geography</td>
<td>3</td>
</tr>
<tr>
<td>HIS 1043</td>
<td>United States History: Pre-Columbus to Civil War Era</td>
<td>3</td>
</tr>
<tr>
<td>HIS 1053</td>
<td>HIS 1053 United States History: Civil War Era to Present</td>
<td>3</td>
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<tr>
<td>HIS 2003</td>
<td>Historical Methods</td>
<td>3</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>
<tr>
<td>HIS 2563</td>
<td>Introduction to European Civilization</td>
<td>3</td>
</tr>
<tr>
<td>HIS 4143</td>
<td>History Standards and Their Public Reception</td>
<td>3</td>
</tr>
<tr>
<td>HIS 4973</td>
<td>Seminar in History</td>
<td>3</td>
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</tbody>
</table>
B. Civilization courses
Select two of the following: 6
ANT 3273  Civilizations of Mexico
ANT 3723  Ancient Civilizations
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 one 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
HIS 3093  United States Constitutional History
POL 3023  Civil Liberties in American Law and Practice
POL 3113  American Political Theory
POL 3283  The American Presidency
POL 3323  Constitutional Law

E. Additional course
Select one of the following: 3
POL 2603  International Politics
POL 2633  Comparative Politics
POL 3103  Political Ideology
POL 3143  Political Philosophy: Modern
POL 3193  Theories of Citizenship
POL 3363  Political Parties and Interest Groups
POL 3373  The Legislative Process
POL 3393  Latin American Politics
POL 3403  European Governments
POL 3503  American Foreign Policy since World War II

F. Geography
Select one of the following: 3
GRG 3113  Geography of the United States and Canada
GRG 3123  Geography of Latin America
GRG 3133  Geography of Europe
GRG 3213  Cultural Geography
GRG 3513  Urban Geography
GRG 3533  Geography of Economic Activity
GRG 3643  Political Geography
GRG 3723  Physiography

G. Communication, reading and education courses
BBL 3403  Cultural and Linguistic Diversity in a Pluralistic Society 3
C&I 4203  Models of Teaching in the Content Areas of the Secondary School 3
C&I 4646  Student Teaching: Grades 8–12 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
HIS 2053  Texas History 3
IDS 2013  Introduction to Learning and Teaching in a Culturally Diverse Society 3
RDG 3773  Reading and Writing Across the Disciplines–Secondary 3
SPE 3603  Introduction to Special Education 3

Total Credit Hours: 108

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 advisors in the College of Liberal and Fine Arts Undergraduate Advising Center 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

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>ANT 1013  Introduction to Anthropology</td>
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<tr>
<td>ECO 2003  Economic Principles and Issues (core and major)</td>
<td>3</td>
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<tr>
<td>HIS 1043  United States History: Pre-Columbus to Civil War Era (core and major)</td>
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<tr>
<td>POL 1013  Introduction to American Politics (core)</td>
<td>3</td>
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<td>WRC 1013  Freshman Composition I (core)</td>
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<td>Mathematics core</td>
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<th>Spring</th>
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<tbody>
<tr>
<td>AIS 1203  Academic Inquiry and Scholarship (core)</td>
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<td>ECO 2013</td>
<td>Introductory Macroeconomics</td>
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<tr>
<td>HIS 1053</td>
<td>HIS 1053 United States History: Civil War Era to Present (core and major)</td>
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**Second Year**

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<td>GRG 1013</td>
<td>Fundamentals of Geography (core and major)</td>
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<td>HIS 2003</td>
<td>Historical Methods</td>
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<td>HIS 2123</td>
<td>Introduction to World Civilization to the Fifteenth Century (core and major)</td>
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<td>HIS 2563</td>
<td>Introduction to European Civilization</td>
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<td>IDS 2013</td>
<td>Introduction to Learning and Teaching in a Culturally Diverse Society</td>
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<td>Spring</td>
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<td>EDU 2103</td>
<td>Social Foundations for Education in a Diverse U.S. Society</td>
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<td>GRG 2613</td>
<td>Physical Geography (core and major)</td>
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<td>HIS 2133</td>
<td>Introduction to World Civilization since the Fifteenth Century 1</td>
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<td>Civilization course from Section B</td>
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<td>Upper-division U.S. HIS</td>
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**Third Year**

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<tr>
<td>Fall</td>
<td>BBL 3403</td>
<td>Cultural and Linguistic Diversity in a Pluralistic Society</td>
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<td>EDP 3203</td>
<td>Learning and Development in the Secondary School Adolescent</td>
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<td>SPE 3603</td>
<td>Introduction to Special Education</td>
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<tr>
<td></td>
<td>POL course from Section E</td>
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<tr>
<td></td>
<td>POL or HIS course from Section D</td>
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<td></td>
<td>Upper-division African/Asian/Latin American HIS</td>
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<td>Spring</td>
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<tr>
<td></td>
<td>EDP 4203</td>
<td>Assessment and Evaluation</td>
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<td>GRG 1023</td>
<td>World Regional Geography</td>
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<td>RDG 3773</td>
<td>Reading and Writing Across the Disciplines–Secondary</td>
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<td></td>
<td>POL or HIS course from Section D</td>
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<td></td>
<td>Upper-division European HIS</td>
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<td>Upper-division U.S. HIS</td>
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**Fourth Year**

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<tr>
<th>Semester</th>
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<th>Course Title</th>
<th>Credits</th>
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<tr>
<td>Fall</td>
<td>C&amp;I 4203</td>
<td>Models of Teaching in the Content Areas of the Secondary School</td>
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</table>
HIS 4143 History Standards and Their Public Reception 3
HIS 4973 Seminar in History 3
Civilization course from Section B 3
GRG course from Section F 3
Upper-division African/Asian/Latin American HIS 3
Spring
C&I 4646 Student Teaching: Grades 8–12 6

Total Credit Hours: 132.0

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

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 the College of Liberal and Fine Arts Advising Center or an AMS Faculty Advisor.

Minor in History

All students pursuing a Minor in History must complete 18 semester credit hours.

A. Required courses
HIS 2003 Historical Methods 3
HIS 2123 Introduction to World Civilization to the Fifteenth Century 3
or HIS 2133 Introduction to World Civilization since the Fifteenth Century
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
Total Credit Hours: 9

To declare a Minor in History, obtain advice, or seek approval for substitutions for course requirements, students should consult the College of Liberal and Fine Arts Advising Center.

**American Studies (AMS) Courses**
Department of History, College of Liberal and Fine Arts

**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.

**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.

**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.

**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.

**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.
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.

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.

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.

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.

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 4936. Internship in American Studies. (0-0) 6 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.

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.
History (HIS) Courses

Department of History, College of Liberal and Fine Arts

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.

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.

HIS 2003. Historical Methods. (3-0) 3 Credit Hours.
Prerequisite: WRC 1013. 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 2003 to enroll in HIS 4973.

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.

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.).

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.

**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.

**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.

**HIS 2553. Introduction to East Asian Civilization. (3-0) 3 Credit Hours. (TCCN = HIST 2323)**
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.

**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.

**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.

**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.

**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.
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.

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.

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.).

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.).

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.

HIS 3093. United States Constitutional History. (3-0) 3 Credit Hours.
Constitutional developments from the formation of the state and federal constitutions to Watergate. Particular attention is paid to the context of judicial decision-making at the Supreme Court level and the impact of those decisions on American life. Complements POL 3323 Constitutional Law.

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.”).

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.
HIS 3133. Themes in the Social History of the United States. (3-0) 3 Credit Hours.
A survey of social history focusing on the American experience. The course explores changes in the family, work, gender roles, mobility, migration, urbanization, and industrialization, with special attention to class, race, ethnicity, and gender.

HIS 3153. Development of American Urban Society. (3-0) 3 Credit Hours.
This course investigates the impact of urbanization on American society, economy, and culture. Topics may vary, but consideration will be given to urban social and spatial organization, migration, urban systems, technology, communication, and forms of individual and family adaptation.

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.

HIS 3183. Law and American Development. (3-0) 3 Credit Hours.
The impact of law from colonial times to the present. Particular attention will be paid to the impact of law on social change, economic growth, and political development.

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.

HIS 3223. The Civil War in the Age of Nationalism. (3-0) 3 Credit Hours.
The U.S. Civil War occurred during an age of violent political upheaval in Europe and the Americas. Grounding the significance of the causes of the Civil War in a transnational context, this course will examine how questions of national self-determination, race, and class the world over influenced the growing differences between the American North and South, as well as the war itself. Setting the Civil War in an international context, this course will enlarge the understanding of the global rise of nationalism in the nineteenth century.

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.

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.

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.
HIS 3273. The Early Middle Ages. (3-0) 3 Credit Hours.
This course will examine culture and society in the West (in what was to be Europe) from Late Antiquity to about A.D. 1000. It will focus on the transformation and survival of old social, political, and cultural forms at the end of the Roman Empire and the emergence of new ones in the successor states of Italy, Gaul, Germany, and Britain.

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.

HIS 3293. Imperial Spain. (3-0) 3 Credit Hours.
Iberian history from the evolution of the northern kingdoms to the early 19th century. Topics may include the growth and development of Castile and Aragon, Hapsburg imperialism, the Bourbon reformers, and the collapse of the monarchy and the rise of the Carlist movement.

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.

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.

HIS 3323. Latinas and Latinos in the United States to 1890. (3-0) 3 Credit Hours.
This course surveys the origins of Latinas and Latinos in the United States from the point of contact between indigenous people and Spanish colonizers to 1890. Thematic topics may include conquest, Spanish colonization, the development of borderlands cultures, migratory and settlement patterns, 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 Latinas and Latinos tied to this land.

HIS 3333. Latinas and Latinos in the United States from 1890 to Present. (3-0) 3 Credit Hours.
This course surveys the history of Latinas and Latinos in the modern United States from 1890 to the present. Covering the period of the greatest migratory flows into the United States from points all over Latin America, especially from Mexico, Cuba, and Puerto Rico, this course will address the development of transnational communities and regional identities within the U.S. Emphasis will be placed on the dialectic between immigration and historically rooted communities, the formation of varied racial and class based identities, and the dynamic geographies of Latinas and Latinos.

HIS 3353. Latin America since Independence. (3-0) 3 Credit Hours.
The course will emphasize the 19th and 20th centuries and may include the following topics: the breakdown of colonialism; the problems of independence; neocolonial development; the impact of the Depression;
industrialization and urbanization; and the importance of nationalism, socialism, fascism, communism, and revolution in the contemporary era.

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.

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.

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.

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.

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.

HIS 3463. History of Religion in the United States. (3-0) 3 Credit Hours.
This course examines Puritanism, disestablishment, the First and Second Great Awakenings, religion and the Civil War, the Social Gospel, urban revivalism and religion, the growth of evangelical Protestantism, and religion in modern America. Special thematic concentrations may include church-state relations, the role of race and ethnicity in American religion, Catholicism and African American religions.

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.

HIS 3513. Warfare in the Premodern World. (3-0) 3 Credit Hours.
A comparative study of military change in the ancient, medieval, and early modern world (to 1815 and the end of the Napoleonic Wars). The course examines such controversies as the Military Revolution and the Fiscal-Military State and describes how societies in Europe, Asia, Africa, and the Americas organized, trained, and provisioned military forces, developed tactics and strategies of war, and how their military organization impacted state-society relations and their struggles for survival or imperial expansion.
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.

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.

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.

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.

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.

HIS 3603. Occupation, Revolution and Nation in Africa. (3-0) 3 Credit Hours.
This course focuses on political and social change in Africa after 1800, a particularly tumultuous and often violent period in African history. Working from an African perspective, students will explore events and historical processes that were often triggered by external forces. The course examines the ways in which historical themes—conquest, resistance, revolution, nationalism, identity politics—play out in an African context. (Formerly titled "Africa in Colonial and Post-Colonial Contexts.").

HIS 3613. Migration, Society and Culture in Africa. (3-0) 3 Credit Hours.
Examination of political and social organization in African societies. The emphasis is on Africa prior to colonization. Topics will include regional trading networks, slavery, the range of political/governmental structures, cultural variation (including categories of gender and generation), and African relations with other parts of the world. (Formerly titled "African Politics, States, and Empires.").
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.

HIS 3633. Early Modern England, 1485–1760. (3-0) 3 Credit Hours.
English history in the Tudor, Stuart, and early Hanoverian eras emphasizing the growth of the national state, the overseas expansion of England, and preindustrial social and economic change.

HIS 3643. Modern Spain. (3-0) 3 Credit Hours.
A study of 19th- and 20th-century Spain beginning with the origins of the Carlist movement, continuing with the rise and fall of the two Spanish Republics, the Civil War, the advent of the Franco regime, and concluding with the restoration of the monarchy.

HIS 3723. The High Middle Ages and the Early Renaissance. (3-0) 3 Credit Hours.
This course will examine the cultural, political, and social achievements of High Medieval Europe, with particular reference to France, Germany, and Italy. It will then focus on the great crisis of the 14th century and the emergence of a new, antimedieval culture in Early Renaissance Italy to about 1450.

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).

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.

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.

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.

HIS 3773. The Age of the Baroque. (3-0) 3 Credit Hours.
This course will examine the formation of a Post-Renaissance culture in Europe, with the emergence of Mannerism and the Baroque, and the rise of science. It will also study the struggles for religious and political mastery on the continent from roughly the Peace of Augsburg (1555) to the end of the Thirty Years’ War (1648), in the context of economic, social, and political change.

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.)
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.

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 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.

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.

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.

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.

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.").

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.

**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.

**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.

**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. 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.

**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.

**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.

**HIS 4223. Environmental History of the United States. (3-0) 3 Credit Hours.**
Prerequisite: HIS 2003 recommended. 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.
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.

HIS 4603. Issues in History. (3-0) 3 Credit Hours.
Prerequisite: Upper-class standing or consent of instructor. 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.).

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.

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.

HIS 4933. Internship in History. (0-0) 3 Credit Hours.
Prerequisites: HIS 2003 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.

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.

HIS 4973. Seminar in History. (3-0) 3 Credit Hours.
Prerequisite: HIS 2003 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.

HIS 4993. Honors Thesis. (0-0) 3 Credit Hours.
Prerequisites: Enrollment limited to candidates for Honors in History during their last two semesters. Supervised research and preparation of an honors thesis. May be repeated once with advisor’s approval.
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 (including French, German, Japanese, and Russian). Minors in French, German, Russian, Spanish, Comparative Literature, Foreign Languages, 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, and Italian. 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 (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.

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 thirty-nine 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.

The prerequisite for Spanish courses at the 3000 and 4000 levels is either SPN 2023 Intermediate Spanish II, SPN 3003 Oral and Written Expression, or an appropriate placement test score. Information regarding the test may be obtained by contacting the Department of Modern Languages and Literatures. All courses are taught in Spanish unless otherwise noted.

Students seeking teacher certification should consult the College of Education and Human Development 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 Bachelor of Arts degree in Spanish must fulfill University Core Curriculum requirements in the same manner as other students. The courses listed below satisfy both degree requirements and a Core Curriculum
requirement; 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. For a complete listing of courses that satisfy the Core Curriculum requirements, see chapter 1 of this catalog.

SPN 1014 may be used to satisfy the Language, Philosophy and Culture core requirement.

**Degree Requirements**

A. Courses within the major, all of which must be at the upper-division level

1. Required courses (recommended for early completion)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPN 3043</td>
<td>Advanced Reading</td>
<td>3</td>
</tr>
<tr>
<td>SPN 3063</td>
<td>Grammar and Composition</td>
<td>3</td>
</tr>
<tr>
<td>SPN 4003</td>
<td>Advanced Language Skills</td>
<td>3</td>
</tr>
</tbody>
</table>

2. Select two of the following: 6

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPN 3013</td>
<td>Spanish Phonetics and Pronunciation</td>
</tr>
<tr>
<td>SPN 3113</td>
<td>Linguistic Structures of Spanish</td>
</tr>
<tr>
<td>SPN 4113</td>
<td>Topics in Spanish Linguistics</td>
</tr>
</tbody>
</table>

3. Select three of the following: 9

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPN 3413</td>
<td>The Literature of Spain from the Middle Ages to 1700</td>
</tr>
<tr>
<td>SPN 3423</td>
<td>The Literature of Spain from 1700 to the Present</td>
</tr>
<tr>
<td>SPN 3463</td>
<td>Latin American Literature to Modernism</td>
</tr>
<tr>
<td>SPN 3473</td>
<td>Latin American Literature since Modernism</td>
</tr>
<tr>
<td>SPN 4203</td>
<td>Topics in Hispanic Literatures</td>
</tr>
</tbody>
</table>

4. Select two of the following: 6

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPN 3613</td>
<td>Spanish Culture and Civilization</td>
</tr>
<tr>
<td>SPN 3623</td>
<td>Latin American Culture and Civilization</td>
</tr>
<tr>
<td>SPN 4303</td>
<td>Topics in Hispanic Cultures</td>
</tr>
</tbody>
</table>

5. Spanish Electives, at least one course must be at the 4000 level 9

6. Select one course as Signature Experience. The course can be applied to section A5 as part of the elective hours or to the support work in section B. The following courses can be used as the Signature Experience:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>FL 3033</td>
<td>Advanced Language Study Abroad</td>
</tr>
<tr>
<td>FL 3036</td>
<td>Advanced Language Study Abroad</td>
</tr>
<tr>
<td>SPN 4113</td>
<td>Topics in Spanish Linguistics</td>
</tr>
<tr>
<td>SPN 4203</td>
<td>Topics in Hispanic Literatures</td>
</tr>
<tr>
<td>SPN 4303</td>
<td>Topics in Hispanic Cultures</td>
</tr>
<tr>
<td>SPN 4933</td>
<td>Internship in Spanish</td>
</tr>
</tbody>
</table>
SPN 4993  Honors Research
Study abroad experience with transfer credits from another university

B. Additional coursework in a single area or a combination
Select 12 additional semester credit hours in a single area or a combination, selected from the following in consultation with the undergraduate advisor: upper-division Spanish, literature, culture, linguistics, comparative studies in the humanities, foreign language (FL: translation, cross-cultural communication, study abroad, etc.), media studies, another foreign language, history, anthropology, art, or other related areas.

C. Electives
Select 27 semester credit hours of electives

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total Credit Hours: 81</td>
</tr>
</tbody>
</table>

**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 advisors in the College of Liberal and Fine Arts Undergraduate Advising Center 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**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIS 1043, 1053, or 2053</td>
<td>United States History: Pre-Columbus to Civil War Era (core)</td>
</tr>
<tr>
<td>SPN 1014</td>
<td>Elementary Spanish I (or free elective)</td>
</tr>
<tr>
<td>WRC 1013</td>
<td>Freshman Composition I (core)</td>
</tr>
<tr>
<td>Mathematics core</td>
<td>3</td>
</tr>
<tr>
<td>Life &amp; Physical Sciences core</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIS 1203</td>
<td>Academic Inquiry and Scholarship (core)</td>
</tr>
<tr>
<td>HIS 1043, 1053, or 2053</td>
<td>United States History: Pre-Columbus to Civil War Era (core)</td>
</tr>
<tr>
<td>SPN 1024</td>
<td>Elementary Spanish II (or free elective)</td>
</tr>
<tr>
<td>WRC 1023</td>
<td>Freshman Composition II (core)</td>
</tr>
<tr>
<td>Life &amp; Physical Sciences core</td>
<td>3</td>
</tr>
</tbody>
</table>

**Second Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECO 2003, 2013, or 2023</td>
<td>Economic Principles and Issues (core)</td>
</tr>
<tr>
<td>POL 1013</td>
<td>Introduction to American Politics (core)</td>
</tr>
<tr>
<td>SPN 2013</td>
<td>Intermediate Spanish I (or free elective)</td>
</tr>
</tbody>
</table>
Free elective  3
Language, Philosophy & Culture core or free elective  3

**Spring**

<table>
<thead>
<tr>
<th>Code</th>
<th>Course Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>POL 1133</td>
<td>Texas Politics and Society (core)</td>
<td>3</td>
</tr>
<tr>
<td>SPN 2023</td>
<td>Intermediate Spanish II</td>
<td>3</td>
</tr>
</tbody>
</table>
Free elective  3
Creative Arts core  3
Component Area Option core  3

**Third Year**

**Fall**

<table>
<thead>
<tr>
<th>Code</th>
<th>Course Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPN 3013, 3113, or 4113</td>
<td>Spanish Phonetics and Pronunciation</td>
<td>3</td>
</tr>
<tr>
<td>SPN 3063</td>
<td>Grammar and Composition</td>
<td>3</td>
</tr>
</tbody>
</table>
Free elective  3
Free elective  3
Support work  3

**Spring**

<table>
<thead>
<tr>
<th>Code</th>
<th>Course Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPN 3013, 3113, or 4113</td>
<td>Spanish Phonetics and Pronunciation</td>
<td>3</td>
</tr>
<tr>
<td>SPN 3043</td>
<td>Advanced Reading</td>
<td>3</td>
</tr>
<tr>
<td>SPN 4003</td>
<td>Advanced Language Skills</td>
<td>3</td>
</tr>
</tbody>
</table>
Support work  3
Upper-division SPN elective  3

**Fourth Year**

**Fall**

<table>
<thead>
<tr>
<th>Code</th>
<th>Course Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPN 3413, 3423, 3463, 3473, or 4203</td>
<td>The Literature of Spain from the Middle Ages to 1700</td>
<td>3</td>
</tr>
<tr>
<td>SPN 3413, 3423, 3463, 3473, or 4203</td>
<td>The Literature of Spain from the Middle Ages to 1700</td>
<td>3</td>
</tr>
<tr>
<td>SPN 3613, 3623, or 4303</td>
<td>Spanish Culture and Civilization</td>
<td>3</td>
</tr>
</tbody>
</table>
Free elective (to meet 120 hour minimum)  3-1
Support work  3

**Spring**

<table>
<thead>
<tr>
<th>Code</th>
<th>Course Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPN 3413, 3423, 3463, 3473, or 4203</td>
<td>The Literature of Spain from the Middle Ages to 1700</td>
<td>3</td>
</tr>
<tr>
<td>SPN 3613, 3623, or 4303</td>
<td>Spanish Culture and Civilization</td>
<td>3</td>
</tr>
</tbody>
</table>
4000-level SPN elective  3
Support work  3
Upper-division SPN elective  3

Total Credit Hours: 120.0
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 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 program includes three main components:

1. The learning of a specific language
   For this major, the student will move through three levels of proficiency. The first and second levels are completed with the basic four-semester sequence, Elementary I–II and Intermediate I–II courses in the chosen language. The third level is completed by taking 12 semester credit hours of upper-division coursework after successful completion of the basic sequence. A placement test will determine at which level of the sequence the student should start the study of a language.

2. The linguistic theory underlying languages and language learning
   The introductory linguistic course gives students a basis for more advanced theoretical approaches to language studies in general.

3. The cultural component
   A series of courses taught in English addresses the study of the literature and culture of each individual language taught in the program.
   The courses in comparative studies address various issues related to several regions, periods and fields of study.

Each of these basic components can be augmented using the 18 semester credit hours of support work. By carefully preparing a plan of study with an academic advisor, students can tailor the concentration to their own needs.

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 support area 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 Bachelor in Arts 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 College of Education and Human Development 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 Bachelor of Arts degree in Modern Language 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. For a complete listing of courses that satisfy Core Curriculum requirements, see chapter 1 of this catalog.

CSH 1103, CSH 1113, CSH 1213, or CSH 2113 should be used to satisfy the core requirement in Language, Philosophy and Culture.

**Degree Requirements**

A. Courses within the major

1. Language courses in a single discipline
   
   Select two courses in intermediate courses and four upper-division courses in a single language discipline

2. Linguistics courses

   LNG 3813  Introduction to Linguistics  
   3

3. Select four courses in comparative studies and/or in literature in translation, two of which must be at the upper-division level

   a. Select one to two language-specific literature and culture courses:

      CSH 1213  Topics in World Cultures
      CSH 2113  The Foreign Film
      FRN 2333  French Literature in English Translation
      GER 2333  German Literature in English Translation
      ITL 2333  Italian Literature in English Translation
      RUS 2333  Russian Literature in English Translation
      SPN 2333  Hispanic Literature in English Translation

   b. Select two to three comparative studies courses:

      CSH 1103  Literary Masterpieces of Western Culture I
      CSH 1113  Literary Masterpieces of Western Culture II
      CSH 2313  Introduction to Literary Studies
      CSH 3023  Studies in Comparative Literature
      CSH 3823  Advanced Topics in World Cultures
      MES 3113  Film Studies

4. Select 3 semester credit hours of signature experience (FL 4953 Special Projects, study abroad, internship, etc.). Students in the Honors program are encouraged to complete an Honors thesis.

   3
B. Support work in any language or internationally focused topics

Select 18 semester credit hours of support work in any language or internationally focused topics in such disciplines as African American studies, American studies, anthropology, art history, bicultural-bilingual studies, classics, communication, English as a second language, geography, history, humanities, interdisciplinary studies, international business, international studies, linguistics, literature, music history, philosophy, political science, psychology, sociology, and women’s studies. Course selections must be approved by the academic advisor.

Study Abroad and Languages Across the Curriculum courses are strongly recommended.

C. Electives

Select 24 semester credit hours of electives

Total Credit Hours: 78

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**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 advisors in the College of Liberal and Fine Arts Undergraduate Advising Center 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 Modern Language Studies – Four-Year Academic Plan**

**First Year**

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIS 1203 Academic Inquiry and Scholarship (core)</td>
<td>3</td>
</tr>
<tr>
<td>HIS 1043, 1053, or 2053 United States History: Pre-Columbus to Civil War Era (core)</td>
<td>3</td>
</tr>
<tr>
<td>WRC 1013 Freshman Composition I (core)</td>
<td>3</td>
</tr>
<tr>
<td>Language 1014 or free elective</td>
<td>3-4</td>
</tr>
<tr>
<td>Life &amp; Physical Sciences core</td>
<td>3</td>
</tr>
</tbody>
</table>

**Spring**

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIS 1043, 1053, or 2053 United States History: Pre-Columbus to Civil War Era (core)</td>
<td>3</td>
</tr>
<tr>
<td>WRC 1023 Freshman Composition II (core)</td>
<td>3</td>
</tr>
<tr>
<td>Language 1024 or free elective</td>
<td>3-4</td>
</tr>
<tr>
<td>Life &amp; Physical Sciences core</td>
<td>3</td>
</tr>
<tr>
<td>Mathematics core</td>
<td>3</td>
</tr>
</tbody>
</table>

**Second Year**

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECO 2003, 2013, or 2023 Economic Principles and Issues (core)</td>
<td>3</td>
</tr>
<tr>
<td>POL 1013 Introduction to American Politics (core)</td>
<td>3</td>
</tr>
<tr>
<td>Free elective</td>
<td>3</td>
</tr>
</tbody>
</table>
Language 2013 (Intermediate I) 3
Language, Philosophy & Culture core 3

**Spring**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>POL 1133</td>
<td>Texas Politics and Society (core)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Free elective</td>
<td>3</td>
</tr>
</tbody>
</table>
| Language 2023 (Intermediate II) | 3
| Creative Arts core | 3
| Component Area Option core | 3

**Third Year**

**Fall**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>LNG 3813</td>
<td>Introduction to Linguistics</td>
<td>3</td>
</tr>
</tbody>
</table>
| Degree requirement A.3.a. | 3
| Free elective | 3
| Support work | 3
| Upper-division language course | 3

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Degree requirement A.3.a. or b.</td>
<td>3</td>
</tr>
</tbody>
</table>
| Degree requirement A.3.a. or b. | 3
| Free elective | 3
| Support work | 3
| Upper-division language course | 3

**Spring**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
</table>
| Degree requirement A.3.a. or b. | 3
| Degree requirement A.3.a. or b. | 3
| Free elective | 3
| Support work | 3
| Upper-division language course | 3

**Fourth Year**

**Fall**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
</table>
| Degree requirement A.3.a. or b. | 3
| Support work | 3
| Support work | 3
| Upper-division language course | 3
| Upper-division language course | 3

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
</table>
| Free elective | 3
| Free elective (to meet 120 hour minimum) | 3-1
| Signature Experience | 3
| Support work | 3
| Support work | 3

**Total Credit Hours: 120.0**
Minor in Spanish

All students pursuing the Minor in Spanish must complete 18 semester credit hours.

A. Required language skill courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPN 2023</td>
<td>Intermediate Spanish II</td>
<td>3</td>
</tr>
<tr>
<td>SPN 3003</td>
<td>Oral and Written Expression</td>
<td>3</td>
</tr>
<tr>
<td>SPN 3033</td>
<td>Oral Communication Skills</td>
<td>3</td>
</tr>
<tr>
<td>SPN 3043</td>
<td>Advanced Reading</td>
<td>3</td>
</tr>
<tr>
<td>SPN 3063</td>
<td>Grammar and Composition</td>
<td>3</td>
</tr>
<tr>
<td>or SPN 4003</td>
<td>Advanced Language Skills</td>
<td></td>
</tr>
</tbody>
</table>

B. Upper-division Spanish courses

Select 3 semester credit hours of other upper-division Spanish courses chosen in consultation with the advisor

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

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>FRN 2013</td>
<td>Intermediate French I</td>
<td>3</td>
</tr>
<tr>
<td>FRN 2023</td>
<td>Intermediate French II</td>
<td>3</td>
</tr>
<tr>
<td>FRN 3023</td>
<td>Advanced Language Skills</td>
<td>3</td>
</tr>
</tbody>
</table>

B. Additional courses in French or French-related topics, 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 French

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

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>GER 2013</td>
<td>Intermediate German I</td>
<td>3</td>
</tr>
<tr>
<td>GER 2023</td>
<td>Intermediate German II</td>
<td>3</td>
</tr>
<tr>
<td>GER 3023</td>
<td>Advanced Language Skills</td>
<td>3</td>
</tr>
</tbody>
</table>

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

Total Credit Hours: 18
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

B. Upper-division in comparative studies in the humanities
1. Comparative Literature
   CSH 3023 Studies in Comparative Literature 3
2. One course of an additional upper-division CSH course 3
   Total Credit Hours: 18

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 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 Pronunciation
SPN 3113  Linguistic Structures of Spanish
SPN 4113  Topics in Spanish Linguistics
SPN 4123  The Spanish of the Southwest

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 Diversity in a Pluralistic Society
LNG 3833  Sociolinguistics
LNG 3843  Gender Issues in Language
PSY 4323  Psychology of Language

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

Total Credit Hours: 18

Arabic (ARA) Courses
Department of Modern Languages and Literatures, College of Liberal and Fine Arts

ARA 1014. Elementary Arabic I. (3-2) 4 Credit Hours. (TCCN = ARAB 1411)
Fundamentals of Arabic offering the opportunity to develop speaking, listening, reading, and writing skills. Introduction to Arabic culture. May be applied toward the Core Curriculum requirement in Language, Philosophy and Culture.

ARA 1024. Elementary Arabic II. (3-2) 4 Credit Hours. (TCCN = ARAB 1412)
Prerequisite: ARA 1014, an equivalent, or an appropriate placement test score. Fundamentals of Arabic offering the opportunity to further develop speaking, listening, reading, and writing skills. Further exposure to Arabic culture.

ARA 2013. Intermediate Arabic I. (3-1) 3 Credit Hours. (TCCN = ARAB 2311)
Prerequisite: ARA 1024, an equivalent, or an appropriate placement test score. Continued opportunity to develop listening, speaking, reading, and writing skills. Continued exposure to Arabic culture.

ARA 2023. Intermediate Arabic II. (3-1) 3 Credit Hours. (TCCN = ARAB 2312)
Prerequisite: ARA 2013, an equivalent, or an appropriate placement test score. Continued opportunity to develop listening, speaking, reading, and writing skills. Continued exposure to Arabic culture.

Chinese (CHN) Courses
Department of Modern Languages and Literatures, College of Liberal and Fine Arts

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.

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.

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.
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.

Comparative Studies in the Humanities (CSH) Courses
Department of Modern Languages and Literatures, College of Liberal and Fine Arts

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.

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.

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.

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.

CSH 2313. Introduction to Literary Studies. (3-0) 3 Credit Hours.
Prerequisite: WRC 1023 or the equivalent. Offers the opportunity to develop an awareness of literature and the skills with which to approach and understand it. Examination of individual national traditions and the interrelationship of all literary traditions. Emphasis on the nature of genre, period, and style. (Formerly CSH 3313. Credit cannot be earned for both CSH 2313 and CSH 3313.)

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.
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.

Foreign Languages (FL) Courses
Department of Modern Languages and Literatures, College of Liberal and Fine Arts

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.

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.

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.

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.

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.

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.
FL 3003. Introduction to Translation. (3-0) 3 Credit Hours.
Prerequisites: At least four courses of any single foreign language. Principles of translation with practice in translating brief documents of a general nature. May be repeated for credit when language varies.

FL 3013. Translation for the Language Specialist. (3-0) 3 Credit Hours.
Prerequisite: At least one course at the 3000 level in the selected foreign language. The language-related and cultural issues involved in translation and interpretation. Practice in translating documents from selected professional areas: business, health care, law, technology, or the arts. May be repeated for credit when topics/languages vary.

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.

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.

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.

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.

FL 4243. Foreign Language Instruction. (3-0) 3 Credit Hours.
Prerequisite: 2023 or an equivalent in a foreign language. A study of second-language-acquisition theories. Emphasis on instructional methodology as it relates to foreign languages and cultures.

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.

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.
French (FRN) Courses
Department of Modern Languages and Literatures, College of Liberal and Fine Arts

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.

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.

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.

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.

FRN 2333. French Literature in English Translation. (3-0) 3 Credit Hours. (TCCN = ENGL 2331)
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.).

FRN 3023. Advanced Language Skills. (3-0) 3 Credit Hours.
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.

FRN 3053. Business French. (3-0) 3 Credit Hours.
Prerequisite: FRN 2023 or consent of instructor. Introduction to the basic context of the French economy and business world, with emphasis on development of practical language skills to deal with matters such as commercial correspondence, documents, reports, telecommunications, and conferences. Attention to vocabulary and style specific to French business. Practice in translation on business-related topics.

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.
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.

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.

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.

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.

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.

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.

German (GER) Courses
Department of Modern Languages and Literatures, College of Liberal and Fine Arts

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.

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.

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.
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.

GER 2333. German Literature in English Translation. (3-0) 3 Credit Hours. (TCCN = ENGL 2331)
Major works of German literature across time, genres, and movements. (Formerly GER 3333. Credit cannot
be earned for both GER 2333 and GER 3333.).

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.

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.

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.

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.

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.

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.

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.

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.
Italian (ITL) Courses
Department of Modern Languages and Literatures, College of Liberal and Fine Arts

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.

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.

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.

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.

ITL 2333. Italian Literature in English Translation. (3-0) 3 Credit Hours. (TCCN = ENGL 2331)
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.).

Japanese (JPN) Courses
Department of Modern Languages and Literatures, College of Liberal and Fine Arts

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.

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.

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.
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.

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.

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.

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.

Linguistics (LNG) Courses
Department of Modern Languages and Literatures, College of Liberal and Fine Arts

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.).

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.

LNG 3843. Gender Issues in Language. (3-0) 3 Credit Hours.
Prerequisite: Completion of or concurrent enrollment in 3000-level linguistics course. The examination and analysis of issues related to gender and language, such as the historical basis for grammatical gender, gender-based sociolinguistic differences, and recent research in gender-based expectations for language use.

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.).
Media Studies (MES) Courses
Department of Modern Languages and Literatures, College of Liberal and Fine Arts

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.

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.

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.

Russian (RUS) Courses
Department of Modern Languages and Literatures, College of Liberal and Fine Arts

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.

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.

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.

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.

RUS 2333. Russian Literature in English Translation. (3-0) 3 Credit Hours. (TCCN = ENGL 2331)
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.).
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.

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.

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.

RUS 3633. 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 geography, traditions, history, music, literature, art, or film. May be repeated for credit when topics vary.

Spanish (SPN) Courses
Department of Modern Languages and Literatures, College of Liberal and Fine Arts

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.

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.

SPN 2013. Intermediate Spanish I. (3-1) 3 Credit Hours. (TCCN = SPAN 2311)
Prerequisite: SPN 1008, 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.

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.
SPN 2333. Hispanic Literature in English Translation. (3-0) 3 Credit Hours. (TCCN = ENGL 2331)
Prerequisite: WRC 1013 or the equivalent. Major works in Hispanic literatures: themes, genres, and movements. May not be applied to a major in Spanish. 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.).

SPN 2513. Spanish for Special Purposes. (3-1) 3 Credit Hours. (TCCN = SPAN 2316)
Prerequisite: SPN 2013, the equivalent, or an appropriate placement test score. Foreign language communication and cross-cultural skills relevant to one or more of the following areas: business, health care, law, education, science, southwest Spanish, Hispanic literature, or technology. May be repeated for credit when topics vary.

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. May not be used as an elective for the Spanish major. ( Formerly SPN 2103. Credit cannot be earned for both SPN 3003 and SPN 2103.).

SPN 3013. Spanish Phonetics and Pronunciation. (3-1) 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.

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. May not be used as an elective for the Spanish major.

SPN 3043. Advanced Reading. (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.

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.

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.
SPN 3153. Spanish for the Business/Management Fields. (3-0) 3 Credit Hours.
Prerequisite: SPN 2023 or SPN 3003, or the equivalent. Foreign language skills relevant to careers in business fields. Emphasis on reading skills and simple conversations on business topics. Exposure to terminology from contracts, financial statements, business law, marketing, and banking. Intended for students with some background in Spanish. May be repeated once for credit when topics vary.

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.

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.

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.

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.

SPN 3493. Mexican American Literature. (3-0) 3 Credit Hours.
Prerequisite: SPN 3003, SPN 3063, or consent of instructor. Readings and discussion of works by Mexican American writers. The expression through poetry, the novel, the short story, and the theater of the Mexican American cultural experience as well as universal themes and literary concerns. Selections from popular literature, including the oral tradition. May be repeated for credit when topics vary.

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.

SPN 3623. Latin American Culture and Civilization. (3-0) 3 Credit Hours.
Prerequisite: SPN 3043. The cultural life of the respective geographic regions and social strata of Latin America from before the Conquest to the present, as reflected in and interpreted by its literature and arts.

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.

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.
SPN 4123. The Spanish of the Southwest. (3-0) 3 Credit Hours.
Prerequisite: SPN 3013, SPN 3113, or consent of instructor. The analysis of the Spanish language as used by Mexican Americans in the southwestern United States, from a linguistic and sociolinguistic perspective. Particular attention given to the Spanish spoken in Texas.

SPN 4203. Topics in Hispanic Literatures. (3-0) 3 Credit Hours.
Prerequisite: 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.

SPN 4303. Topics in Hispanic Cultures. (3-0) 3 Credit Hours.
Prerequisite: SPN 3043 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.

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.

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.

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.

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.
DEPARTMENT OF MUSIC

The Department of Music offers the Bachelor of Music degree and the Bachelor of Arts in Music degree. Students may select the Bachelor of Music in Music Studies (with all-level teacher certification) or the Bachelor of Music with an emphasis in either music performance, composition, or music marketing. The department also offers a Minor in Dance, a Minor in Music, a Certificate in Music Technology, and a Certificate in Jazz Studies. The Department of Music is accredited by the National Association of Schools of Music.

Students entering the Bachelor of Music program with a Music Studies concentration may be required to satisfy additional requirements as prescribed by the State Board for Educator Certification (SBEC) and are advised to consult the College of Education and Human Development Advising and Certification Center.

A diagnostic examination in music theory is given to music majors entering UTSA for the first time. This examination is given at the beginning of each semester and used as an aid in advising.

In order to declare music as a major, students must successfully audition for faculty in their principal performance area. If a student is not enrolled in Private Instruction for two consecutive long semesters (Fall or Spring), the student must re-audition for admission into the music program and for placement in an appropriate level of private instruction.

The music faculty and students support the COLFA Signature Experience through the following capstone experiences in the music studies concentration and the three undergraduate music emphases:

Music Studies: Student Teaching (C&I 4716 Student 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 Senior Recital). 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 Senior Recital). 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 Music Marketing Internship). 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

The minimum number of semester credit hours required for this degree, including the Core Curriculum requirements, is 133 in the Music Studies concentration, 130 in the Composition emphasis, 130 in the Music Performance emphasis, and 130 in the Music Marketing emphasis. Undergraduates seeking elementary teacher certification must complete the Interdisciplinary Studies degree.

All candidates for this degree must fulfill the Core Curriculum requirements and the music degree requirements, which are listed below. In addition, a candidate for the Bachelor of Music degree must complete the course requirements for the concentration or emphasis declared by the candidate.
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. 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. For a complete listing of courses that satisfy the Core Curriculum requirements, see chapter 1 of this catalog.

MUS 2243 may be used to satisfy the core requirement in Creative Arts as well as a major requirement. Vocal Performance majors should take ITL 1014 to satisfy the core requirement in Language, Philosophy, and Culture.

Music Degree Requirements

All candidates for the Bachelor of Music degree, regardless of concentration or emphasis, must complete the following 45–47 semester credit hours of required music courses. (Note that MUS 2243 World Music in Society may also be used to satisfy Core Curriculum requirements in Creative Arts):

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUS 1102</td>
<td>Aural Skills I</td>
<td>2</td>
</tr>
<tr>
<td>MUS 1112</td>
<td>Basic Skills of Music I</td>
<td>2</td>
</tr>
<tr>
<td>MUS 1122</td>
<td>Aural Skills II</td>
<td>2</td>
</tr>
<tr>
<td>MUS 1132</td>
<td>Basic Skills of Music II</td>
<td>2</td>
</tr>
<tr>
<td>MUS 1512</td>
<td>Music Performance-Private Instruction</td>
<td>2</td>
</tr>
<tr>
<td>MUS 1542</td>
<td>Music Performance-Private Instruction I</td>
<td>2</td>
</tr>
<tr>
<td>MUS 2102</td>
<td>Aural Skills III</td>
<td>2</td>
</tr>
<tr>
<td>MUS 2112</td>
<td>Aural Skills IV</td>
<td>2</td>
</tr>
<tr>
<td>MUS 2152</td>
<td>Basic Skills of Music III</td>
<td>2</td>
</tr>
<tr>
<td>MUS 2162</td>
<td>Basic Skills of Music IV</td>
<td>2</td>
</tr>
<tr>
<td>MUS 2243</td>
<td>World Music in Society</td>
<td>3</td>
</tr>
<tr>
<td>MUS 2403</td>
<td>Conducting I</td>
<td>3</td>
</tr>
<tr>
<td>MUS 2542</td>
<td>Music Performance-Private Instruction II (2 semesters)</td>
<td>4</td>
</tr>
<tr>
<td>MUS 3213</td>
<td>Music in Civilization I</td>
<td>3</td>
</tr>
<tr>
<td>MUS 3223</td>
<td>Music in Civilization II</td>
<td>3</td>
</tr>
<tr>
<td>MUS 3413</td>
<td>Psychology of Music</td>
<td>3</td>
</tr>
<tr>
<td>MUS 3532</td>
<td>Music Performance-Private Instruction III (2 semesters)</td>
<td>4</td>
</tr>
</tbody>
</table>

Keyboard requirement. Select one of the following options:

Option 1: Non-Keyboard Principal Instrument
- MUS 2421 Class Piano 3
- MUS 2521 Class Piano 4

Option 2: Keyboard Principal Instrument
- MUS 1552 Functional Piano for Keyboard Principals

Total Credit Hours: 45

1 Music Performance Emphasis students should take MUS 3543 Music Performance-Private Instruction IV (2 semesters) instead.
Special Degree Requirements

All students pursuing the Bachelor of Music degree are required:

- to make one recital appearance during the last semester of required study on their principal instrument; performance majors are required to make a minimum of one recital or area seminar appearance each semester on their principal instrument
- to perform in University ensembles; specific ensemble requirements for each emphasis or concentration are outlined in the Department of Music Student Handbook (available online)
- to meet music performance proficiency standards established for principal instruments; students not meeting those standards must repeat music performance courses until the proficiency standards have been met
- to fulfill the recital and seminar attendance requirements as defined in the Department of Music Student Handbook.

In addition, candidates for the Bachelor of Music degree must complete the course requirements for the concentration or emphasis they declare.

Music Studies Concentration (with all-level teacher certification)

All candidates for this concentration must fulfill the Music Degree Requirements (45 hours), as well as the course requirements necessary for this concentration (49 hours). Details regarding the following requirements for each principal instrument area are available in the Department of Music Student Handbook.

The principal instrument for those whose student teaching will be in band must be a woodwind, brass, or percussion instrument(s); for instance, traditional percussion instruments as found in a band or orchestra—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, contrabass (not electric bass), or classical guitar.

The principal instrument for those whose student teaching will be in choral-elementary general music must be voice, guitar, or piano.

The principal instrument for those whose student teaching will be in elementary general music-secondary instrumental must be violin, viola, cello, contrabass, guitar, woodwind, brass or traditional percussion.

A qualifying 30-minute proficiency recital must be presented on the student’s principal instrument and approved prior to the semester of student teaching; specific requirements are outlined in the Department of Music Student Handbook.

A. Courses within the music major

1. Required music courses 15-17

   **Wind Instrument and Percussion Principals**

   MUS 2413   Conducting II (Instrumental)
   MUS 3232   Wind and Percussion Literature
   MUS 3312   Music Technology for Music Educators
   MUS 3401   Brass Instruments
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUS 3421</td>
<td>Vocal Techniques for Instrumental Majors</td>
</tr>
<tr>
<td>MUS 3431</td>
<td>Woodwind Instruments</td>
</tr>
<tr>
<td>MUS 3453</td>
<td>Teaching Elementary Music</td>
</tr>
<tr>
<td>MUS 3471</td>
<td>String Instruments</td>
</tr>
<tr>
<td>MUS 3481</td>
<td>Percussion Instruments</td>
</tr>
<tr>
<td>MUS 4452</td>
<td>Marching Band Techniques</td>
</tr>
</tbody>
</table>

**String Instrument Principals**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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</thead>
<tbody>
<tr>
<td>MUS 2413</td>
<td>Conducting II (Instrumental)</td>
</tr>
<tr>
<td>MUS 3242</td>
<td>String Literature</td>
</tr>
<tr>
<td>MUS 3312</td>
<td>Music Technology for Music Educators</td>
</tr>
<tr>
<td>MUS 3401</td>
<td>Brass Instruments</td>
</tr>
<tr>
<td>MUS 3421</td>
<td>Vocal Techniques for Instrumental Majors</td>
</tr>
<tr>
<td>MUS 3431</td>
<td>Woodwind Instruments</td>
</tr>
<tr>
<td>MUS 3453</td>
<td>Teaching Elementary Music</td>
</tr>
<tr>
<td>MUS 3471</td>
<td>String Instruments</td>
</tr>
<tr>
<td>MUS 3481</td>
<td>Percussion Instruments</td>
</tr>
</tbody>
</table>

**Guitar Principals (Orchestral)**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>MUS 2413</td>
<td>Conducting II (Instrumental)</td>
</tr>
<tr>
<td>MUS 3312</td>
<td>Music Technology for Music Educators</td>
</tr>
<tr>
<td>MUS 3332</td>
<td>Advanced Guitar Literature</td>
</tr>
<tr>
<td>MUS 3401</td>
<td>Brass Instruments</td>
</tr>
<tr>
<td>MUS 3421</td>
<td>Vocal Techniques for Instrumental Majors</td>
</tr>
<tr>
<td>MUS 3431</td>
<td>Woodwind Instruments</td>
</tr>
<tr>
<td>MUS 3453</td>
<td>Teaching Elementary Music</td>
</tr>
<tr>
<td>MUS 3471</td>
<td>String Instruments</td>
</tr>
<tr>
<td>MUS 3481</td>
<td>Percussion Instruments</td>
</tr>
</tbody>
</table>

**Guitar Principals (Choral)**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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</thead>
<tbody>
<tr>
<td>MUS 2413</td>
<td>Conducting II (Choral)</td>
</tr>
<tr>
<td>MUS 2601</td>
<td>Diction Survey</td>
</tr>
<tr>
<td>MUS 3312</td>
<td>Music Technology for Music Educators</td>
</tr>
<tr>
<td>MUS 3332</td>
<td>Advanced Guitar Literature</td>
</tr>
<tr>
<td>MUS 3453</td>
<td>Teaching Elementary Music</td>
</tr>
<tr>
<td>MUS 3463</td>
<td>Teaching Secondary Vocal Music</td>
</tr>
<tr>
<td>MUS 3491</td>
<td>Instrumental Techniques for Voice Majors</td>
</tr>
</tbody>
</table>

**Voice and Keyboard Principals**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>MUS 2413</td>
<td>Conducting II (Choral)</td>
</tr>
<tr>
<td>MUS 2601</td>
<td>Diction Survey</td>
</tr>
<tr>
<td>MUS 3272</td>
<td>Choral Literature (Renaissance to Baroque topic)</td>
</tr>
</tbody>
</table>
2. Additional required music performance study

Wind Instrument and Percussion Principals
MUS 4532 Music Pedagogy (Instrumental)

String Instrument Principals
MUS 1511 Music Performance-Secondary Instrument (violin or viola)
MUS 1511 Music Performance-Secondary Instrument (cello or bass)
MUS 4532 Music Pedagogy (Instrumental)

Guitar Principals (Orchestral)
MUS 1511 Music Performance-Secondary Instrument (strings two semesters)
MUS 4532 Music Pedagogy (Guitar)

Guitar Principals (Choral)
MUS 1511 Music Performance-Secondary Instrument (strings two semesters)
MUS 4532 Music Pedagogy (Guitar)

Voice Principals
MUS 4531 Vocal Pedagogy I
MUS 4541 Vocal Pedagogy II

Keyboard Principals
MUS 1511 Music Performance-Secondary Instrument (voice two semesters)

3. Two ensemble courses as assigned by the ensemble directors

B. Professional Education courses
Select 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 College of Education and Human Development Advising and Certification Center.

C. Students electing the Music Studies concentration must successfully complete the pre-certification interview with the Music Studies Committee for approval to continue as a music studies major at the upper-division level.

D. Students enrolled in the Music Studies concentration must successfully complete competency tests to receive certification as specified by the Texas State Board for Educator Certification.

Total Credit Hours: 49

1 Secondary instrument must not be the same as principal instrument.

### Course Sequence Guide for B.M. with a Music Studies 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 the College of Liberal and Fine Arts Undergraduate Advising Center 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 Studies (Instrumental) – Five-Year Academic Plan

<table>
<thead>
<tr>
<th>First Year</th>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AIS 1203</td>
<td>Academic Inquiry and Scholarship</td>
</tr>
<tr>
<td></td>
<td>MUS 1102</td>
<td>Aural Skills I</td>
</tr>
<tr>
<td></td>
<td>MUS 1112</td>
<td>Basic Skills of Music I</td>
</tr>
<tr>
<td></td>
<td>MUS 1512</td>
<td>Music Performance-Private Instruction</td>
</tr>
<tr>
<td></td>
<td>MUS 1521</td>
<td>Class Piano 1</td>
</tr>
<tr>
<td></td>
<td>MUS 3802</td>
<td>UTSA Marching Band</td>
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<tr>
<td></td>
<td>WRC 1013</td>
<td>Freshman Composition I</td>
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<tr>
<td></td>
<td>Major ensemble</td>
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<thead>
<tr>
<th></th>
<th>Spring</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td></td>
<td>MUS 1122</td>
<td>Aural Skills II</td>
</tr>
<tr>
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<td>MUS 1132</td>
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### Second Year

#### Fall

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<td>MUS 2232</td>
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<td>Introduction to Guitar Literature</td>
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<td>MUS 2243</td>
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<td>MUS 4452</td>
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#### Spring

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<td>Brass Instruments</td>
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<td>MUS 3421</td>
<td>Vocal Techniques for Instrumental Majors</td>
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**Fourth Year**

**Fall**

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<td>Approaches to Teaching Music</td>
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<td>MUS 1511</td>
<td>Music Performance-Secondary Instrument 4</td>
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<td>MUS 3213</td>
<td>Music in Civilization I</td>
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<td>MUS 3312</td>
<td>Music Technology for Music Educators</td>
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**Spring**

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<tr>
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<td>Models of Teaching in the Content Areas of the Secondary School</td>
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<td>Music in Civilization II</td>
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<td>MUS 3413</td>
<td>Psychology of Music</td>
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<td>RDG 3773</td>
<td>Reading and Writing Across the Disciplines–Secondary</td>
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**Fifth Year**

**Fall**

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**Total Credit Hours:** 133.0

1 Special degree requirement. Not included in total degree hours.

2 Only required of Wind/Percussion principals. Wind and percussion students interested in teaching general music may substitute C&I 4213 (Vocal) for MUS 4452.

3 Only required of guitar principals. Special degree requirement. Not included in total degree hours.

4 Only required of String and Guitar principals.
### Bachelor of Music in Music Studies (Choral) – Five-Year Academic Plan

#### First Year

<table>
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<tbody>
<tr>
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<td>MUS 1521 Class Piano 1</td>
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<tr>
<td>MUS 2601 Diction Survey</td>
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<td>WRC 1013 Freshman Composition I (core)</td>
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<td>MUS 1112 Basic Skills of Music I</td>
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#### Spring

| MUS 1132 Basic Skills of Music II | 2 |
| WRC 1023 Freshman Composition II (core) | 3 |
| MUS 1621 Class Piano 2  | 1 |
| IDS 2013 Introduction to Learning and Teaching in a Culturally Diverse Society | 3 |
| MUS 1122 Aural Skills II | 2 |
| Major ensemble | 2 |
| MUS 1542 Music Performance-Private Instruction I | 2 |

#### Summer

| University core course | 3 |
| University core course | 3 |

#### Second Year

<table>
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<tbody>
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<td>MUS 2232 Introduction to Guitar Literature</td>
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<td>MUS 2421 Class Piano 3</td>
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<td>MUS 2542 Music Performance-Private Instruction II</td>
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<td>EDU 2103 Social Foundations for Education in a Diverse U.S. Society</td>
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#### Spring

<p>| MUS 2112 Aural Skills IV | 2 |
| MUS 2162 Basic Skills of Music IV | 2 |
| MUS 2243 World Music in Society (core) | 3 |
| MUS 2403 Conducting I | 3 |
| MUS 2521 Class Piano 4  | 1 |</p>
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<td>MUS 3272</td>
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<td>MUS 2413</td>
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</table>
Fifth Year

Fall
C&I 4716  Student Teaching: All Level EC–12  6

Total Credit Hours: 133.0

1 Special degree requirement. Not included in total degree hours.
2 Piano principals will substitute one semester of MUS 1552.
3 Guitar principals will substitute one semester MUS 3332 and two semesters of MUS 1511.
4 Guitar principals will substitute one semester of MUS 4532. Keyboard principals will substitute two semesters of MUS 1511.
5 Only required of guitar principals. Special degree requirement. Not included in total degree hours.

Composition Emphasis

All candidates for this emphasis must fulfill the Music Degree Requirements (45 hours), as well as the course requirements necessary for this emphasis (46 hours).

A. Required music performance courses
1. Approved secondary instrument(s)  2

2. Ensemble as assigned by the ensemble directors, as outlined in the Department of Music Student Handbook  8

B. Required composition lessons
MUS 1141  Beginning Composition  1
MUS 2141  Composition II (2 semesters)  2
MUS 3162  Composition III (2 semesters)  4
MUS 4142  Composition IV (2 semesters)  4

C. Additional approved upper-level music theory, history, and technology courses
Select 15 additional semester credit hours  15

D. Electives
Select 9 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 include German, French, or Italian. Guitar principals must elect MUS 2232 Introduction to Guitar Literature.
E. Students electing the Composition emphasis must interview with the Composition Committee for approval to pursue the emphasis at the upper-division level.

F. Senior Recital is required of all students in the Composition emphasis

MUS 4561  Senior Recital  1

The student’s senior recital shall include a selection of the student’s compositions totaling a minimum of 30 minutes. The student will submit completed musical scores representing a majority of the proposed recital program to an examining committee the semester before that of the recital. The examining committee shall determine the acceptability of the recital program.

Total Credit Hours: 46

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 the College of Liberal and Fine Arts Undergraduate Advising Center 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

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<tr>
<th>First Year</th>
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<td>MUS 1521  Class Piano 1  1</td>
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<td>WRC 1013  Freshman Composition I  3</td>
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<td>MUS 1132  Basic Skills of Music II  2</td>
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<td>MUS 1621  Class Piano 2  1</td>
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### Second Year

#### Fall
- **MUS 2102**   Aural Skills III  
- **MUS 2141**   Composition II  
- **MUS 2152**   Basic Skills of Music III  
- **MUS 2403**   Conducting I  
- **MUS 2421**   Class Piano 3 <sup>1</sup>  
- **MUS 2542**   Music Performance-Private Instruction II  
- **Major ensemble**  
- **University core course**

#### Spring
- **MUS 2112**   Aural Skills IV  
- **MUS 2141**   Composition II  
- **MUS 2162**   Basic Skills of Music IV  
- **MUS 2243**   World Music in Society (core)  
- **MUS 2521**   Class Piano 4 <sup>1</sup>  
- **MUS 2542**   Music Performance-Private Instruction II  
- **Major ensemble** <sup>2</sup>  
- **University core course**

#### Summer
- **University core course**

### Third Year

#### Fall
- **MUS 3162**   Composition III  
- **MUS 3213 or 3223**   Music in Civilization I  
- **MUS 3532**   Music Performance-Private Instruction III  
- **MUS 4113**   Counterpoint  
- **MUS 4581**   Chamber Music  
- **University core course**

#### Spring
- **MUS 3143**   Orchestration  
- **MUS 3162**   Composition III  
- **MUS 3223 or 3213**   Music in Civilization II  
- **MUS 3532**   Music Performance-Private Instruction III  
- **MUS 4581**   Chamber Music  
- **University core course**

#### Summer
- **University core course**
## Fourth Year

### Fall

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<td>MUS 3413</td>
<td>Psychology of Music</td>
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### Spring

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<td>MUS 3013 or 3123</td>
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<td>MUS 3133</td>
<td>Analysis of Twentieth-Century Music</td>
<td>3</td>
</tr>
<tr>
<td>MUS 4142</td>
<td>Composition IV</td>
<td>2</td>
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<tr>
<td>MUS 4561</td>
<td>Senior Recital</td>
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<td>Ensemble 2</td>
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</table>

Total Credit Hours: 130.0

1 Keyboard principals will substitute one semester of MUS 1552 and two credits selected from MUS 1511, MUS 1512, and MUS 1531.

2 Special degree requirement. Students may apply these credits to their elective requirement.

## Music Performance Emphasis

All candidates for this emphasis must fulfill the music degree requirements (47 hours), as well as the course requirements necessary for this emphasis (44 hours).

### A. Required music performance courses

1. Private Instruction in principal instrument (this is in addition to the 14 hours of Private Instruction in the music degree requirements):

   - MUS 4543 Music Performance-Private Instruction V (2 semesters) 6

2. Approved secondary instrument(s) 2

3. Select 8 semester credit hours of ensemble courses as assigned by the ensemble directors, as outlined in the Department of Music Student Handbook 8

### B. Digital Music Production

- MUS 3013 Digital Music Production (Required for all music performance majors except voice principals) 3
C. Approved upper-level music theory courses
Select 6 semester credit hours of approved upper-level music theory courses. Wind, percussion, and string principals must choose MUS 3143 Orchestration.

D. Approved music literature courses in the student’s principal performance area
Select 4 semester credit hours of approved music literature courses in the student's principal performance area.

E. Approved music pedagogy courses in the student’s principal performance area
Select 2 semester credit hours of approved music pedagogy courses in the student’s principal performance area.

F. Free electives
For all music performance emphasis students except voice principals, 12 semester credit hours of free electives are required. Vocal Principals are required to use these 12 semester credit hours to satisfy the diction and language requirements as detailed in the Department of Music Student Handbook.

G. Students electing the Performance emphasis must be approved by the appropriate qualifying committee for approval to pursue the emphasis at the upper-division level; requirements for each area are specified in the Department of Music Student Handbook.

H. A senior recital approximately one hour in length must be presented and approved by the appropriate recital committee
MUS 4561 Senior Recital 1
Total Credit Hours: 44

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 the College of Liberal and Fine Arts Undergraduate Advising Center 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

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<tr>
<th>Fall</th>
<th>Credit Hours</th>
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<td>MUS 1102 Aural Skills I</td>
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</tr>
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<td>MUS 1112 Basic Skills of Music I</td>
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<tr>
<td>MUS 1512 Music Performance-Private Instruction</td>
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<td>WRC 1013</td>
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<tr>
<td>Spring</td>
<td>MUS 1122</td>
</tr>
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<td>MUS 1132</td>
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<tr>
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<td>MUS 2152</td>
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**Spring**

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<td>Music in Civilization II</td>
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<td>MUS 3543</td>
<td>Music Performance-Private Instruction IV</td>
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<td>MUS 4581</td>
<td>Chamber Music</td>
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| University core course | 3 |

**Summer**

| University core course | 3 |

**Fourth Year**

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<td>Psychology of Music</td>
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| Major Ensemble | 2 |
| Elective       | 3 |
| University core course | 3 |

**Spring**

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| Major Ensemble | 2 |
| University core course | 3 |
| Elective         | 3 |

Total Credit Hours: 130.0

1 Special degree requirement. Credit hours may be counted toward electives.
# Bachelor of Music in Performance (Keyboard) – Four-Year Academic Plan

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<td>Basic Skills of Music I</td>
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## Second Year

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<td>MUS 2243</td>
<td>World Music in Society (core)</td>
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<td>Accompanying</td>
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### Third Year

#### Fall

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<td>MUS 3013</td>
<td>Digital Music Production</td>
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<td>MUS 3213 or 3223</td>
<td>Music in Civilization I</td>
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<td>MUS 3322</td>
<td>Keyboard Literature</td>
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<td>Music Performance-Private Instruction IV</td>
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#### Spring

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<td>MUS 3223 or 3213</td>
<td>Music in Civilization II</td>
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<td>MUS 3322</td>
<td>Keyboard Literature</td>
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#### Summer

| University core course | 3       |

### Fourth Year

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<td>Music Performance-Private Instruction V</td>
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<td>MUS 4581</td>
<td>Chamber Music ¹</td>
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1 Special degree requirement. Credit hours may be counted toward electives.

Total Credit Hours: 130.0
### Bachelor of Music in Performance (Voice) – Four-Year Academic Plan

#### First Year

<table>
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<tr>
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<tbody>
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<td>AIS 1203 Academic Inquiry and Scholarship</td>
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<td>MUS 1102 Aural Skills I</td>
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<td>MUS 1512 Music Performance-Private Instruction</td>
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<td>MUS 3511 Diction for Singers</td>
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<td>WRC 1013 Freshman Composition I</td>
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#### Spring

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<td>MUS 3511 Diction for Singers</td>
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<td>WRC 1023 Freshman Composition II</td>
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#### Summer

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#### Second Year

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<td>MUS 2243 World Music in Society (core)</td>
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<td>MUS 3511 Diction for Singers</td>
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#### Spring

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**Summer**

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**Third Year**

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<td>Music Performance-Private Instruction IV</td>
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**Fourth Year**

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Upper-level theory course 3  
Major Ensemble 1  

Total Credit Hours: 130.0  

1 Special degree requirement. Not included in total degree hours.

### Bachelor of Music in Performance (Guitar) – Four-Year Academic Plan

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#### Second Year

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### Notes

- Credit hours for Academic Inquiry and Scholarship include 2 hours of music performance study, 1 hour of music history, and 2 hours of music appreciation.
- Credit hours for Freshman Composition I and Freshman Composition II include 3 hours of composition study and 1 hour of theory study.

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**Total Credit Hours:** 130.0

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**Notes:**

- Special degree requirement. Not included in total degree hours.

---

**Bachelor of Music in Performance (Guitar) – Four-Year Academic Plan**

**First Year**

- **Fall**
  - AIS 1203: Academic Inquiry and Scholarship (3)
  - MUS 1102: Aural Skills I (2)
  - MUS 1112: Basic Skills of Music I (2)
  - MUS 1512: Music Performance-Private Instruction (2)
  - MUS 1521: Class Piano 1 (1)
  - WRC 1013: Freshman Composition I (3)
  - Major ensemble (2)

- **Spring**
  - MUS 1122: Aural Skills II (2)
  - MUS 1132: Basic Skills of Music II (2)
  - MUS 1542: Music Performance-Private Instruction I (2)
  - MUS 1621: Class Piano 2 (1)
  - WRC 1023: Freshman Composition II (3)
  - University core math course (3)
  - Major ensemble (2)

- **Summer**
  - University core course (3)

**Second Year**

- **Fall**
  - 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)
  - MUS 2542: Music Performance-Private Instruction II (2)
  - Major ensemble (2)
  - University core course (3)

- **Spring**
  - MUS 2112: Aural Skills IV (2)
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**Summer**

| University core course | 3 |

**Third Year**

**Fall**

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<td>Music in Civilization I</td>
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<td>Advanced Guitar Literature</td>
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<td>Music Performance-Private Instruction IV</td>
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<td>MUS 4581</td>
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**Summer**

| University core course | 3 |

**Fourth Year**

**Fall**

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<td>Music Pedagogy</td>
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<td>Music Performance-Private Instruction V</td>
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<td>MUS 4561</td>
<td>Senior Recital</td>
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<td>MUS 4581</td>
<td>Chamber Music ¹</td>
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<td>University core course</td>
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</table>
Elective 3
Elective 3

Total Credit Hours: 130.0

1 Special degree requirement. Not included in total degree hours.

Music Marketing Emphasis

All candidates for this emphasis must fulfill the Music Degree Requirements (45 hours), as well as the course requirements necessary for this emphasis (46 hours).

A. Required music performance courses
1. Approved secondary instrument(s) 2

2. Select 8 semester credit hours of ensemble coursework as assigned by the ensemble directors, as outlined in the Department of Music Student Handbook 8

B. Required music marketing courses
1. Music marketing introductory course
   MUS 2263 Introduction to the Music Industry 3
   or MUS 2273 Introduction to Music Nonprofit Organizations

2. Required music marketing courses:
   MUS 3613 Entrepreneurship in Music 3
   MUS 4803 Seminar in Music Marketing 3
   MUS 4933 Music Marketing Internship 3

C. Additional approved business, music, music technology, or music marketing courses
At least 12 hours of which must be outside of music. Except for ACC 2013, ECO 2013, and ECO 2023, these must be upper-level courses. A list of suggested courses that fulfill this part of the degree is available in the Department of Music Student Handbook. 1

D. Electives
Select 3 semester credit hours of electives for students electing ECO 2013 or ECO 2023 as a partial fulfillment of C, above.
   MUS 2232 Introduction to Guitar Literature (Guitar principals must select this course)

E. Students electing the Music Marketing emphasis must interview with the Music Marketing Committee for approval to pursue the emphasis at the upper-division level

Total Credit Hours: 46
The College of Business sets prerequisites for all business coursework and changes prerequisites at its discretion. Business prerequisites are not necessarily included in this degree plan either as part of the academic core or the music marketing coursework. Consequently, before planning to take a specific business class, students should consult the catalog and meet with their advisor to determine whether they have met the prerequisites for that class.

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 the College of Liberal and Fine Arts Undergraduate Advising Center 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

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<th>Credit Hours</th>
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<td>MUS 1122</td>
<td>Aural Skills II</td>
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<td>Basic Skills of Music II</td>
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**Third Year**

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**Summer**

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**Fourth Year**

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### Spring

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### Summer

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**Total Credit Hours: 130.0**

1. Keyboard principals will substitute one semester of MUS 1552 and two credits hours selected from MUS 1511, MUS 1512, and MUS 1531.

2. Special degree requirement. Not included in total degree hours.

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**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 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 Bachelor of Arts degree in Music 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. For a complete listing of courses that satisfy the Core Curriculum requirements, see chapter 1 of this catalog.

MUS 2243 may be used to satisfy the core requirement in Creative Arts as well as a major requirement.

**Music Degree Requirements**

All candidates for the Bachelor of Arts degree in Music must complete the following 30 semester credit hours of required music courses (MUS 2243 World Music in Society may also be used to satisfy Core Curriculum requirements in Creative Arts).

**Music Degree Core**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>MUS 1102</td>
<td>Aural Skills I</td>
<td>2</td>
</tr>
<tr>
<td>MUS 1112</td>
<td>Basic Skills of Music I</td>
<td>2</td>
</tr>
<tr>
<td>MUS 1122</td>
<td>Aural Skills II</td>
<td>2</td>
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</tbody>
</table>
In addition, candidates for the Bachelor of Arts degree in Music must complete the course requirements selected from each of the following areas:

A. Select 6 semester credit hours of the following music literature and culture courses

MUS 2232  Introduction to Guitar Literature
MUS 2263  Introduction to the Music Industry
MUS 2273  Introduction to Music Nonprofit Organizations
MUS 2633  American Roots Music
MUS 2663  History and Styles of Jazz
MUS 2673  History and Styles of Rock
MUS 2693  The Music of Latin America and the Caribbean
MUS 2743  Music and Film
MUS 3232  Wind and Percussion Literature
MUS 3242  String Literature
MUS 3252  Topics in Music Literature
MUS 3263  Music Since 1900
MUS 3272  Choral Literature
MUS 3282  Vocal Literature
MUS 3292  Operatic Literature
MUS 3322  Keyboard Literature
MUS 3332  Advanced Guitar Literature
MUS 3413  Psychology of Music
MUS 3613  Entrepreneurship in Music
MUS 4163  Topics in Music Theory

B. Select 9 semester credit hours of music theory, analysis, and technology courses, of which 6 semester credit hours must be at the upper-division level:
MUS 2183 Jazz Skills
MUS 2403 Conducting I
MUS 3103 Audio Technology I
MUS 3123 Introduction to Electronic and Computer Music
MUS 3133 Analysis of Twentieth-Century Music
MUS 3143 Orchestration
MUS 3163 Audio Technology II
MUS 4113 Counterpoint
MUS 4153 Audio Technology III
MUS 4163 Topics in Music Theory
MUS 4183 Jazz Composition and Arranging

C. Select 10-14 semester credit hours of music performance courses as follows: 
MUS 1521 Class Piano 1
MUS 1621 Class Piano 2
(Keyboard Principals must take MUS 1552 Functional Piano for Keyboard Principals.)
Private Instruction (4 semester credit hours)
MUS 1512 Music Performance-Private Instruction
MUS 1542 Music Performance-Private Instruction I
(Guitar Principals must take 4 semesters of private instruction, including two semesters of MUS 2542.)
Ensemble (4-8 semester credit hours)
Four semesters as assigned by the ensemble directors, to include at least two semesters of Directed Ensemble (1–2 hours per semester). Details for ensemble requirements are listed in the Department of Music Student Handbook.

D. Electives
Select 22-26 semester credit hours of non-music electives, of which 6 semester credit hours must be at the upper-division level. Courses are chosen in consultation with the student’s advisor. 

Total Credit Hours: 47-55

1 Guitar Principals must select MUS 2232 Introduction to Guitar Literature.

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 the College of Liberal and Fine Arts Undergraduate Advising Center 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

<table>
<thead>
<tr>
<th>Fall</th>
<th></th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>AIS 1203</td>
<td>Academic Inquiry and Scholarship</td>
<td>3</td>
</tr>
<tr>
<td>MUS 1102</td>
<td>Aural Skills I</td>
<td>2</td>
</tr>
<tr>
<td>MUS 1112</td>
<td>Basic Skills of Music I</td>
<td>2</td>
</tr>
<tr>
<td>MUS 1512</td>
<td>Music Performance-Private Instruction</td>
<td>2</td>
</tr>
<tr>
<td>MUS 1521</td>
<td>Class Piano 1</td>
<td>1</td>
</tr>
<tr>
<td>WRC 1013</td>
<td>Freshman Composition I</td>
<td>3</td>
</tr>
<tr>
<td>Major ensemble</td>
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<td>2</td>
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</tbody>
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**Spring**

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<tr>
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<tbody>
<tr>
<td>MUS 1122</td>
<td>Aural Skills II</td>
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<tr>
<td>MUS 1132</td>
<td>Basic Skills of Music II</td>
<td>2</td>
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<tr>
<td>MUS 1542</td>
<td>Music Performance-Private Instruction I</td>
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<tr>
<td>MUS 1621</td>
<td>Class Piano 2</td>
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<td>WRC 1023</td>
<td>Freshman Composition II</td>
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<td>Major ensemble</td>
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<tr>
<td>University core course</td>
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#### Second Year

<table>
<thead>
<tr>
<th>Fall</th>
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<tbody>
<tr>
<td>MUS 2001</td>
<td>Concert Music</td>
<td>1</td>
</tr>
<tr>
<td>MUS 2102</td>
<td>Aural Skills III</td>
<td>2</td>
</tr>
<tr>
<td>MUS 2152</td>
<td>Basic Skills of Music III</td>
<td>2</td>
</tr>
<tr>
<td>MUS 2243</td>
<td>World Music in Society (core and major)</td>
<td>3</td>
</tr>
<tr>
<td>Major ensemble</td>
<td></td>
<td>2</td>
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<tr>
<td>Music Literature/Culture course</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>University core course</td>
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<td>3</td>
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</tbody>
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**Spring**

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<tr>
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<tbody>
<tr>
<td>MUS 2001</td>
<td>Concert Music</td>
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<tr>
<td>MUS 2112</td>
<td>Aural Skills IV</td>
<td>2</td>
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<tr>
<td>MUS 2162</td>
<td>Basic Skills of Music IV</td>
<td>2</td>
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<tr>
<td>MUS 3013</td>
<td>Digital Music Production</td>
<td>3</td>
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<tr>
<td>Major ensemble</td>
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<tr>
<td>Non-music elective</td>
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<tr>
<td>University core course</td>
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<td>3</td>
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#### Third Year

<table>
<thead>
<tr>
<th>Fall</th>
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<tbody>
<tr>
<td>MUS 3213 or 3223</td>
<td>Music in Civilization I</td>
<td>3</td>
</tr>
</tbody>
</table>
Music Theory/Analysis/Technology course 3
Non-music elective 3
University core course 3
University core course 3

**Spring**
MUS 3223 or 3213 Music in Civilization II 3
Music Literature/Culture course 3
Non-music elective 3
University core course 3
University core course 3

**Fourth Year**

**Fall**
Music Theory/Analysis/Technology course 3
Non-music elective 3
Non-music elective 2
University core course 3
University core course 3

**Spring**
Music Theory/Analysis/Technology course 3
Non-music elective 3
Non-music elective 3
Non-music elective 2
University core course 3

Total Credit Hours: 120.0

1. Keyboard principals will substitute one semester of MUS 1552.

**Minor in Dance**

All students pursuing the Minor in Dance must complete 21 semester credit hours of dance:

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 for an approved substitution to DAN 2013, DAN 2213 or DAN 2113.

Minor in Music
To declare a Minor in Music, students must first interview with a Music Department advisor.

All students pursuing the Minor in Music must complete 21 semester credit hours. Students with little or no prior experience with music performance or notation should take MUS 2623 Fundamentals of Music for the Non-Music Major before declaring the music minor and enrolling in MUS 1102 Aural Skills I and MUS 1112 Basic Skills of Music I.

A. Music theory 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

B. Select 3 semester credit hours of the following: 3
MUS 1521 Class Piano 1
MUS 1531 Class Voice
MUS 1621 Class Piano 2
MUS 2183 Jazz Skills
MUS 2243 World Music in Society
MUS 2263 Introduction to the Music Industry
MUS 2273 Introduction to Music Nonprofit Organizations
MUS 2403 Conducting I
MUS 2603 Beginning Guitar
MUS 2613 Intermediate Guitar
MUS 2633 American Roots Music
MUS 2663 History and Styles of Jazz
MUS 2673 History and Styles of Rock
MUS 2683 Masterpieces of Music
MUS 2693 The Music of Latin America and the Caribbean
MUS 2743 Music and Film
C. Select 6 semester credit hours of the following:  
MUS 3013  Digital Music Production  
MUS 3103  Audio Technology I  
MUS 3123  Introduction to Electronic and Computer Music  
MUS 3453  Teaching Elementary Music  
MUS 3523  Music and the Internet  
MUS 3613  Entrepreneurship in Music

D. Two semesters (a minimum of 2 semester credit hours) of Music Ensemble, as assigned

F. Concert Music  
MUS 2001  Concert Music (2 semesters)

Total Credit Hours: 21

Certificate in Jazz Studies
The Certificate in Jazz Studies is intended for music majors who have an interest in jazz performance, improvisation and arranging, and who are pursuing an undergraduate degree in music. The Certificate is granted upon graduation from the University.

Students pursuing the Certificate in Jazz Studies must complete a minimum of 16 semester credit hours, including the following courses:

MUS 2132  Introduction to Improvisation  
MUS 2183  Jazz Skills  
MUS 2663  History and Styles of Jazz  
MUS 3583  Advanced Improvisation  
MUS 3771  Jazz Ensemble (1 hour per semester, may be repeated for credit)  
MUS 4183  Jazz Composition and Arranging  
MUS 4581  Chamber Music (Jazz combo) (1 hour per semester, may be repeated for credit)

Total Credit Hours: 16

Certificate in Music Technology
The Certificate in Music Technology is designed primarily for UTSA students who have an active interest in music technology and are currently pursuing an undergraduate or graduate degree in any UTSA discipline. Students in disciplines outside of music will be accepted into the program with approval from the program director. The Certificate is granted upon graduation from the University.
Students can declare their intention to participate in the certificate program at any time before or during the first two courses, MUS 3013 Digital Music Production or MUS 3103 Audio Technology I. Acceptance is provisional. Exemplary performance in these two courses is required to continue with full acceptance in the upper level of the program. At that point, certificate students begin to receive more individualized training and attention in the remaining courses.

All students pursuing the Certificate in Music Technology must complete the following 16 semester credit hours. Substitutions must be approved by the Music Technology Committee.

MUS 3013  Digital Music Production  3  
MUS 3103  Audio Technology I  3  
MUS 3123  Introduction to Electronic and Computer Music  3  
MUS 3163  Audio Technology II  3  
MUS 4433  Multimedia Production  3  
MUS 4961  Music Technology Project  1  
Total Credit Hours: 16

Dance (DAN) Courses
Department of Music, College of Liberal and Fine Arts

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.

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. (Formally MUS 2763. Credit cannot be earned for both DAN 1113 and MUS 2763.).

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.

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.

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.
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.).

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.).

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.

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.).

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.

Music (MUS) Courses
Department of Music, College of Liberal and Fine Arts

MUS 1102. Aural Skills I. (2-0) 2 Credit Hours. (TCCN = MUSI 1216)
Enrollment is limited to music majors and minors. Offers the opportunity for training in sight-singing, aural skills, and keyboard application. Should be taken concurrently with MUS 1112. May not be attempted more than three times.

MUS 1112. Basic Skills of Music I. (2-1) 2 Credit Hours. (TCCN = MUSI 1211)
Enrollment is limited to music majors and minors. A survey of fundamentals and concepts of music. Emphasis on rudiments and melody, with an introduction to harmony. Materials from a variety of style periods are studied. Should be taken concurrently with MUS 1102. May not be attempted more than three times.

MUS 1122. Aural Skills II. (2-0) 2 Credit Hours. (TCCN = MUSI 1217)
Prerequisite: MUS 1102 or the equivalent. Enrollment is limited to music majors and minors. Offers the opportunity to continue training in sight-singing and aural skills, with emphasis on rhythmic, melodic, and
harmonic materials. Should be taken concurrently with MUS 1132. May not be attempted more than three times.

**MUS 1132. Basic Skills of Music II. (2-1) 2 Credit Hours. (TCCN = MUSI 1212)**
Prerequisite: MUS 1112 or the equivalent. Enrollment is limited to music majors and minors. Offers the opportunity for development of harmonic analytical and writing skills. Analytical techniques are applied to music from a variety of style periods, and includes an introduction to small forms. May not be attempted more than three times.

**MUS 1132. Basic Skills of Music II. (2-1) 2 Credit Hours. (TCCN = MUSI 1212)**
Prerequisite: MUS 1112 or the equivalent. Enrollment is limited to music majors and minors. Offers the opportunity for development of harmonic analytical and writing skills. Analytical techniques are applied to music from a variety of style periods, and includes an introduction to small forms. May not be attempted more than three times.

**MUS 1141. Beginning Composition. (0-0) 1 Credit Hour. (TCCN = MUSI 1286)**
Prerequisites: MUS 1102 and MUS 1112 or their equivalents. An introduction to the fundamentals and techniques of composition, including development of listening skills, notation, and improvisational aspects of generating original creative ideas. Seminar attendance is required.

**MUS 1141. Beginning Composition. (0-0) 1 Credit Hour. (TCCN = MUSI 1286)**
Prerequisites: MUS 1102 and MUS 1112 or their equivalents. An introduction to the fundamentals and techniques of composition, including development of listening skills, notation, and improvisational aspects of generating original creative ideas. Seminar attendance is required.

**MUS 1511. Music Performance-Secondary Instrument. (0-0) 1 Credit Hour.**
Enrollment is limited to music majors. Placement by audition. 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. Concurrent enrollment in an assigned University ensemble is required. May be repeated for credit.

**MUS 1511. Music Performance-Secondary Instrument. (0-0) 1 Credit Hour.**
Enrollment is limited to music majors. Placement by audition. 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. Concurrent enrollment in an assigned University ensemble is required. May be repeated for credit.

**MUS 1521. Class Piano 1. (0-0) 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.

**MUS 1521. Class Piano 1. (0-0) 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.

**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. May be repeated for credit.

**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. May be repeated for credit.

**MUS 1542. Music Performance-Private Instruction I. (0-0) 2 Credit Hours.**
Prerequisite: Successful completion of MUS 1512 with a grade of “C-” or better or placement by audition. Limited to music majors. Private instruction for students desiring to or required to study the following instruments: 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. Concurrent enrollment in an assigned University ensemble is required. May be repeated for credit a maximum of three semesters.

**MUS 1542. Music Performance-Private Instruction I. (0-0) 2 Credit Hours.**
Prerequisite: Successful completion of MUS 1512 with a grade of “C-” or better or placement by audition. Limited to music majors. Private instruction for students desiring to or required to study the following instruments: 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. Concurrent enrollment in an assigned University ensemble is required. May be repeated for credit a maximum of three semesters.
MUS 1552. Functional Piano for Keyboard Principals. (0-0) 2 Credit Hours.
Prerequisite: Music major with piano or organ as the principal instrument or consent of instructor. Offers the opportunity for development of keyboard skills, harmonization, transposition, and improvisation of accompaniments to melodies, sight-reading, score reading, and multiple-part reading.

MUS 1621. Class Piano 2. (0-0) 1 Credit Hour.
Prerequisite: MUS 1521 or the equivalent. 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.

MUS 2001. Concert Music. (1-0) 1 Credit Hour.
Prerequisite: Music major or minor. Required attendance at a selected number of approved music concerts and recitals as determined by the Department of Music. May be repeated for credit.

MUS 2102. Aural Skills III. (2-0) 2 Credit Hours. (TCCN = MUSI 2216)
Prerequisite: MUS 1122 or the equivalent. Enrollment is limited to music majors. Offers the opportunity to continue training in sight-singing and aural skills, with emphasis on rhythmic, melodic, and harmonic materials applied to the literature and theory drawn from MUS 2152. Should be taken concurrently with MUS 2152. May not be attempted more than three times.

MUS 2112. Aural Skills IV. (2-0) 2 Credit Hours. (TCCN = MUSI 2217)
Prerequisite: MUS 2102 or the equivalent. Enrollment is limited to music majors. Application of skills to materials drawn from MUS 2162 Basic Skills of Music IV. Should be taken concurrently with MUS 2162. May not be attempted more than three times.

MUS 2122. Aural Skills Review. (0-0) 2 Credit Hours.
Review of aural skills materials for incoming transfer students and other music majors. 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.

MUS 2132. Introduction to Improvisation. (0-0) 2 Credit Hours. (TCCN = MUSI 1263)
Prerequisites: Music major status or concurrent enrollment in MUS 3771 or MUS 4581: Jazz Combos. Private instruction for development of creative skills applied to melodic, rhythmic, and harmonic elaboration techniques adapted to the student’s instrument. Laboratory attendance may be required. May be repeated for credit a maximum of three semesters.

MUS 2141. Composition II. (0-0) 1 Credit Hour.
Prerequisites: MUS 1102, MUS 1112, and MUS 1142. Private study of the fundamentals of composition through small forms. Seminar attendance is required. May be repeated for credit. (Formerly MUS 2142. Credit cannot be earned for both MUS 2141 and MUS 2142.).

MUS 2152. Basic Skills of Music III. (2-1) 2 Credit Hours. (TCCN = MUSI 2211)
Prerequisite: MUS 1132 or the equivalent. Enrollment is limited to music majors. A survey of the chromatic materials of music with an emphasis on writing and analytical skills. Includes an introduction to large-scale form. Should be taken concurrently with MUS 2102. May not be attempted more than three times.
MUS 2162. Basic Skills of Music IV. (2-1) 2 Credit Hours. (TCCN = MUSI 2212)
Prerequisite: MUS 2152 or the equivalent. Enrollment is limited to music majors. The continued study of chromatic materials of music, large-scale forms, and an introduction to analytical techniques for early 20th-century music. Should be taken concurrently with MUS 2112. May not be attempted more than three times.

MUS 2183. Jazz Skills. (0-0) 3 Credit Hours.
Prerequisites: MUS 1122 and MUS 1132, or their equivalents. 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.).

MUS 2232. Introduction to Guitar Literature. (0-0) 2 Credit Hours.
Prerequisite: Music major status. 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.

MUS 2243. World Music in Society. (3-0) 3 Credit Hours. (TCCN = MUSI 1307)
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.).

MUS 2263. Introduction to the Music Industry. (3-0) 3 Credit Hours.
Prerequisite: Consent of instructor required for non-music majors. A survey of the various structures and facets of the modern American 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.

MUS 2273. Introduction to Music Nonprofit Organizations. (3-0) 3 Credit Hours.
Prerequisite: Consent of instructor required for non-music majors or non-music minors. An introduction to the world of nonprofit music organizations, with an emphasis on classical music presentation. Focused on strategies of management, financial structuring, artistic direction, and marketing, primarily within the context of opera companies, symphony orchestras, ballet companies, and chamber music organizations. Includes an examination of the challenges of audience development and discussion of classical music’s role in contemporary society.

MUS 2403. Conducting I. (3-1) 3 Credit Hours.
Prerequisite: MUS 1132 or the equivalent. Fundamentals of beat patterns, score mechanics and score reading, regular and irregular meters, gesture design, left-hand cueing, and rehearsal techniques. Instrumental Music Laboratory attendance may be required.

MUS 2413. Conducting II. (3-1) 3 Credit Hours.
Prerequisite: MUS 2403 or the equivalent. Offers the opportunity for continued training in conducting, emphasizing score reading, rehearsal techniques, expressive conducting, score interpretation, and repertoire. Topics include Choral Conducting and Instrumental Conducting. For instrumental topic, Instrumental Music Laboratory attendance may be required.
MUS 2421. Class Piano 3. (0-0) 1 Credit Hour.
Prerequisite: MUS 1621 or the equivalent. 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.

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.

MUS 2521. Class Piano 4. (0-0) 1 Credit Hour.
Prerequisite: MUS 2421 or the equivalent. 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.

MUS 2542. Music Performance-Private Instruction II. (0-0) 2 Credit Hours.
Prerequisite: MUS 1542 or placement by audition. Enrollment is limited to music majors. Private instruction for students desiring to or required to study the following instruments: 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. Concurrent enrollment in an assigned University ensemble is required. May be repeated for credit a maximum of three semesters.

MUS 2601. Diction Survey. (1-1) 1 Credit Hour. (TCCN = MUSI 1162)
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.)

MUS 2603. Beginning Guitar. (3-0) 3 Credit Hours.
An introductory course intended primarily for the non-Music major. Emphasis will be on music in the first position (through the fourth fret) while students learn technical aspects as defined by the early 19th-century guitar masters.

MUS 2613. Intermediate Guitar. (3-0) 3 Credit Hours.
Prerequisite: MUS 2603 or the equivalent. Designed primarily for the non-Music major. Continued study of rudimentary classical guitar repertoire and basic elements of classical guitar technique.

MUS 2623. Fundamentals of Music for the Non-Music Major. (3-0) 3 Credit Hours. (TCCN = MUSI 1301)
A study of traditional music notation and the fundamentals of music theory. Topics will include music reading, rhythmic notation, intervals, scales, triads, and key signatures. Emphasis is placed on the historical development of music notation and music theoretical systems and their applications to both classical and popular music. May be applied toward the Core Curriculum requirement in Creative Arts.

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.

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.

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.

MUS 2683. Masterpieces of Music. (3-0) 3 Credit Hours. (TCCN = MUSI 1306)
A study of individual works selected from and representative of the musical traditions of the Western world.
Includes background information on social setting and function, historical importance, aesthetics, and
composers’ biographies. May be applied toward the Core Curriculum requirement in Creative Arts.

MUS 2693. The Music of Latin America and the Caribbean. (3-0) 3 Credit Hours. (TCCN = MUSI 1307)
Surveys the folk, popular, and classical musical traditions of Latin America, with special emphasis on the
principal regions of Mexico, Brazil, Argentina, and the Andes. May be applied toward the Core Curriculum
requirement in Creative Arts. (Formerly MUS 1213. Credit cannot be earned for both MUS 2693 and MUS
1213.).

MUS 2743. Music and Film. (3-0) 3 Credit Hours. (TCCN = MUSI 1306)
A survey of the evolving role of music in film. Students will have the opportunity to develop an
understanding of how film music is created, manufactured, and consumed by exploring various creative,
technological, industrial, economic, historical, social, and cultural factors. May be applied toward the Core
Curriculum requirement in Creative Arts.

MUS 3013. Digital Music Production. (3-0) 3 Credit Hours.
Survey of concepts and development of skills related to current computer-based music production. Topics
include MIDI and audio sequencing, tonal synthesis, acoustics, digital audio editing, sound processing, basic
live recording, and music distribution. This is the entry course for UTSA’s Certificate in Music Technology
program. (Formerly MUS 3313. Credit cannot be earned for both MUS 3013 and MUS 3313.).

MUS 3103. Audio Technology I. (3-0) 3 Credit Hours.
Fundamental concepts of digital and analog audio recording. Topics will include a historical survey of audio
technology, critical listening, terminology, digital audio systems, signal flow, microphone selection and
placement, techniques for live stereo recording, basic processing and effects, and an introduction to current
standard workflows for recording, editing, and mixing. (Formerly MUS 3153. Credit cannot be earned for
both MUS 3103 and MUS 3153.).

MUS 3113. Tonal Analysis Review. (3-0) 3 Credit Hours.
Prerequisite: MUS 2162 or the equivalent. Review of tonal analysis for incoming transfer students and other
music majors. 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.

MUS 3123. Introduction to Electronic and Computer Music. (0-0) 3 Credit Hours.
Prerequisite: Consent of instructor required for non-music majors. Private study 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.

MUS 3133. Analysis of Twentieth-Century Music. (3-0) 3 Credit Hours.
Prerequisites: MUS 2112 and MUS 2162, or their equivalents. 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.

MUS 3143. Orchestration. (3-0) 3 Credit Hours.
Prerequisites: MUS 2112 and MUS 2162, or their equivalents. Applied instrumentation emphasizing idiomatic scoring for various orchestral and wind combinations with an approach to writing for full orchestra and symphonic band.

MUS 3162. Composition III. (0-0) 2 Credit Hours.
Prerequisites: MUS 2112, MUS 2141, and MUS 2162. Private study in applied composition, with emphasis on expansion of musical materials to larger forms. Seminar attendance is required. May be repeated for credit.

MUS 3163. Audio Technology II. (3-0) 3 Credit Hours.
Prerequisite: MUS 3103 or consent of instructor. A continuation of Audio Technology I. Topics include preproduction, session planning, detailed topics in microphone selection and placement, editing and manipulation of recorded sound; advanced applications for equalization, compression, reverb, delay, and other effects; integration of software synthesis and sequencing in the audio workstation environment; automation and mixing. The course emphasizes hands-on application of learned concepts in a studio environment.

MUS 3172. Composition in Electronic Media. (0-0) 2 Credit Hours.
Prerequisite: MUS 3123. Private study in composition, with an emphasis on such electroacoustic music techniques as digital sound synthesis and sampling, including an in-depth study of various computer applications in music. Seminar attendance is required. May be repeated for credit.

MUS 3213. Music in Civilization I. (3-0) 3 Credit Hours.
Prerequisites: MUS 2112 and MUS 2162, or their equivalents. A study of the development of musical styles and literatures 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.

MUS 3223. Music in Civilization II. (3-0) 3 Credit Hours.
Prerequisites: MUS 2112 and MUS 2162, or their equivalents. 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.

**MUS 3232. Wind and Percussion Literature. (0-0) 2 Credit Hours.**
Prerequisites: MUS 2112 and MUS 2162. A study of music 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.

**MUS 3242. String Literature. (0-0) 2 Credit Hours.**
Prerequisites: MUS 2112 and MUS 2162. A study of music literature and analysis at an advanced level in such topics as orchestral literature, both string and full orchestra, as well as chamber music and solo repertoire. 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.

**MUS 3252. Topics in Music Literature. (0-0) 2 Credit Hours.**
Prerequisites: MUS 2112 and MUS 2162. A study of music literature at an advanced level. May be repeated for credit when topics vary. (Formerly titled “Advanced Studies in Music Literature and Analysis.”).

**MUS 3263. Music Since 1900. (3-0) 3 Credit Hours.**
Prerequisites: MUS 2112 and MUS 2162. 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.

**MUS 3272. Choral Literature. (0-0) 2 Credit Hours.**
Prerequisites: MUS 2112 and MUS 2162. A survey of major choral composers, genres, works, and styles. Topics include Renaissance to Baroque Choral Literature, and Classical to 20th-Century Choral Literature. May be repeated for credit when topics vary.

**MUS 3282. Vocal Literature. (0-0) 2 Credit Hours.**
Prerequisites: MUS 2112 and MUS 2162. 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.

**MUS 3292. Operatic Literature. (0-0) 2 Credit Hours.**
Prerequisites: MUS 2112 and MUS 2162. A study of the historical significance and literature of the opera form from its precursors through the present time.

**MUS 3312. Music Technology for Music Educators. (2-1) 2 Credit Hours.**
Enrollment is limited to music majors. Designed specifically for music studies 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 3311. Credit cannot be earned for both MUS 3312 and MUS 3311.).
MUS 3322. Keyboard Literature. (0-0) 2 Credit Hours.
Prerequisites: MUS 2112 and MUS 2162. 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, Level I and Level II. May be repeated for credit when topics or levels vary.

MUS 3332. Advanced Guitar Literature. (0-0) 2 Credit Hours.
Prerequisites: MUS 2112, MUS 2232, and MUS 2162. 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.

MUS 3342. Wind and Percussion Literature for Performance Majors. (0-0) 2 Credit Hours.
Prerequisites: MUS 2112 and MUS 2162. A study of wind or percussion literature and analysis at an advanced level. Topics include Solo and Chamber Literature, and Orchestral and Wind Band Literature. May be repeated for credit when topics vary.

MUS 3352. String Literature for Performance Majors. (0-0) 2 Credit Hours.
Prerequisites: MUS 2112 and MUS 2162. 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 and Chamber Literature, and Orchestral Literature. May be repeated for credit when topics vary.

MUS 3401. Brass Instruments. (1-1) 1 Credit Hour.
Prerequisite: MUS 1132 or the equivalent. Enrollment is limited to music majors. A study of playing techniques, selection of materials, and maintenance of brass instruments. Instrumental Music Laboratory attendance may be required.

MUS 3413. Psychology of Music. (3-0) 3 Credit Hours.
Prerequisites: MUS 2112 and MUS 2162. An approach to the foundations of music from different disciplinary perspectives. Focuses on music in contemporary society; current research from anthropology, biology, psychology, sociology, philosophy and aesthetics, economics, and ethics will be presented. (Formerly titled "Foundations of Music").

MUS 3421. Vocal Techniques for Instrumental Majors. (1-1) 1 Credit Hour.
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 majors with the opportunity to develop experience and familiarity with vocal music.

MUS 3431. Woodwind Instruments. (1-1) 1 Credit Hour.
Prerequisite: MUS 1132 or the equivalent. Enrollment is limited to music majors. A study of the playing techniques and instructional methods of woodwind instruments. Instrumental Music Laboratory attendance may be required.
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 music as they relate to children. (Formerly titled “Music Studies I.”).

MUS 3463. Teaching Secondary Vocal Music. (3-0) 3 Credit Hours.
Prerequisites: MUS 2112 and MUS 2152. Enrollment is limited to music majors. Designed to develop skills necessary to teach secondary level vocal and general music. (Formerly titled “Music Studies II.”).

MUS 3471. String Instruments. (1-1) 1 Credit Hour.
Prerequisite: MUS 1132 or the equivalent. Enrollment is limited to music majors. A study of playing techniques, pedagogy, selection of materials, and maintenance of string instruments. Instrumental Music Laboratory attendance may be required.

MUS 3481. Percussion Instruments. (1-1) 1 Credit Hour.
Prerequisite: MUS 1132 or the equivalent. Enrollment is limited to music majors. A study of playing techniques, pedagogy, selection of materials, and maintenance of percussion instruments. Instrumental Music Laboratory attendance may be required.

MUS 3491. Instrumental Techniques for Voice Majors. (1-1) 1 Credit Hour.
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 meet the needs of voice majors to have the opportunity to develop experience and familiarity with orchestral and band instruments. Instrumental Music Laboratory may be required.

MUS 3511. Diction for Singers. (1-1) 1 Credit Hour.
Enrollment is limited to music majors. An intensive study of language pronunciation as applied to performance. Topics include English, French, Italian, and German. May be repeated for credit.

MUS 3523. Music and the Internet. (3-0) 3 Credit Hours.
Prerequisites: MUS 1122, MUS 1132, MUS 2263, or their equivalents. Enrollment is limited to music majors and minors. A study of the history and impact of the internet in the contemporary music world, with an emphasis on online alternatives to traditional structures of music distribution. Topics could include issues of copyright infringement, technological challenges to music ownership, and an overview of the development of online music.

MUS 3532. Music Performance-Private Instruction III. (0-0) 2 Credit Hours.
Prerequisites: MUS 2112 and MUS 2162, and successful completion of two semesters of MUS 2542 or placement by audition. Enrollment is limited to music majors. Private instruction for students desiring to or required to study the following instruments: bassoon, clarinet, contrabass, cornet, flute, classical guitar, electric bass, euphonium, harp, harpsichord, horn, oboe, organ, percussion, piano, saxophone, trombone, trumpet, tuba, viola, violin, violoncello, or voice. Seminar attendance may be required. Concurrent enrollment in an assigned University ensemble is required. May be repeated for credit a maximum of three semesters.

MUS 3543. Music Performance-Private Instruction IV. (0-0) 3 Credit Hours.
Prerequisites: MUS 2112 and MUS 2162, and successful completion of two semesters of MUS 2542 or placement by audition. 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 in bassoon, clarinet, contrabass, cornet, 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. Concurrent enrollment in an assigned University ensemble is required. May be repeated for credit a maximum of three semesters.

MUS 3583. Advanced Improvisation. (0-0) 3 Credit Hours.
Prerequisites: MUS 2132 and MUS 2183, or their equivalents. 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. Laboratory attendance may be required.

MUS 3613. Entrepreneurship in Music. (3-0) 3 Credit Hours.
Prerequisite: MUS 2263. Open to music majors and minors only. 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. (Formerly titled “American Music and Culture.”).

MUS 3701. Chamber Singers. (0-3) 1 Credit Hour.
Prerequisite: Consent of instructor by audition. An ensemble specializing in the performance of outstanding chamber choral music from the Middle Ages to the present. Previous musical experience and reading ability required. The ensemble performs on and off campus. May be repeated for credit. (Formerly titled "Madrigal Singers.").

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.

MUS 3712. Concert Choir. (0-5) 2 Credit Hours.
Open to all students by audition. Select mixed ensemble open to all students by audition. This group performs a variety of repertoire from all historical periods. May be repeated for credit.

MUS 3721. UTSA Men's Glee Club. (0-3) 1 Credit Hour.
Open to all male students without audition. No previous choral experience is necessary. Many types of music are studied, and the repertoire is moderate in difficulty. May be repeated for credit. (Formerly titled “UTSA Chorus.”).

MUS 3722. Women's Choir. (0-5) 2 Credit Hours.
Open to all female students by audition. Select women's ensemble open to all students by audition. This group performs a variety of repertoire from all historical periods. May be repeated for credit.

MUS 3731. UTSA University Band. (0-3) 1 Credit Hour.
Open to all students by audition. Ensemble rehearses and performs standard repertoire of concert band music. May be repeated for credit.
MUS 3741. Chamber Orchestra. (0-3) 1 Credit Hour.
Open to all string students by audition. This ensemble will study, rehearse, and perform literature from the string orchestra repertoire. May be repeated for credit.

MUS 3742. UTSA Wind Ensemble. (0-5) 2 Credit Hours.
Open to all students by audition. The wind ensemble studies, rehearses, and performs the repertoire for various combinations of wind instruments. May be repeated for credit.

MUS 3752. UTSA Symphonic Band. (0-5) 2 Credit Hours.
Open to all students by audition. Ensemble performs standard repertoire for the full symphonic band. May be repeated for credit.

MUS 3762. UTSA Orchestra. (0-5) 2 Credit Hours.
Open to all students by audition. The UTSA Orchestra studies, rehearses, and performs literature from the standard orchestral repertoire. May be repeated for credit. (Formerly MUS 3761.).

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.

MUS 3792. Lyric Theatre. (0-5) 2 Credit Hours.
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 titled "Opera Workshop.").

MUS 3802. UTSA Marching Band. (0-5) 2 Credit Hours.
Open to all students by audition. 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 3801.).

MUS 4113. Counterpoint. (0-0) 3 Credit Hours.
Prerequisites: MUS 2112 and MUS 2162, or their equivalents. 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. (Formerly titled “Composition with Contrapuntal Techniques.”).

MUS 4142. Composition IV. (0-0) 2 Credit Hours.
Prerequisites: MUS 2112, MUS 2162, and MUS 3162, or consent of instructor. Writing in the larger forms for small and large ensembles and electronic media. Seminar attendance is required. May be repeated for credit.

MUS 4153. Audio Technology III. (3-0) 3 Credit Hours.
Prerequisite: MUS 3163 or consent of instructor. Advanced recording and mixing techniques, master preparation, delivery formats, synchronization, complex session planning and management, the role and responsibilities of the producer, large-scale project planning and budgeting. Students are required to complete several projects to a high professional standard.
MUS 4163. Topics in Music Theory. (3-0) 3 Credit Hours.
Prerequisites: MUS 2112 and MUS 2162, or their equivalents. Specialized instruction in advanced music theory. Topics include 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.

MUS 4183. Jazz Composition and Arranging. (0-0) 3 Credit Hours.
Prerequisites: MUS 2112, MUS 2162, and MUS 2183, or their equivalents. Private study in applied jazz composition and arranging, emphasizing writing for large jazz ensemble and studio orchestra. May be repeated for credit.

MUS 4263. Topics in Music History. (3-0) 3 Credit Hours.
Prerequisites: MUS 2112, MUS 2162, MUS 3213, and MUS 3223. A study of works and styles appropriate to the stylistic period of the topic. 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. Topics may be taken concurrently.

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, media Web page development, and interactive programming in actionscript and JavaScript. Aspects of artistic design are also introduced. Emphasis is placed on hands-on development of useful, effective products for instructional and commercial applications.

MUS 4452. Marching Band Techniques. (2-1) 2 Credit Hours.
Prerequisites: MUS 2112 and MUS 2162. A study of the repertoire, materials, instructional methods, administration, and maneuvers used by marching bands.

MUS 4531. Vocal Pedagogy I. (1-1) 1 Credit Hour.
Prerequisites: MUS 2112 and MUS 2162. 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. (Formerly titled “Music Pedagogy I.”).

MUS 4532. Music Pedagogy. (2-1) 2 Credit Hours.
Prerequisites: MUS 2112 and MUS 2162. 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, Organ, and Instrumental Ensemble. May be repeated for credit. Instrumental Ensemble topic requires successful completion of MUS 3401 and MUS 3431. Depending upon topic, Instrumental Music Laboratory attendance may be required.

MUS 4541. Vocal Pedagogy II. (1-1) 1 Credit Hour.
Prerequisites: MUS 2112 and MUS 2162. 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. (Formerly titled “Music Pedagogy II.”).
MUS 4543. Music Performance-Private Instruction V. (0-0) 3 Credit Hours.
Prerequisites: MUS 2112 and MUS 2162, successful completion of two semesters of MUS 3543 or the equivalent, and placement by audition. 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 in bassoon, clarinet, contrabass, cornet, 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. Concurrent enrollment in an assigned University ensemble is required. May be repeated for credit a maximum of three semesters. (Formerly MUS 4544.).

MUS 4552. Supervised Student Teaching. (2-1) 2 Credit Hours.
Prerequisite: Successful completion of MUS 4532 or consent of instructor. Guided teaching of beginner and intermediate level students through supervised scenarios designed by the instructor. This course offers students the opportunity to apply teaching techniques and focus on problem-solving strategies within private or group settings. May be repeated for credit.

MUS 4561. Senior Recital. (0-0) 1 Credit Hour.
Prerequisites: MUS 2112, MUS 2162, and consent of instructor. Concurrent enrollment in MUS 4543 is required of students in the Performance emphasis; concurrent enrollment in MUS 4142 is required of students selecting the Composition emphasis. A public performance presented as a culmination of the student's private instruction.

MUS 4581. Chamber Music. (0-0) 1 Credit Hour.
Open to all music majors by audition. Designed to offer students the opportunity to gain knowledge of chamber music literature through performance of select repertoire. Instruction in brass ensemble, woodwind ensemble, percussion ensemble, string ensemble, mixed ensemble, jazz combo, vocal ensemble and chamber opera. May be repeated for credit.

MUS 4803. Seminar in Music Marketing. (3-0) 3 Credit Hours.
Prerequisites: MUS 2263, MUS 3613, upper-division standing in Music Marketing, or consent of instructor. An intensive, project-based study of music marketing oriented toward students’ specific career interests in the music business and/or arts management.

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.

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.

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.

**MUS 4933. Music Marketing Internship. (0-0) 3 Credit Hours.**
Prerequisites: MKT 3013, MUS 3613, MUS 4803, grade point average of 2.5 or higher, and permission in writing from the instructor. 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.

**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.

**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.

**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.

**MUS 4961. Music Technology Project. (0-0) 1 Credit Hour.**
Prerequisites: Permission in writing from the instructor and Certificate Program Director. 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.
DEPARTMENT OF PHILOSOPHY AND CLASSICS

The department offers two Bachelor of Arts degrees, one in Classical Studies and Humanities, and the other in Philosophy; minors are offered in Classical Studies, Humanities, Philosophy, and Religious Studies. Honors can also 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.

Bachelor of Arts Degree in Classical Studies and Humanities

The Bachelor of Arts 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 Bachelor of Arts 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. For a complete listing of courses that satisfy the Core Curriculum requirements, see chapter 1 of this catalog.

Degree Requirements

A. Common Core

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<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>
</tbody>
</table>
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 2953  Topics for the Study of the Ancient Mediterranean
CLA 3023  Classical Myths and Literature
CLA 3053  Topics in Classical Genres
CLA 3063  Topics in the Art and Architecture Topics in the Art and Architecture
CLA 3123  Cultural Issues in Classical Antiquity
CLA 3513  Topics in Classical 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.)

**Humanities Emphasis:**
HUM 2093  World Religions
HUM 3023  The Medieval World
HUM 3043  Classicism and Enlightenment
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 Classical Antiquity
- CLA 3513 Topics in Classical History
- HUM 3023 The Medieval World
- HUM 2023 Introduction to the Humanities I
- HUM 2033 Introduction to the Humanities II
- HUM 2053 History of Film
- HUM 3033 Renaissance Ideas
- HUM 3043 Classicism and Enlightenment
- HUM 3053 The Romantic Age
- HUM 3063 The Modern World

D. Advanced Support Work

Select one of the following emphases: 12

**Classical Studies Emphasis:**
12 semester credit hours of approved support work. Support work may be drawn from upper-division (3000- or 4000-level) courses listed in ANT, ARC, CLA, COM, CSH, ENG, GRK, HIS, HUM, MUS, PHI or any foreign language of the Department of Modern Languages and Literatures in the UTSA 2014–2015 Undergraduate Catalog.

**Humanities Emphasis:**
12 semester credit hours that should form an interdisciplinary course of study developed in conjunction with the undergraduate advisor and designed to aid the student’s integration of his or her program in terms of central themes, focal problems, or fields of historical interest; at least 9 hours must be at the upper-division level.

The student must take at least 3 semester credit hours in each of the following four areas: Classical studies (CLA), philosophy (PHI), humanities (HUM), and literature in one of the following languages: English, French, German, Greek, Italian, Latin, Spanish, or Russian (this includes literature courses in translation, and culture and civilization courses).

E. Electives

Select 28-30 semester credit hours of electives 28-30

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 advisors in the College of Liberal and Fine Arts Undergraduate Advising Center 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

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIS 1043, 1053, or 2053</td>
<td>United States History: Pre-Columbus to Civil War Era (core)</td>
</tr>
<tr>
<td>LAT 1114 or GRK 1114</td>
<td>Introductory Latin I (level I)</td>
</tr>
<tr>
<td>WRC 1013</td>
<td>Freshman Composition I (core)</td>
</tr>
<tr>
<td>Mathematics core</td>
<td>3</td>
</tr>
<tr>
<td>Life &amp; Physical Sciences core</td>
<td>3</td>
</tr>
</tbody>
</table>

**Spring**

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<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>AIS 1203</td>
<td>Academic Inquiry and Scholarship (core)</td>
</tr>
<tr>
<td>HIS 1043, 1053, or 2053</td>
<td>United States History: Pre-Columbus to Civil War Era (core)</td>
</tr>
<tr>
<td>LAT 1124 or GRK 1124</td>
<td>Introductory Latin II (level II)</td>
</tr>
<tr>
<td>WRC 1023</td>
<td>Freshman Composition II (core)</td>
</tr>
<tr>
<td>Life &amp; Physical Sciences core</td>
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</table>

#### Second Year

<table>
<thead>
<tr>
<th>Fall</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>CLA 2013</td>
<td>Introduction to Ancient Greece</td>
</tr>
<tr>
<td>ECO 2003, 2013, or 2023</td>
<td>Economic Principles and Issues (core)</td>
</tr>
<tr>
<td>POL 1013</td>
<td>Introduction to American Politics (core)</td>
</tr>
<tr>
<td>Free elective (GRK 2113 or LAT 2113)</td>
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<tr>
<td>Language, Philosophy &amp; Culture core</td>
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</tbody>
</table>

**Spring**

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<table>
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<tr>
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<tbody>
<tr>
<td>CLA 2023</td>
<td>Introduction to Ancient Rome</td>
</tr>
<tr>
<td>PHI 2023</td>
<td>Introduction to Ancient Philosophy</td>
</tr>
<tr>
<td>POL 1133</td>
<td>Texas Politics and Society (core)</td>
</tr>
<tr>
<td>Free elective</td>
<td>3</td>
</tr>
<tr>
<td>Creative Arts core</td>
<td>3</td>
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</table>

#### Third Year

<table>
<thead>
<tr>
<th>Fall</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>LAT 2113 or GRK 2113</td>
<td>Intermediate Latin I</td>
</tr>
<tr>
<td>Upper-division CLA, HUM, or FL elective</td>
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</tr>
<tr>
<td>Upper-division free elective</td>
<td>3</td>
</tr>
<tr>
<td>Upper-division support work</td>
<td>3</td>
</tr>
<tr>
<td>Component Area Option core</td>
<td>3</td>
</tr>
</tbody>
</table>

**Spring**

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<table>
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<tr>
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<tbody>
<tr>
<td>CLA, HUM, or FL elective</td>
<td>3</td>
</tr>
<tr>
<td>CLA, HUM, or FL elective</td>
<td>3</td>
</tr>
<tr>
<td>Free elective</td>
<td>3</td>
</tr>
</tbody>
</table>
Upper-division free elective 3
Upper-division support work 3

**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

**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

Total Credit Hours: 120.0

---

**B.A. in Classical Studies and Humanities, Humanities Emphasis – Four-Year Academic Plan**

**First Year**

**Fall**
- HIS 1043, 1053, or 2053 United States History: Pre-Columbus to Civil War Era (core) 3
- WRC 1013 Freshman Composition I (core) 3
- Foreign language (semester I) 3-4
- Mathematics core 3
- Life & Physical Sciences core 3

**Spring**
- AIS 1203 Academic Inquiry and Scholarship (core) 3
- HIS 1043, 1053, or 2053 United States History: Pre-Columbus to Civil War Era (core) 3
- WRC 1023 Freshman Composition II (core) 3
- Foreign language (semester II) 3-4
- Life & Physical Sciences core 3

**Second Year**

**Fall**
- CLA 2013 Introduction to Ancient Greece 3
- HUM 2093 World Religions 3
- CLA 3123, 3513, HUM 3023, HUM 3033, HUM Cultural Issues in Classical Antiquity 3
<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>POL 1013</td>
<td>Introduction to American Politics (core)</td>
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</tr>
<tr>
<td>HUM 3013</td>
<td>Language, Philosophy &amp; Culture core</td>
<td>3</td>
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<tr>
<td></td>
<td><strong>Spring</strong></td>
<td></td>
</tr>
<tr>
<td>CLA 2023</td>
<td>Introduction to Ancient Rome</td>
<td>3</td>
</tr>
<tr>
<td>HUM 3013</td>
<td>History of Ideas</td>
<td>3</td>
</tr>
<tr>
<td>CLA 3513</td>
<td>Topics in Classical History</td>
<td>3</td>
</tr>
<tr>
<td>CLA 3123</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HUM 3043</td>
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<tr>
<td>HUM 3053</td>
<td></td>
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<tr>
<td>HUM 3063</td>
<td></td>
<td></td>
</tr>
<tr>
<td>POL 1113</td>
<td>Texas Politics and Society (core)</td>
<td>3</td>
</tr>
<tr>
<td>HUM 3023</td>
<td>Creative Arts core</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECO 2003, 2013, or 2023</td>
<td>Economic Principles and Issues (core)</td>
<td>3</td>
</tr>
<tr>
<td>HUM 3023, CLA 3513, CLA 3123, HUM 3043, HUM 3053, or HUM 3063</td>
<td>The Medieval World</td>
<td>3</td>
</tr>
<tr>
<td>PHI 2023</td>
<td>Introduction to Ancient Philosophy</td>
<td>3</td>
</tr>
<tr>
<td>Free elective</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Upper-division free elective</td>
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<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>CLA, PHI, HUM, or Literature elective</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>CLA, PHI, HUM, or Literature elective</td>
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<tr>
<td>Free elective</td>
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<tr>
<td>Upper-division free elective</td>
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<td>3</td>
</tr>
<tr>
<td>Component Area Option core</td>
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<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HUM 3033, CLA 3123, CLA 3513, HUM 3043, HUM 3053, or HUM 3063</td>
<td>Renaissance Ideas</td>
<td>3</td>
</tr>
<tr>
<td>HUM 3033, CLA 3123, CLA 3513, HUM 3043, HUM 3053, or HUM 3063</td>
<td>Renaissance Ideas</td>
<td>3</td>
</tr>
<tr>
<td>CLA, PHI, HUM, or Literature elective</td>
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<td></td>
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<tr>
<td>Free elective</td>
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<td>3</td>
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<tr>
<td>Upper-division free elective</td>
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<tr>
<td>Upper-division free elective</td>
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</table>
### Spring

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>HUM 4973</td>
<td>Senior Seminar in Humanities</td>
<td>3</td>
</tr>
<tr>
<td>CLA, PHI, HUM, or Literature elective</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Free elective</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Free elective (to meet 120 hour minimum)</td>
<td></td>
<td>3-1</td>
</tr>
<tr>
<td>Upper-division free elective</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

Total Credit Hours: 120.0

1 9 of these hours must be upper-division.

---

**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 Bachelor of Arts 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. For a complete listing of courses that satisfy the Core Curriculum requirements, see chapter 1 of this catalog.

**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.

**Degree Requirements**

**A. Required courses**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHI 2013</td>
<td>Basic Philosophical Problems</td>
<td>3</td>
</tr>
<tr>
<td>PHI 2023</td>
<td>Introduction to Ancient Philosophy</td>
<td>3</td>
</tr>
<tr>
<td>PHI 2033</td>
<td>Introduction to Early Modern Philosophy</td>
<td>3</td>
</tr>
<tr>
<td>PHI 2043</td>
<td>Introductory Logic</td>
<td>3</td>
</tr>
<tr>
<td>PHI 3213</td>
<td>Ethics</td>
<td>3</td>
</tr>
<tr>
<td>PHI 3223</td>
<td>Approaches to Knowledge and Reality</td>
<td>3</td>
</tr>
<tr>
<td>PHI 4973</td>
<td>Seminar for Philosophy Majors</td>
<td>3</td>
</tr>
</tbody>
</table>

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
Select 12 semester credit hours of approved support work, at least two courses of which must be at the upper-division level, in one of the following categories:

*Mathematics and natural sciences:* computer science (CS), mathematics (MAT), statistics (STA), chemistry (CHE), geology (GEO), physics (PHY), astronomy (AST), and biology (BIO)

*Social and behavioral sciences:* American studies (AMS), anthropology (ANT), history (HIS), psychology (PSY), economics (ECO), political science (POL), and sociology (SOC)

*Language, literature, and humanities:* English (ENG), humanities (HUM), classical studies (CLA), communication (COM), comparative studies in the humanities (CSH), linguistics (LNG), and foreign languages

*History and theory of art and music:* art history and criticism (AHC) and music (MUS)

Other subjects as may be individually justified by the student and approved by the undergraduate advisor.

D. Electives
Select 27 semester credit hours of electives

Total Credit Hours: 78

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**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 advisors in the College of Liberal and Fine Arts Undergraduate Advising Center 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**

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>WRC 1013</td>
<td>Freshman Composition I (core)</td>
</tr>
<tr>
<td>HIS 1043, 1053, or 2053</td>
<td>United States History: Pre-Columbus to Civil War Era (core)</td>
</tr>
<tr>
<td>Foreign language (semester I)</td>
<td>3-4</td>
</tr>
<tr>
<td>Mathematics core</td>
<td>3</td>
</tr>
<tr>
<td>Life &amp; Physical Sciences core</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Spring</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIS 1203</td>
<td>Academic Inquiry and Scholarship (core)</td>
</tr>
<tr>
<td>HIS 1043, 1053, or 2053</td>
<td>United States History: Pre-Columbus to Civil War Era (core)</td>
</tr>
<tr>
<td>WRC 1023</td>
<td>Freshman Composition II (core)</td>
</tr>
<tr>
<td>Foreign language (semester II)</td>
<td>3-4</td>
</tr>
<tr>
<td>Life &amp; Physical Sciences core</td>
<td>3</td>
</tr>
</tbody>
</table>
## Second Year

### Fall
- PHI 2013 Basic Philosophical Problems 3
- PHI 2023 Introduction to Ancient Philosophy 3
- POL 1013 Introduction to American Politics (core) 3
- Language, Philosophy & Culture core 3
- Support work 3

### Spring
- PHI 2033 Introduction to Early Modern Philosophy 3
- PHI 2043 Introductory Logic 3
- POL 1133 Texas Politics and Society (core) 3
- Support work 3
- Creative Arts core 3

## Third Year

### Fall
- ECO 2023, 2013, or 2023 Introductory Microeconomics (core) 3
- PHI 3213 Ethics 3
- Upper-division PHI elective 3
- Upper-division support work 3
- Component Area Option core 3

### 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

## Fourth Year

### Fall
- PHI 4000-level elective 3
- Free elective 3
- Free elective 3
- Upper-division free elective 3
- Upper-division free elective 3

### Spring
- PHI 4973 Seminar for Philosophy Majors 3
- PHI 4000-level elective 3
- Free elective 3
- Free elective (to meet 120 hour minimum) 3
- Upper-division free elective 3

Total Credit Hours: 120.0
Minor in Classical Studies

All students pursuing the minor in Classical Studies must complete 21 semester credit hours.

A. Minor requirements
LAT 2113  Intermediate Latin I (or equivalent)  3
or GRK 2113  Intermediate Classical Greek I

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  9
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

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHI 2013</td>
<td>Basic Philosophical Problems</td>
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<td>PHI 2033</td>
<td>Introduction to Early Modern Philosophy</td>
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</tr>
<tr>
<td>PHI 2043</td>
<td>Introductory Logic</td>
<td>3</td>
</tr>
<tr>
<td>PHI 3213</td>
<td>Ethics</td>
<td>3</td>
</tr>
<tr>
<td>PHI 3223</td>
<td>Approaches to Knowledge and Reality</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Credit Hours: 21

Minor in Philosophy

All students pursuing the Minor in Philosophy must complete 21 semester credit hours.

A. Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHI 2013</td>
<td>Basic Philosophical Problems</td>
<td>3</td>
</tr>
<tr>
<td>PHI 2023</td>
<td>Introduction to Ancient Philosophy</td>
<td>3</td>
</tr>
<tr>
<td>PHI 2033</td>
<td>Introduction to Early Modern Philosophy</td>
<td>3</td>
</tr>
<tr>
<td>PHI 2043</td>
<td>Introductory Logic</td>
<td>3</td>
</tr>
<tr>
<td>PHI 3213</td>
<td>Ethics</td>
<td>3</td>
</tr>
<tr>
<td>PHI 3223</td>
<td>Approaches to Knowledge and Reality</td>
<td>3</td>
</tr>
</tbody>
</table>

B. Additional upper-division courses in Philosophy

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit</th>
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</thead>
</table>

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

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>HUM 2093</td>
<td>World Religions</td>
<td>3</td>
</tr>
<tr>
<td>PHI 3013</td>
<td>Philosophy of Religion</td>
<td>3</td>
</tr>
</tbody>
</table>

Select two courses from the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit</th>
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</thead>
<tbody>
<tr>
<td>HIS 2543</td>
<td>Introduction to Islamic Civilization</td>
<td>3</td>
</tr>
<tr>
<td>HUM 3213</td>
<td>The Christian Classics</td>
<td>3</td>
</tr>
<tr>
<td>PHI 3073</td>
<td>Asian Philosophy</td>
<td>3</td>
</tr>
</tbody>
</table>

Select two courses from the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit</th>
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</thead>
<tbody>
<tr>
<td>ANT 3133</td>
<td>Ritual and Symbol</td>
<td>3</td>
</tr>
<tr>
<td>HUM 3223</td>
<td>The Bible as Literature</td>
<td>3</td>
</tr>
<tr>
<td>SOC 3093</td>
<td>Religion and Society</td>
<td>3</td>
</tr>
</tbody>
</table>

B. Additional upper-division religious studies courses

Select one of the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLA 3123</td>
<td>Cultural Issues in Classical Antiquity</td>
<td>3</td>
</tr>
</tbody>
</table>
Certificate in Latin

The Certificate in Latin is intended for Classics & Humanities majors who wish to acquire more rigorous and thorough training in Latin language and literature, in anticipation of entering a graduate program in Classics or a related discipline, or of obtaining certification as a teacher of Latin at the secondary level. The Certificate is granted upon graduation from the university.

Students pursuing the Certificate in Latin must complete a minimum of 15 semester credit hours from the following courses:

- LAT 2113 Intermediate Latin I
- LAT 2123 Intermediate Latin II
- LAT 2213 Self-Paced Intermediate Latin
- LAT 3113 Selected Latin Authors
- LAT 3213 Latin Epic Poetry
- LAT 3223 Latin Lyric Poetry
- LAT 3253 Republican Prose
- LAT 4013 Advanced Readings in Latin

Classics (CLA) Courses

Department of Philosophy and Classics, College of Liberal and Fine Arts

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.

CLA 2013. Introduction to Ancient Greece. (3-0) 3 Credit Hours.
Prerequisite: Completion of Core Curriculum requirement in Communication. 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.

CLA 2023. Introduction to Ancient Rome. (3-0) 3 Credit Hours.
Prerequisite: Completion of Core Curriculum requirement in Communication. 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.
CLA 2033. Introduction to Classical Literature. (3-0) 3 Credit Hours.
Prerequisite: Completion of Core Curriculum requirement in Communication. 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.

CLA 2113. Intermediate Individualized Instruction. (0-0) 3 Credit Hours.
Prerequisites: Successful completion of LAT 1114 or GRK 1114 or equivalent. 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 intermediate individualized instruction will apply to a bachelor’s degree.

CLA 2323. Classical Mythology. (3-0) 3 Credit Hours.
Prerequisite: Completion of Core Curriculum requirement in Communication. 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.

CLA 2953. Topics for the Study of the Ancient Mediterranean. (3-0) 3 Credit Hours.
Prerequisite: Completion of Core Curriculum requirement in Communication. Organized course offering introductory and broad examinations of topics important for the study of the Ancient Mediterranean world that are not covered during typical course offerings. Topics cover social and cultural history, etymology, and the art and archaeology of the Ancient Mediterranean. May be repeated for credit when topics vary.

CLA 3023. Classical Myths and Literature. (3-0) 3 Credit Hours.
Prerequisite: Completion of the Core Curriculum requirement in Language, Philosophy and Culture. Critical examination of ancient Greek and Roman myths and their functions in literary texts and ancient societies; attention to current theories and methodologies of mythic analysis.

CLA 3053. Topics in Classical Genres. (3-0) 3 Credit Hours.
Prerequisite: Completion of Core Curriculum requirement in Communication. Consideration of texts selected to illustrate the structural and conceptual properties of a given genre in the classical world, e.g., comedy, epic, or tragedy. May be repeated for credit when topics vary.

CLA 3063. Topics in the Art and Architecture. (3-0) 3 Credit Hours.
Prerequisite: Completion of Core Curriculum requirement in Communication. A study of one or more themes, periods, traditions, or archaeological sites in the art and architecture of the ancient Greek and Roman world. May be repeated for credit when topics vary.

CLA 3123. Cultural Issues in Classical Antiquity. (3-0) 3 Credit Hours.
Prerequisite: Completion of Core Curriculum requirement in Communication. Examination of issues in ancient Greek and Roman power relations and social differences as reflected in classical literature and historical material. Coverage of such topics as slavery, attitudes towards barbarians, gender, and intergenerational strife. May be repeated for credit when topics vary.
CLA 3513. Topics in Classical 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 ancient Greece and ancient Rome. May be repeated for credit when topics vary.

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.

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.

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.

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.

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.”).

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.

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.
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.

Greek (GRK) Courses
Department of Philosophy and Classics, College of Liberal and Fine Arts

GRK 1114. Introductory Classical Greek I. (3-2) 4 Credit Hours. (TCCN = GREE 1411)
Fundamentals of Greek grammar and readings in Greek. May be applied toward the Core Curriculum requirement in Language, Philosophy and Culture.

GRK 1124. Introductory Classical Greek II. (3-2) 4 Credit Hours.
Fundamentals of Greek grammar and readings in Greek.

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.

GRK 3113. Selected Greek Authors: Prose. (3-0) 3 Credit Hours.
Prerequisite: GRK 2113 or the equivalent. Reading and in-depth analysis of a particular Greek prose author such as Lysias, Herodotus, Demosthenes, Plato or Isocrates.

GRK 3123. Selected Greek Authors: Poetry. (3-0) 3 Credit Hours.
Prerequisite: GRK 2113 or the equivalent. Reading and in-depth analysis of a particular Greek poet such as Hesiod or Homer, a specific genre such as elegiac or lyric poetry, or a play of the tragedians Aeschylus, Sophocles, and Euripides.

Humanities (HUM)
Department of Philosophy and Classics, College of Liberal and Fine Arts

HUM 1203. Medical Humanities and Ethics. (3-0) 3 Credit Hours. (TCCN = HUMA 1301)
Prerequisite: Completion of Core Curriculum requirement in rhetoric. The practice of medicine has long been considered both an art and a science. Through examination of texts in the medical humanities and health care ethics, this course explores the art of medicine, the meaning of illness, and what it means to practice medicine, which includes the interrelationship of professional identity formation and ethics.

HUM 2023. Introduction to the Humanities I. (3-0) 3 Credit Hours. (TCCN = HUMA 1301)
Prerequisite: Completion of Core Curriculum requirement in rhetoric. 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.

**HUM 2033. Introduction to the Humanities II. (3-0) 3 Credit Hours. (TCCN = HUMA 1302)**
Prerequisite: Completion of Core Curriculum requirement in rhetoric. 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.

**HUM 2053. History of Film. (3-0) 3 Credit Hours. (TCCN = HUMA 1315)**
Prerequisite: Completion of Core Curriculum requirement in rhetoric. 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.

**HUM 2093. World Religions. (3-0) 3 Credit Hours. (TCCN = PHIL 1304)**
Prerequisite: Completion of Core Curriculum requirement in rhetoric. 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.).

**HUM 3013. History of Ideas. (3-0) 3 Credit Hours.**
Prerequisite: Completion of Core Curriculum requirement in rhetoric. Survey of the development and
influence of major philosophical, scientific, and aesthetic conceptions from ancient times to the present.

**HUM 3023. The Medieval World. (3-0) 3 Credit Hours.**
Prerequisite: Completion of Core Curriculum requirement in rhetoric. Interdisciplinary investigation of
medieval thought and culture as exemplified in major works of literature, philosophy, theology, and history.

**HUM 3033. Renaissance Ideas. (3-0) 3 Credit Hours.**
Prerequisite: Completion of Core Curriculum requirement in rhetoric. Interdisciplinary investigation of
Renaissance thought and culture, as exemplified in major works of literature, philosophy, history, theology,
and fine arts.

**HUM 3043. Classicism and Enlightenment. (3-0) 3 Credit Hours.**
Prerequisite: Completion of Core Curriculum requirement in rhetoric. Interdisciplinary investigation of
thought and culture in the later 17th and the 18th centuries, as exemplified in major works of philosophy,
literature, and the fine arts.
HUM 3053. The Romantic Age. (3-0) 3 Credit Hours.
Prerequisite: Completion of Core Curriculum requirement in rhetoric. Interdisciplinary investigation of the
development of ideas in literature, philosophy, art, politics, and society at the end of the 18th and beginning
of the 19th century.

HUM 3063. The Modern World. (3-0) 3 Credit Hours.
Prerequisite: Completion of Core Curriculum requirement in rhetoric. Interdisciplinary investigation of
modern thought in the late 19th and 20th centuries, as exemplified in major works of philosophy, literature,
and the fine arts.

HUM 3103. American Film. (3-0) 3 Credit Hours.
Prerequisite: Completion of Core Curriculum requirement in rhetoric. 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.

HUM 3203. Film Genres. (3-0) 3 Credit Hours.
Prerequisite: Completion of Core Curriculum requirement in rhetoric. Intensive study of a particular film
genre, such as Western, science fiction, film noir, or documentary. May be repeated for credit when topics
vary.

HUM 3213. The Christian Classics. (3-0) 3 Credit Hours.
Prerequisite: Completion of Core Curriculum requirement in rhetoric. The opportunity for an intensive survey
of selected works of writers studied in the context of Christian thought.

HUM 3223. The Bible as Literature. (3-0) 3 Credit Hours.
Prerequisite: Completion of the Core Curriculum requirement in literature. Offers the opportunity to survey
major themes, stories, and motifs in the Old and New Testament, with emphasis on those elements
fundamental to Western culture.

HUM 3303. Major Filmmaker. (3-0) 3 Credit Hours.
Prerequisite: Completion of Core Curriculum requirement in rhetoric. 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.

HUM 3403. Literature into Film. (3-0) 3 Credit Hours.
Prerequisite: Completion of Core Curriculum requirement in rhetoric. 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.

HUM 3623. Topics in National Cultures and Civilizations. (3-0) 3 Credit Hours.
Prerequisite: Completion of Core Curriculum requirement in rhetoric. The cultural life of the respective
geographic regions and social strata of individual nations of Europe and America, 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.
HUM 3703. Topics in Popular Culture. (3-0) 3 Credit Hours.
Prerequisite: Completion of Core Curriculum requirement in rhetoric. 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.

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.

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.

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.

HUM 4953. Special Studies in Humanities. (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.

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.”).

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.

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.
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.

Latin (LAT) Courses
Department of Philosophy and Classics, College of Liberal and Fine Arts

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.

LAT 1124. Introductory Latin II. (3-2) 4 Credit Hours. (TCCN = LATI 1412)
Prerequisite: LAT 1114. Fundamentals of Latin grammar and readings in Latin.

LAT 1214. Self-Paced Introductory Latin. (4-0) 4 Credit Hours.
Fundamentals of Latin grammar and readings in Latin. Students take two semesters of this course to complete the first two semesters of Latin on a self-paced basis. May be repeated for credit, but not more than 8 semester credit hours may be used in any degree program. Students must demonstrate competency with a “C” or better before repeating this course for credit. Students cannot receive credit for both LAT 1114 and a first semester of this course; students cannot receive credit for both LAT 1124 and a second semester of this course.

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.

LAT 2123. Intermediate Latin II. (3-0) 3 Credit Hours. (TCCN = LATI 2312)
Reading and in-depth analysis of a particular Latin author such as Ovid, Virgil, Cicero, Lucretius, Petronius, or Plautus.

LAT 2213. Self-Paced Intermediate Latin. (3-0) 3 Credit Hours.
Prerequisite: LAT 1124 or the equivalent. Review of Latin grammar and syntax. Continued practice in reading Latin, including such authors as Catullus, Cicero, Lucretius, Ovid, Petronius, Plautus, Sallust, and Virgil. Students take two semesters of this course to complete the third and fourth semesters of Latin on a self-paced basis. May be repeated for credit, but not more than 8 semester credit hours may be used in any degree program. Students must demonstrate competency with a “C” or better before repeating this course for credit. Students cannot receive credit for both LAT 2113 and a first semester of this course; students cannot receive credit for both LAT 2123 and a second semester of this course.

LAT 3113. Selected Latin Authors. (3-0) 3 Credit Hours.
Close reading and critical analysis of a Latin text or texts, author, topic, or genre. May be repeated for credit when authors vary.
LAT 3213. Latin Epic Poetry. (3-0) 3 Credit Hours.
Prerequisite: Intermediate Latin II or equivalent. Students will read, analyze and discuss selections from Vergil’s Aeneid and Ovid’s Metamorphoses, setting the poems in the context of the historical and social events in Rome that inspired them as well as exploring their Greek precedents.

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.

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.

LAT 4013. Advanced Readings in Latin. (3-0) 3 Credit Hours.
Prerequisite: LAT 2123 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.

Philosophy (PHI) Courses
Department of Philosophy and Classics, College of Liberal and Fine Arts

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.

PHI 2013. Basic Philosophical Problems. (3-0) 3 Credit Hours. (TCCN = PHIL 1301)
Prerequisite: Completion of Core Curriculum requirement in rhetoric. 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.

PHI 2023. Introduction to Ancient Philosophy. (3-0) 3 Credit Hours. (TCCN = PHIL 2316)
Prerequisite: Completion of Core Curriculum requirement in rhetoric. 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.

PHI 2033. Introduction to Early Modern Philosophy. (3-0) 3 Credit Hours. (TCCN = PHIL 2317)
Prerequisite: Completion of Core Curriculum requirement in rhetoric. 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.

**PHI 2043. Introductory Logic. (3-0) 3 Credit Hours. (TCCN = PHIL 2303)**
Prerequisite: Completion of Core Curriculum requirement in rhetoric. 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.

**PHI 2063. Philosophy of Law. (3-0) 3 Credit Hours.**
Prerequisite: Completion of Core Curriculum requirement in rhetoric. 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.

**PHI 2073. Philosophy of Art. (3-0) 3 Credit Hours.**
Prerequisite: Completion of Core Curriculum requirement in rhetoric. 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.).

**PHI 2123. Contemporary Moral Issues. (3-0) 3 Credit Hours. (TCCN = PHIL 2306)**
Prerequisite: Completion of Core Curriculum requirement in rhetoric. 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.”).

**PHI 3013. Philosophy of Religion. (3-0) 3 Credit Hours.**
Prerequisite: Completion of Core Curriculum requirement in rhetoric. 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.

**PHI 3033. Philosophy of Science. (3-0) 3 Credit Hours.**
Prerequisite: Completion of Core Curriculum requirement in rhetoric. 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.
PHI 3073. Asian Philosophy. (3-0) 3 Credit Hours.
Prerequisite: Completion of Core Curriculum requirement in rhetoric. Examination of the philosophical and religious traditions of the East, with emphasis on various schools such as Vedanta, Buddhism, Confucianism, and Taoism.

PHI 3213. Ethics. (3-0) 3 Credit Hours.
Prerequisite: Completion of Core Curriculum requirement in rhetoric. 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.

PHI 3223. Approaches to Knowledge and Reality. (3-0) 3 Credit Hours.
Prerequisite: Completion of Core Curriculum requirement in rhetoric. 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.

PHI 3303. Nineteenth-Century Philosophy. (3-0) 3 Credit Hours.
Prerequisite: Completion of Core Curriculum requirement in rhetoric. 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.

PHI 3343. Issues and Movements in Contemporary Philosophy. (3-0) 3 Credit Hours.
Prerequisite: Completion of Core Curriculum requirement in rhetoric. 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.”).

PHI 3403. Philosophy in Literature. (3-0) 3 Credit Hours.
Prerequisite: Completion of Core Curriculum requirement in rhetoric. Examination of important philosophical questions, such as personal identity, the nature of moral value, and the limits of knowledge, as reflected in world literature, including such genres as fiction, drama, and poetry.

PHI 4013. Studies in Individual Philosophers. (3-0) 3 Credit Hours.
Prerequisite: Consent of instructor. Examination of the works of an individual philosopher or of several philosophers studied in relationship to one another. May be repeated for credit when topics vary.

PHI 4113. Contemporary Analytic Philosophy. (3-0) 3 Credit Hours.
Prerequisite: Completion of Core Curriculum requirement in rhetoric. 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.
PHI 4123. Contemporary Continental Philosophy. (3-0) 3 Credit Hours.
Prerequisite: Completion of Core Curriculum requirement in rhetoric. 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.

PHI 4333. Philosophy of Language. (3-0) 3 Credit Hours.
Prerequisite: Completion of Core Curriculum requirement in rhetoric. 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.

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.

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.

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.

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.

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.

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.
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.

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.
DEPARTMENT OF POLITICAL SCIENCE AND GEOGRAPHY

The Department of Political Science and Geography offers Bachelor of Arts degrees in Geography, Global Affairs, and Political Science. The Department also offers Minors in Geography, Global Affairs, Latin American Studies, Legal Studies, and Political Science.

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 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 the Honors Program 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 take advantage of the Internship, Independent Study, Advanced Research Tutorial, 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. 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.

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.

Bachelor of Arts Degree in Geography

The minimum number of semester credit hours required for the Bachelor of Arts degree in Geography, 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 33 semester credit hours of Geography coursework are required to fulfill the Geography major. The 33-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. Students are required 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.

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 Geography 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.
credit hours required for this degree. For a complete listing of courses that satisfy the Core Curriculum requirements, see chapter 1 of this catalog.

GRG 2613 may be used to satisfy a core requirement in Life and Physical Sciences as well as a major requirement.

**Degree Requirements**

A. Courses in the major

1. Required courses:

   - GRG 2613  Physical Geography  3
   - GRG 2623  Human Geography  3
   - GRG 3314  Introduction to Geographic Information Systems  4
   - GRG 3323  Spatial Analysis  3

   Select two of the following:  6

   - GRG 3113  Geography of the United States and Canada
   - GRG 3123  Geography of Latin America
   - GRG 3133  Geography of Europe
   - GRG 3143  Geography of Mexico
   - GRG 3153  Geography of Texas
   - GRG 3166  Physical and Cultural Geography of the American Southwest
   - GRG 3413  Geography of the Middle East and North Africa
   - GRG 3423  Geopolitics of Russia and Eurasia
   - GRG 3433  The Geography and Politics of the Asian Rim

2. Geography electives A maximum of 6 of these hours, as approved by the student’s advisor, may be applied to the major from selected courses in the following three areas: 15

   - urban and economic studies
   - international studies
   - earth science and resources

B. Social science courses outside the major

Select 6 semester credit hours of courses in the social sciences outside the major, chosen with the consent of the advisor  6

C. Single language other than English

Select 6 semester credit hours of a single language other than English  6

D. Electives

Select 32 semester credit hours of electives  32

Total Credit Hours: 78
Course Sequence Guide for B.A. Degree in Geography

This course sequence guide is designed to assist students in completing their UTSA undergraduate Geography degree requirements. This is merely a guide and students must satisfy other requirements of this catalog and meet with advisors in the College of Liberal and Fine Arts Undergraduate Advising Center 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 – Four-Year Academic Plan

First Year

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>AIS 1203</td>
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<tr>
<td>POL 1013</td>
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<tr>
<td>WRC 1013</td>
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<td>Life &amp; Physical Sciences core</td>
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Spring

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<td>HIS 1043, 1053, or 2053</td>
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</tr>
<tr>
<td>POL 1133</td>
<td>3</td>
</tr>
<tr>
<td>WRC 1023</td>
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<tr>
<td>Free elective</td>
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<tr>
<td>Life &amp; Physical Sciences core</td>
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Second Year

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<td>Creative Arts core</td>
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<td>Support work</td>
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<td>Free elective</td>
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Spring

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<th>Credit Hours</th>
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<tbody>
<tr>
<td>GRG 2613</td>
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<tr>
<td>Component Area Option core</td>
<td>3</td>
</tr>
<tr>
<td>Language, Philosophy &amp; Culture core</td>
<td>3</td>
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<tr>
<td>Mathematics core</td>
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<td>Support work</td>
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Third Year

<table>
<thead>
<tr>
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<td>GRG 3113, 3123, 3133, 3143, 3153, 3166, 3413, 3423, or 3433</td>
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<tr>
<td>Semester</td>
<td>Courses</td>
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<td><strong>Fall</strong></td>
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<td></td>
<td>Foreign language (semester I)</td>
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<td>Free elective</td>
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<td>Upper-division free elective</td>
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<td>Upper-division GRG elective</td>
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<td><strong>Spring</strong></td>
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<td></td>
<td>GRG 3123, 3113, 3133, Geography of Latin America (GRG 3113-3153)</td>
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<td></td>
<td>3143, 3153, 3166, 3413, 3423, or 3433</td>
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<td></td>
<td>GRG 3323, Spatial Analysis</td>
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<td>Foreign language (semester II)</td>
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<td>Free elective</td>
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<td>Upper division GRG elective</td>
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<td><strong>Fourth Year</strong></td>
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<td></td>
<td><strong>Fall</strong></td>
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<tr>
<td></td>
<td>GRG 3314, Introduction to Geographic Information Systems</td>
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<td>Free elective</td>
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<td>Upper-division free elective</td>
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<td>Upper-division GRG elective</td>
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<td><strong>Spring</strong></td>
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<td></td>
<td>GRG elective</td>
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<td>Free elective (to meet 120 hour minimum)</td>
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<td></td>
<td>Upper-division free elective</td>
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<td>Upper-division GRG elective</td>
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<td><strong>Total Credit Hours:</strong> 120.0</td>
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Bachelor of Arts Degree in Global Affairs

The minimum number of semester credit hours required for the Bachelor of Arts 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 36 semester credit hours of Global Affairs coursework are required to fulfill the Global Affairs major. The 36-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. Students are required 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.

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 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. For a complete listing of courses that satisfy the Core Curriculum requirements, see chapter 1 of this catalog.

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.

Degree Requirements

A. Courses in the major

30 semester credit hours must be at the upper-division level.

1. Select one of the following introduction courses in global affairs: 3
   GLA 2603 Introduction to Global Affairs
   or POL 2603 International Politics
   GLA 2633 Comparative Politics
   or POL 2633 Comparative Politics

2. Select one of the following methods courses: 3
   GLA 3103 Research Methods in Global Affairs
   GLA 4123 Techniques in Global Analysis
   POL 2703 Scope and Methods in Political Science

3. Select one of the following international/global relations theories courses: 3
   GLA 3213 Theories of International Relations
   GLA 3223 Theories of Globalization
   GLA 3233 Theories of International Justice

4. Select three of the following governance and policy in comparative/global context courses: 9
   GLA 3033 International Governance
5. Select three of the following regional studies courses: 9

- GLA 3383 East European Politics
- or POL 3383 East European 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 The Politics of Mexico
- or POL 3453 The Politics of Mexico
- GLA 3493 Politics of the Middle East
- or POL 3493 Politics of the Middle East
- GLA 4143 The European Union
- or POL 4143 The European Union

6. Select two of the following international relations courses: 6

- GLA 3003 International Law
- GLA 3013 Introduction to Global Analysis
- GLA 3483 International Political Economy
or POL 3483 International Political Economy
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 3563 Current Issues in World Politics
or POL 3563 Current Issues in World Politics
GLA 4013 The Intelligence Community and World Affairs
or POL 4013 The Intelligence Community and World Affairs

7. Senior seminar course: 3
GLA 4973 Seminar in Global Affairs

B. Support work
Select two of the following courses: 6
AMS 3243 Studies in Transnationalism
ANT 4263 Anthropology of Globalization and Development
COM 3553 Intercultural Communication
COM 3563 International Communication
ECO 3193 International Economics
ECO 4303 Economics of Developing Countries
FIN 4613 Introduction to International Finance
GRG 3623 Geography of Natural Hazards
GRG 3633 Geography of Development
GRG 3643 Political Geography
HIS 3283 Twentieth-Century Europe
HIS 3543 History of Modern Warfare
HIS 3823 History of American Foreign Relations
HIS 3843 Migration and History
MGT 4073 International Management
MGT 4083 Comparative International Management Practices
MKT 4073 International Marketing

C. A single language other than English
6 semester credit hours of a language 6

D. Electives
30 semester credit hours of electives 30

Total Credit Hours: 81
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 advisors in the College of Liberal and Fine Arts Undergraduate Advising Center 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

<table>
<thead>
<tr>
<th>First Year</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fall</strong></td>
<td></td>
</tr>
<tr>
<td>AIS 1203</td>
<td>Academic Inquiry and Scholarship (core) 3</td>
</tr>
<tr>
<td>HIS 1043, 1053, or 2053</td>
<td>United States History: Pre-Columbus to Civil War Era (core) 3</td>
</tr>
<tr>
<td>POL 1013</td>
<td>Introduction to American Politics (core) 3</td>
</tr>
<tr>
<td>WRC 1013</td>
<td>Freshman Composition I (core) 3</td>
</tr>
<tr>
<td>Mathematics core</td>
<td>3</td>
</tr>
<tr>
<td><strong>Spring</strong></td>
<td></td>
</tr>
<tr>
<td>HIS 1043, 1053, or 2053</td>
<td>United States History: Pre-Columbus to Civil War Era (core) 3</td>
</tr>
<tr>
<td>POL 1133</td>
<td>Texas Politics and Society (core) 3</td>
</tr>
<tr>
<td>WRC 1023</td>
<td>Freshman Composition II (core) 3</td>
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<td>Life &amp; Physical Sciences core</td>
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</tr>
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<td>Free elective</td>
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<table>
<thead>
<tr>
<th>Second Year</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td><strong>Fall</strong></td>
<td></td>
</tr>
<tr>
<td>GLA 1013</td>
<td>U.S. in the Global Arena (core and major) 3</td>
</tr>
<tr>
<td>Life &amp; Physical Sciences core</td>
<td>3</td>
</tr>
<tr>
<td>Social &amp; Behavioral Sciences core</td>
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</tr>
<tr>
<td>GLA elective</td>
<td>3</td>
</tr>
<tr>
<td>Free elective</td>
<td>3</td>
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<tr>
<td><strong>Spring</strong></td>
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</tr>
<tr>
<td>GLA elective</td>
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<tr>
<td>GLA elective</td>
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<td>Free elective</td>
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<td>Creative Arts core</td>
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<td>Component Area Option core</td>
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<table>
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<tr>
<th>Third Year</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fall</strong></td>
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</tr>
<tr>
<td>Foreign language (semester I)</td>
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<tr>
<td>GLA elective</td>
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</table>
Bachelor of Arts Degree in Political Science

The minimum number of semester credit hours required for the Bachelor of Arts 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 33 semester credit hours of Political Science coursework are required to fulfill the Political Science major. The 33-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. Students are required 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.

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 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. For a complete listing of courses that satisfy the Core Curriculum requirements, see chapter 1 of this catalog.

**Degree Requirements**

A. Courses in the major

Courses must be selected in the following manner:

1. Select two of the following:  
   - GLA 2603 Introduction to Global Affairs  
   - or POL 2603 International 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  

2. Required course  
   - POL 2703 Scope and Methods in Political Science

3. Political science electives, 18 hours of which must be at the upper-division level, with at least 3 hours in each of the following subfields (see list of courses by subfield following the description of the political science minor):  
   - American Politics  
   - Comparative Politics  
   - International Politics  
   - Political Theory  
   - Politics and the Administrative Process or Public Law

4. One senior-level seminar  
   - POL 4153 Seminar in Jurisprudence  
   - or POL 4973 Seminar in Political Science

B. Courses in the social sciences outside the major

Chosen in consent of the advisor

C. Single language other than English

Select 6 semester credit hours of a single language other than English
D. Electives
Select 33 semester credit hours of electives

Total Credit Hours: 78

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 advisors in the College of Liberal and Fine Arts Undergraduate Advising Center 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

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>AIS 1203</td>
<td>Academic Inquiry and Scholarship (core)</td>
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<td>WRC 1013</td>
<td>Freshman Composition I (core)</td>
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<td>Mathematics core</td>
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</tr>
<tr>
<td>HIS 1043, 1053, or 2053</td>
<td>United States History: Pre-Columbus to Civil War Era (core)</td>
</tr>
<tr>
<td>POL 1133</td>
<td>Texas Politics and Society (core)</td>
</tr>
<tr>
<td>WRC 1023</td>
<td>Freshman Composition II (core)</td>
</tr>
<tr>
<td>Free elective</td>
<td></td>
</tr>
<tr>
<td>Life &amp; Physical Sciences core</td>
<td></td>
</tr>
</tbody>
</table>

Second Year

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECO 2003, 2013, or 2023</td>
<td>Economic Principles and Issues (core)</td>
</tr>
<tr>
<td>POL 2503, 2513, 2533, 2603, 2623, or 2633</td>
<td>Introduction to Political Theory</td>
</tr>
<tr>
<td>POL 2703</td>
<td>Scope and Methods in Political Science</td>
</tr>
<tr>
<td>Life &amp; Physical Sciences core</td>
<td></td>
</tr>
<tr>
<td>Creative Arts core</td>
<td></td>
</tr>
</tbody>
</table>

Spring

<table>
<thead>
<tr>
<th>FALL</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>POL 2513, 2503, 2533, 2603, 2623, or 2633</td>
<td>Politics and the Administrative Process</td>
</tr>
<tr>
<td>Free elective</td>
<td></td>
</tr>
<tr>
<td>Free elective</td>
<td></td>
</tr>
</tbody>
</table>
### Third Year

**Fall**
- Foreign language (semester I) 3-4
- Free elective 3
- Support work 3
- Upper-division free elective 3
- Upper division POL - American 3

**Spring**
- Foreign language (semester II) 3-4
- POL elective 3
- Support work 3
- Upper-division free elective 3
- Upper-division POL - Comparative 3

### Fourth Year

**Fall**
- Upper-division free elective 3
- Upper-division free elective 3
- Upper-division POL elective 3
- Upper-division POL - International 3
- Upper-division POL - Political Theory 3

**Spring**
- POL 4153 or 4973 Seminar in Jurisprudence 3
- Free elective (to meet 120 hour minimum) 3-1
- Upper-division free elective 3
- Upper-division free elective 3
- Upper-division POL - Public Administration/Law 3

Total Credit Hours: 120.0

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### Minor in Geography

All students pursuing the Minor in Geography must complete 18 semester credit hours.

A. Courses in core concepts and regions

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>GRG 1013</td>
<td>Fundamentals of Geography</td>
<td>3</td>
</tr>
<tr>
<td>GRG 1023</td>
<td>World Regional Geography</td>
<td>3</td>
</tr>
</tbody>
</table>
B. Upper-division regional geography
Select one of the following: 3
- GRG 3113 Geography of the United States and Canada
- GRG 3123 Geography of Latin America
- GRG 3133 Geography of Europe
- GRG 3143 Geography of Mexico
- GRG 3153 Geography of Texas

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, obtain advice, or seek approval of substitutions for course requirements, students should consult the College of Liberal and Fine Arts Advising Center.

Minor in Global Affairs

All students pursuing a Minor in Global Affairs must complete 21 semester credit hours, at least 12 of which must be at the upper-division level (3000- or 4000-level courses). Political Science majors must take at least 6 hours outside their major.

A. International perspectives on global analysis courses
Select one of the following: 3
- GLA 2603 Introduction to Global Affairs
- or POL 2603 International Politics
- GLA 2633 Comparative Politics
- or POL 2633 Comparative Politics
- GLA 3013 Introduction to Global Analysis
- or POL 3273 Introduction to Global Analysis
- GLA 3213 Theories of International Relations
- GLA 3223 Theories of Globalization
- GLA 4013 The Intelligence Community and World Affairs
- POL 3503 American Foreign Policy since World War II

B. Research methods courses
- GLA 4123 Techniques in Global Analysis 3
and one of the following: 3
- GLA 3103 Research Methods in Global Affairs
- GRG 3323 Spatial Analysis
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIS 2003</td>
<td>Historical Methods</td>
</tr>
<tr>
<td>POL 2703</td>
<td>Scope and Methods in Political Science</td>
</tr>
<tr>
<td>SOC 3393</td>
<td>Quantitative Research Methods</td>
</tr>
</tbody>
</table>

C. Additional courses

1. Select one of the following analytical tools courses:  
   - GRG 3314 Introduction to Geographic Information Systems  
   - GRG 4313 Remote Sensing  
   - HUM 3623 Topics in National Cultures and Civilizations  
   - PHI 4113 Contemporary Analytic Philosophy

2. Select three of the following global conditions and issues courses:   
   - AMS 3243 Studies in Transnationalism  
   - COM 3553 Intercultural Communication  
   - COM 3563 International Communication  
   - ECO 3193 International Economics  
   - FIN 4613 Introduction to International Finance  
   - GLA 4013 The Intelligence Community and World Affairs  
   - GLA 3033 International Governance
   - or POL 3033 International Governance  
   - GLA 3043 International Human Rights
   - or POL 3043 International Human Rights
   - GLA 3063 Comparative Political Participation  
   - or POL 3063 Comparative Political Participation  
   - 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 3483 International Political Economy
   - or POL 3483 International Political Economy  
   - GLA 3493 Politics of the Middle East
   - or POL 3493 Politics of the Middle East
   - GLA 3513 International Organizations in World Politics
   - or POL 3513 International Organizations in World Politics
   - GLA 3563 Current Issues in World Politics
   - or POL 3563 Current Issues in World Politics
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>GRG 3133</td>
<td>Geography of Europe</td>
</tr>
<tr>
<td>GRG 3633</td>
<td>Geography of Development</td>
</tr>
<tr>
<td>GRG 3643</td>
<td>Political Geography</td>
</tr>
<tr>
<td>HIS 3423</td>
<td>United States-Mexico Border</td>
</tr>
<tr>
<td>HIS 3843</td>
<td>Migration and History</td>
</tr>
<tr>
<td>POL 3283</td>
<td>The American Presidency</td>
</tr>
<tr>
<td>POL 3393</td>
<td>Latin American Politics</td>
</tr>
<tr>
<td>POL 3463</td>
<td>Politics of the Third World</td>
</tr>
<tr>
<td>PSY 3053</td>
<td>Cross-Cultural Psychology</td>
</tr>
<tr>
<td>SOC 4433</td>
<td>Culture and Society</td>
</tr>
</tbody>
</table>

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 advisor and Department Chair:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>GLA 4913</td>
<td>Independent Study</td>
</tr>
<tr>
<td>GLA 4933</td>
<td>Internship in Global Affairs</td>
</tr>
</tbody>
</table>

Total Credit Hours: 21

Requests for substitutions require pre-approval of the student’s 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 the College of Liberal and Fine Arts Undergraduate Advising Center.

**Minor in Latin American Studies**

The Minor in Latin American Studies provides an interdisciplinary approach to understanding the political, cultural, historical, economical and societal processes and systems of the region.

All students pursuing a Minor in Latin American Studies must complete 18 semester credit hours. No more than four courses from one discipline.

**A. Courses in politics, geography and economics**

Select two of the following:  

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECO 4303</td>
<td>Economics of Developing Countries</td>
</tr>
<tr>
<td>GRG 3123</td>
<td>Geography of Latin America</td>
</tr>
<tr>
<td>GRG 3143</td>
<td>Geography of Mexico</td>
</tr>
<tr>
<td>GLA 3393</td>
<td>Latin American Politics</td>
</tr>
<tr>
<td>or POL 3393</td>
<td>Latin American Politics</td>
</tr>
<tr>
<td>GLA 3453</td>
<td>The Politics of Mexico</td>
</tr>
<tr>
<td>or POL 3453</td>
<td>The Politics of Mexico</td>
</tr>
</tbody>
</table>
B. Courses in history and culture

Select four of the following: 12

AHC 3423  Arts of Ancient America
AHC 3523  Latin American Art
AHC 4333  Topics in Art History and Criticism
ANT 3273  Civilizations of Mexico
ANT 3303  Nature and Culture in Greater Amazonia
ANT 3363  Indians of Mesoamerica
HIS 2533  Introduction to Latin American Civilization
HIS 3033  The Spanish and Mexican Borderlands
HIS 3123  Colonial Texas under Spanish and Mexican Rule to 1836
HIS 3293  Imperial Spain
HIS 3303  History of Mexico
HIS 3313  History of U.S. Relations with Latin America
HIS 3353  Latin America since Independence
HIS 3373  Revolution in Latin America
HIS 3403  Pre-Hispanic and Colonial Latin America
MUS 2693  The Music of Latin America and the Caribbean
SOC 3433  Mexican Immigration and U.S. Society
SPN 3153  Spanish for the Business/Management Fields
SPN 3463  Latin American Literature to Modernism
SPN 3473  Latin American Literature since Modernism
SPN 3623  Latin American Culture and Civilization

Total Credit Hours: 18

To declare a Minor in Latin American Studies, obtain advice, or seek approval of substitutions for course requirements, students should consult the College of Liberal and Fine Arts Undergraduate Advising Center.

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Minor in Legal Studies

All students pursuing a Minor in Legal Studies must complete 21 semester credit hours, at least 12 hours of which must be at the upper-division level.

A. 3 semester credit hours of required Legal Studies
LGS 2013  Introduction to Legal Studies 3

B. 3 semester credit hours of American legal studies/issues selected from the following 3
POL 2623  Law and Society
POL 3013  The American Legal Process
C. 3 semester credit hours of legal writing selected from the following

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 2413</td>
<td>Technical Writing</td>
</tr>
<tr>
<td>CRJ 3613</td>
<td>Legal Research and Writing</td>
</tr>
<tr>
<td>LGS 3013</td>
<td>Legal Research and Writing</td>
</tr>
<tr>
<td>WRC 3013</td>
<td>Writing Strategies for the Pre-law Student</td>
</tr>
</tbody>
</table>

D. 3 semester credit hours of upper-division legal studies specialization selected from the following

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>LGS 4013</td>
<td>Issues in Law and Society</td>
</tr>
<tr>
<td>LGS 4123</td>
<td>Legal and Philosophical Reasoning</td>
</tr>
<tr>
<td>LGS 4133</td>
<td>Analytical Reasoning, Logic, Argumentation, and Law School Admission</td>
</tr>
<tr>
<td>LGS 4223</td>
<td>Torts</td>
</tr>
<tr>
<td>LGS 4233</td>
<td>Federal Courts</td>
</tr>
<tr>
<td>POL 4123</td>
<td>Legal and Philosophical Reasoning</td>
</tr>
</tbody>
</table>

E. Additional courses

Select 3 of the following (two of which must be at the upper-division level), in at least two disciplines other than the student's major:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANT 3733</td>
<td>Political and Legal Anthropology</td>
</tr>
<tr>
<td>BIO 4073</td>
<td>Law, Ethics, and the Life Sciences</td>
</tr>
<tr>
<td>BLW 3013</td>
<td>Business Law</td>
</tr>
<tr>
<td>BLW 3023</td>
<td>Business Organizations and Commercial Law</td>
</tr>
<tr>
<td>BLW 3523</td>
<td>Real Estate Law</td>
</tr>
<tr>
<td>BLW 4153</td>
<td>Tourism Law</td>
</tr>
<tr>
<td>BLW 4953</td>
<td>Special Studies in Business Law</td>
</tr>
<tr>
<td>COM 3113</td>
<td>Argumentation and Debate</td>
</tr>
<tr>
<td>CRJ 3623</td>
<td>Substantive Criminal Law</td>
</tr>
<tr>
<td>CRJ 3633</td>
<td>Trial and Evidence</td>
</tr>
<tr>
<td>CRJ 4633</td>
<td>Constitutional Criminal Procedure</td>
</tr>
<tr>
<td>CRJ 4853</td>
<td>Sex Crimes and the Law</td>
</tr>
<tr>
<td>CRJ 4863</td>
<td>Special Topics in Legal Issues and Adjudication</td>
</tr>
<tr>
<td>ES 3203</td>
<td>Environmental Law</td>
</tr>
<tr>
<td>GLA 3003</td>
<td>International Law</td>
</tr>
<tr>
<td>GLA 4133</td>
<td>Conflict, Law, and Security in Global Affairs</td>
</tr>
<tr>
<td>HIS 3093</td>
<td>United States Constitutional History</td>
</tr>
<tr>
<td>HIS 3183</td>
<td>Law and American Development</td>
</tr>
<tr>
<td>LGS 3113</td>
<td>Minorities and the Law</td>
</tr>
<tr>
<td>LGS 3213</td>
<td>Law School Studies</td>
</tr>
<tr>
<td>LGS 3313</td>
<td>Science and the Law</td>
</tr>
<tr>
<td>LGS 3323</td>
<td>Constitutional Analysis I</td>
</tr>
</tbody>
</table>
LGS 3333  Constitutional Analysis II  
LGS 3413  Regulatory Law and Enterprise  
LGS 4013  Issues in Law and Society  
LGS 4123  Legal and Philosophical Reasoning  
LGS 4133  Analytical Reasoning, Logic, Argumentation, and Law School Admission  
LGS 4223  Torts  
LGS 4233  Federal Courts  
LGS 4913  Independent Study  
LGS 4933  Internship in Legal Studies  
MGT 4643  Human Resources Law  
PHI 2043  Introductory Logic  
PHI 2063  Philosophy of Law  
PHI 4953  Special Studies in Philosophy  
POL 3013  The American Legal Process  
POL 3023  Civil Liberties in American Law and Practice  
POL 3323  Constitutional Law  
POL 4123  Legal and Philosophical Reasoning  
POL 4153  Seminar in Jurisprudence  
POL 4323  Administrative Law  

Total Credit Hours: 21

To declare a Minor in Legal Studies or to obtain advice, information, or approvals for course requirement substitutions, students should consult the College of Liberal and Fine Arts Undergraduate Advising Center.

**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:  

GLA 2603  Introduction to Global Affairs  
or POL 2603  International 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  Scope and 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):

**American Politics**
- POL 3093  Mexican American Politics
- POL 3123  Political Psychology
- POL 3183  Women in Politics
- POL 3234  Political Campaigns and Elections
- POL 3244  Mass Media and Public Opinion
- POL 3253  Participation and American National Elections
- POL 3283  The American Presidency
- POL 3293  Political Movements
- POL 3363  Political Parties and Interest Groups
- POL 3373  The Legislative Process
- POL 3413  The Politics of Urban Development
- POL 3433  Politics in Film
- POL 3743  Latino/a Politics
- POL 3813  Political Polling
- POL 3823  Politics of Congressional Elections

**Comparative Politics**
- GLA 3063  Comparative Political Participation
- or POL 3063  Comparative Political Participation
- 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  The Politics of Mexico
- or POL 3453  The Politics of Mexico
- GLA 3493  Politics of the Middle East
- or POL 3493  Politics of the Middle East
- GLA 3633  Political Economy
- or POL 3633  Political Economy
GLA 3783 or POL 3783: Comparative Democratization
GLA 4003 or POL 4003: Comparative Foreign Policy
GLA 4123: Techniques in Global Analysis
GLA 4133: Conflict, Law, and Security in Global Affairs
POL 3353: Leadership and Elites
POL 3463: Politics of the Third World
POL 3553: Social Policy in Modern Welfare States

**International Politics**

GLA 3003 or POL 3503: International Law
GLA 3013 or POL 3033: Introduction to Global Analysis
GLA 3043 or POL 3043: International Human Rights
GLA 3383 or POL 3383: East European Politics
GLA 3483 or POL 3483: International Political Economy
GLA 3503 or POL 3503: American Foreign Policy since World War II
GLA 3513 or POL 3513: International Organizations in World Politics
GLA 3523 or POL 3523: Force in International Politics
GLA 3563 or POL 3563: Current Issues in World Politics
GLA 3763 or POL 3763: Globalization
GLA 3793 or POL 4003: Politics and Ethics of International Business
GLA 4003 or POL 4003: Comparative Foreign Policy
GLA 4123: Techniques in Global Analysis
GLA 4133: Conflict, Law, and Security in Global Affairs
GLA 4143 or POL 4143: The European Union
Political Theory

POL 3103 Political Ideology
POL 3113 American Political Theory
POL 3133 Political Philosophy: Ancient and Medieval
POL 3143 Political Philosophy: Modern
POL 3153 Political Philosophy: Contemporary
POL 3163 Introduction to Feminist Theory
POL 3193 Theories of Citizenship
POL 3203 African American Political Thought

Administrative Process

POL 3413 The Politics of Urban Development
POL 4323 Administrative Law

Public Law

POL 3013 The American Legal Process
POL 3023 Civil Liberties in American Law and Practice
POL 3223 Judicial Politics
POL 3323 Constitutional Law
POL 4123 Legal and Philosophical Reasoning
POL 4153 Seminar in Jurisprudence
POL 4323 Administrative Law

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 the College of Liberal and Fine Arts Advising Center.

Geography (GRG) Courses

Department of Political Science and Geography, College of Liberal and Fine Arts

GRG 1013. Fundamentals of Geography. (3-0) 3 Credit Hours. (TCCN = GEOG 1300)
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.

GRG 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.

GRG 1366. Physical and Cultural Geography of the American Southwest. (6-0) 6 Credit Hours.
A capstone course in geography with both classroom and field components including visiting sites, keeping field logs and making student presentations. Illustrates how the principles of physical and cultural geography play out in the physical and cultural landscapes of the Southwest. The one-week field portion includes travel in vans to areas that may include West Texas and New Mexico in addition to adjacent Colorado, Arizona, and Utah. Students will stay in campgrounds and walk into historic and natural sites.

GRG 2613. Physical Geography. (3-0) 3 Credit Hours. (TCCN = GEOG 1301)
Study of the earth’s major landforms and climatic patterns, the processes giving use to these patterns, and their relationship to human activity. Includes the geomorphology of volcanoes, glaciers, coral reefs, mountains, caves, dunes, and plate tectonics. May apply toward the Core Curriculum requirement in Life and Physical Sciences.

GRG 2623. Human Geography. (3-0) 3 Credit Hours. (TCCN = GEOG 1302)
Study of the relationship between the social and spatial aspects of human behavior. Topics include stereotyping of people and places, human proxemics and territoriality, perception of places, environmental perception, spatial diffusion, and human migration. May apply toward the Core Curriculum requirement in Social and Behavioral Sciences.

GRG 2633. Introduction to Geographic Methods. (3-0) 3 Credit Hours.
Broad survey of geographic research methods. May include map interpretation, basic field techniques, archival research methods, geographic information systems, computer cartography, digital remote sensing, and spatial statistics. Students will be exposed to ways geographic data is used to address social and environmental problems and will receive some hands-on experience with modern computer-based geographic technologies. This course is strongly recommended before upper-division courses in geographic techniques (GIS, computer cartography, spatial analysis, or remote sensing).

GRG 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.

GRG 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.
GRG 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.

GRG 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. May include a field trip to Mexico.

GRG 3153. Geography of Texas. (3-0) 3 Credit Hours.
A topical and regional examination of the physical, cultural, and economic patterns of the state. Includes demographic characteristics, agriculture, mining, manufacturing, selected urban areas, and current social issues. May include a field trip to the nonmetropolitan hinterland of San Antonio.

GRG 3166. Physical and Cultural Geography of the American Southwest. (6-0) 6 Credit Hours.
A capstone course in geography with both classroom and field components including visiting sites, keeping field logs and making student presentations. Illustrates how the principles of physical and cultural geography play out in the physical and cultural landscapes of the Southwest. The one-week field portion includes travel in vans to areas that may include West Texas and New Mexico in addition to adjacent Colorado, Arizona, and Utah. Students will stay in campgrounds and walk into historic and natural sites.

GRG 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.

GRG 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; overview of projection systems, data acquisition issues, and presentation techniques. Three lecture and two laboratory hours per week. (Formerly GRG 3313. Credit cannot be earned for both GRG 3314 and GRG 3313.).

GRG 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.

GRG 3334. Advanced Geographic Information Systems. (3-2) 4 Credit Hours.
Prerequisite: GRG 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. (Formerly GRG 3333. Credit cannot be earned for both GRG 3334 and GRG 3333.).
GRG 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.

GRG 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.

GRG 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 POL 3423. Credit cannot be earned for both GRG 3423 and POL 3423.).

GRG 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.

GRG 3443. Medical Geography. (3-0) 3 Credit Hours.

GRG 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, the 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 that are related to population growth and movement, such as political conflict and governance, disease, and immigration policy, will be covered.

GRG 3463. The Geography of Tourism. (3-0) 3 Credit Hours.
Introduces the principles and practices of global tourism, including its geographic diversity and the connections between tourist origins and destinations. Discusses the economic importance and dimensions of tourism and the social, economic, and environmental impacts it has on host societies.

GRG 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, urban land-use models and examples, factors that influence the growth and decline of cities, central place theory and the city’s tributary region, the
community economic base and the economic multiplier, social area analysis, and the city as a center of cultural diversity. Focus of the course may be local, national, or international.

**GRG 3523. Introduction to Urban Planning. (3-0) 3 Credit Hours.**
An introduction to the urban public policy, urban dynamics, selected problems, and the role of the master planning process in their management and solution. Issues and themes include poverty, public education, urban growth, municipal and regional government, energy and waste management, historic preservation and urban design, and relationships between transportation and land use.

**GRG 3533. Geography of Economic Activity. (3-0) 3 Credit Hours.**
Investigates the location of agricultural, industrial, retail and service activities, and transportation flows, through relevant theories and models. Includes case studies of agricultural land use around cities, the urban economic base, shift-share analysis, global impacts on the local economy, and central place principles such as threshold and range. Major focus is on the San Antonio region.

**GRG 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.

**GRG 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.

**GRG 3633. Geography of 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 the definition of development, the major theories of development and underdevelopment, the evolution of global inequalities, the impacts of population growth and migration, the role of agriculture, industry, and transportation in the development, and cultural imperialism and the rise of religious fundamentalism.

**GRG 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, and emerging supranationalism.

**GRG 3653. Geographic Perspectives on Women. (3-0) 3 Credit Hours.**
The course studies the role of women in the spatial organizations 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.
GRG 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, with studies of air pressure, precipitation, air masses, optical phenomena, and wave cyclones. Regional attention to weather patterns, including tornadoes and hurricanes.

GRG 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 them and change them over time. Students will be introduced to the impacts of human intervention in landscape-shaping processes. Special emphasis will be placed on the landforms of the Southwestern United States.

GRG 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. Stresses practical skills.

GRG 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.

GRG 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.

GRG 4313. Remote Sensing. (2-2) 3 Credit Hours.
Prerequisite: GRG 2633 or GRG 3314 or equivalent. Introduction to the use of electromagnetic energy to sense objects in the natural and built environment; interpretation and recognition of patterns detected by satellite and aircraft-borne sensors. Application of computer software to the analysis and interpretation of remotely-sensed information.

GRG 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.

GRG 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.
GRG 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.

GRG 4923. Advanced Research Tutorial. (0-0) 3 Credit Hours.
Prerequisites: Permission in writing (form available) of the instructor, the student’s advisor and the Department Chair. The tutorial provides students with the opportunity to serve as an apprentice to a professor in order to learn the process of academic research. The student would engage in all aspects of the professor’s research project, potentially including data collection, report writing, joint paper presentations or publications, providing ideal preparation for graduate school.

GRG 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.

GRG 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.

GRG 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.

GRG 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. Potential practicum activities could be related to the Social Research Lab, the Media & Elections Studio, and the GIS Lab, for example.

GRG 4993. Honors Thesis. (0-0) 3 Credit Hours.
Prerequisites: Enrollment limited to candidates for Honors in Geography during the 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 advisor’s approval.
Global Affairs (GLA) Courses
Department of Political Science and Geography, College of Liberal and Fine Arts

GLA 1013. U.S. in the Global Arena. (3-0) 3 Credit Hours.
This course assists students in understanding the context in which 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 to be discussed may include globalization, low politics, international banking, multinationals, health issues, the environment, terrorism, security, food, technology, international communication, and other intermestic issues.

GLA 2603. Introduction to Global Affairs. (3-0) 3 Credit Hours.
Prerequisite: GLA 1013 or POL 1013. This course offers an opportunity for broad study of issues such as North-South and East-West conflicts; international aid and trade through transnational enterprises; economic development and debt; military conflicts and nuclear weapons; new frontiers of oceanic resources, tropical forests, and space; cross-cultural communications; American and foreign values; language issues; and investigations of issues related to a particular nation and culture. (Same as INS 2403 and POL 2603. Credit cannot be earned for GLA 2633, INS 2403 and POL 2603.).

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. (Same as POL 2633. Credit cannot be earned for both GLA 2633 and POL 2633.).

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.

GLA 3013. Introduction to Global Analysis. (3-0) 3 Credit Hours.
Prerequisite: GLA 1013 or POL 1013. An overview of global conditions and events traditionally subject to analysis by American and international organizations, such as defense and security concerns, economic development, natural resources, human migration, terrorism, arms transfers and weapons proliferation, natural disasters, and international cooperation. Provides an overview of how government and private sector organizations respond and how they engage in defense, diplomacy, intelligence, etc. Discusses the role and operations of analytical functions in government and private organizations. May be taught from different perspectives depending upon faculty expertise and interests. (Same as POL 3273. Credit cannot be earned for both GLA 3013 and POL 3273.).

GLA 3033. International 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. This course explains theories of international governance, and compares these perspectives to the analysis of political scientists on the past record and likely future of world order. (Same as POL 3033. Credit cannot be earned for both GLA 3033 and POL 3033.).
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.).

GLA 3063. Comparative Political Participation. (3-0) 3 Credit Hours.
Prerequisite: GLA 1013 or POL 1013. This course examines the citizen participation in the democratic process across industrialized democracies, including the United States. The course covers participation within mainstream channels of the democratic process, such as voting and campaign participation, and also participation in unconventional activities such as social movements and protests. (Same as POL 3063. Credit cannot be earned for both GLA 3063 and POL 3063.).

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 may require the use of standard computer packages and secondary analysis of data.

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.

GLA 3223. Theories of Globalization. (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.
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.

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.

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.)

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.)

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.)

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.)

GLA 3453. The 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.)
GLA 3463. Politics of the Third World. (3-0) 3 Credit Hours.
Prerequisite: GLA 1013 or POL 1013. The political system of various Third World nations. An inquiry into the political and economic problems of these countries, such as development, instability, and political change. (Same as POL 3463. Credit cannot be earned for both GLA 3463 and POL 3463.).

GLA 3483. International Political Economy. (3-0) 3 Credit Hours.
Prerequisite: GLA 1013 or POL 1013. This course is an introduction to the 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. (Same as POL 3483. Credit cannot be earned for both GLA 3483 and POL 3483.).

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.).

GLA 3503. American Foreign Policy since World War II. (3-0) 3 Credit Hours.
Prerequisite: GLA 1013 or POL 1013. Major private interests and public institutions involved in American foreign policy making: public opinion and foreign involvement; specific policies toward international organizations and major world regions. (Same as POL 3503. Credit cannot be earned for both GLA 3503 and POL 3503.).

GLA 3513. International Organizations in World Politics. (3-0) 3 Credit Hours.
Prerequisite: GLA 1013 or POL 1013. Major issues involving international organizations: nationalism and globalism, financing problems, international staffing, voting patterns, peace-keeping, and international conferences. Organizations examined include the United Nations system, regional development banks, alliance systems, cartels, and common markets. (Same as POL 3513. Credit cannot be earned for both GLA 3513 and POL 3513.).

GLA 3523. Force in International Politics. (3-0) 3 Credit Hours.
Prerequisite: GLA 1013 or POL 1013. An examination of modern research into the use of coercion in international relations, specifically economic sanctions, war, and terrorism. Special emphasis will be placed on the causes, trends, and consequences of interstate wars. Peace movements and the technologies of peace making will also be covered. (Same as POL 3523. Credit cannot be earned for both GLA 3523 and POL 3523.).

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.).

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.).

GLA 3763. Globalization. (3-0) 3 Credit Hours.
Prerequisite: GLA 1013 or POL 1013. This course examines normative and empirical issues in globalization debates, such as the role of states and nonstate actors, the emergence of global civil society, patterns of international development, the influence of international integration on security, health, violence, and intercultural toleration, and the status of institutions for global justice. (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.).

GLA 3783. Comparative Democratization. (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.).

GLA 3793. Politics and Ethics of International Business. (3-0) 3 Credit Hours.
Prerequisite: GLA 1013 or POL 1013. This course will examine theories of international investment, corporation strategy, and measures of international business performance. Topics may include the relationships between corporations, states, and markets, and multinational corporations as actors in trade, finance, social innovation, economic development, and global conflict.

GLA 4003. Comparative Foreign Policy. (3-0) 3 Credit Hours.
Prerequisite: GLA 1013 or POL 1013. This course is an in-depth comparative examination of the worldviews, institutional processes, political actors, and outcomes of foreign policy-making of several major nation-states. Themes that may be covered are comparative policies for international security, international governance, economic competition, humanitarian action, and regional crises such as the Middle East and African development. (Same as POL 4003. Credit cannot be earned for both GLA 4003 and POL 4003.).

GLA 4013. The Intelligence Community and World Affairs. (3-0) 3 Credit Hours.
Prerequisite: GLA 1013 or POL 1013. Discusses the historical and political developments of intelligence as a component of defense and security policy, mainly in the post-World War II era. Examines the legal foundations of the American national security and intelligence functions, including discussion of accountability and control measures. Emphasizes the role of intelligence in national security policy-making principally conducted by the Executive and Legislative branches in democratic societies. Discusses the main functions of intelligence. (Same as POL 4013. Credit cannot be earned for both GLA 4013 and POL 4013.).

GLA 4123. Techniques in Global Analysis. (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. (Formerly POL 4023. Credit cannot be earned for both GLA 4123 and POL 4023.).

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.

GLA 4143. The European Union. (3-0) 3 Credit Hours.
Prerequisite: GLA 1013 or POL 1013. This course focuses on the historical, political, and intellectual sources of the European Union, the evolution of its institutions, and the effectiveness of its system of governance. Emphasis will be placed on the influence of regional integration on politics and democracy within Europe. The course will consider the construction of united Europe in the context of relations between the EU and member states, European institutions and citizens, and the EU and the world system of politics. (Same as POL 4143. Credit cannot be earned for both GLA 4143 and POL 4143.).

GLA 4203. Current Topics in Global Analysis. (3-0) 3 Credit Hours.
Prerequisite: GLA 1013 or POL 1013. An organized course offering the opportunity for specialized study of topics in such areas as domestic security planning, politics of national defense budgets and products, terrorism, arms transfers and controls, natural disaster preparedness, peace making, nuclear weapons proliferation and negotiations, international trade agreements and policies, national security economics, and civil liberties controversies. (Formerly POL 4203. Credit cannot be earned for both GLA 4203 and POL 4203.).

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.

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.

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.
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.

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.

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.

GLA 4973. Seminar in Global Affairs. (3-0) 3 Credit Hours.
Prerequisite: GLA 1013. 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.

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.

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.

Legal Studies (LGS) Courses
Department of Political Science and Geography, College of Liberal and Fine Arts

LGS 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.

LGS 3013. 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. CRJ 3613 Legal Research and Writing may be substituted for LGS 3013 in the LGS minor. (Same as CRJ 3613. Credit cannot be earned for both LGS 3013 and CRJ 3613.)
LGS 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 titled “Blacks, Chicanos, and the Law.”).

LGS 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.

LGS 3313. Science and the Law. (3-0) 3 Credit Hours.
Prerequisite: POL 1013. This course will examine contemporary issues involving science and law. Students will have the opportunity to explore these issues through examination of (a) the governing legal structure (statutory, administrative and judicial), (b) historical, cultural, and political perspectives, (c) public policy, and (d) their societal and scientific impact. Course may include local issues.

LGS 3323. Constitutional Analysis I. (3-0) 3 Credit Hours.
Prerequisite: POL 1013. An analysis of constitutional cases, issues, and modes of interpretation focusing on governmental powers. Provides students the opportunity to hone analytical, critical reading, and writing skills and to increase substantive knowledge of constitutional law.

LGS 3333. Constitutional Analysis II. (3-0) 3 Credit Hours.
Prerequisite: POL 1013. An analysis of constitutional cases, issues, and modes of interpretation focusing on the Bill of Rights, individual freedoms, and equal protection. Provides students the opportunity to enhance analytical, critical-reading, and writing skills and to increase substantive knowledge of constitutional law.

LGS 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.

LGS 4013. Issues in Law and Society. (3-0) 3 Credit Hours.
Prerequisite: POL 1013, LGS 2013 or LGS 2623. 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.

LGS 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. (Same as POL 4123. Credit cannot be earned for both LGS 4123 and POL 4123.)
LGS 4133. Analytical Reasoning, Logic, Argumentation, and Law School Admission. (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 assessing arguments throughout college, career, and life.

LGS 4223. Torts. (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.

LGS 4233. Federal Courts. (3-0) 3 Credit Hours.
Prerequisite: POL 1013. An examination of the operations, procedures, holdings, and opinions of federal courts, designed to provide students with the opportunity to gain a sophisticated understanding of the role of the federal judiciary in our constitutional system.

LGS 4913. Independent Study. (0-0) 3 Credit Hours.
Prerequisites: POL 1013; permission in writing (form available) from the instructor, the student’s advisor, the Department Chair, and the Dean of the College. Independent reading, research, discussion, and writing under 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.

LGS 4933. Internship in Legal Studies. (0-0) 3 Credit Hours.
Prerequisites: POL 1013; consent of internship coordinator. Supervised experience relevant to legal studies within selected community organizations. A maximum of 3 semester credit hours may be applied to the minor.

Political Science (POL) Courses
Department of Political Science and Geography, College of Liberal and Fine Arts

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.

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. This course is required to fulfill the Core Curriculum requirement in Government-Political Science.

**POL 1213. Studies in Texas and American Politics. (3-0) 3 Credit Hours. (TCCN = GOVT 2302)**
This course involves the analysis of American governmental institutions, political behavior, civic engagement, and their political and philosophical foundations, with a special emphasis on Texas. Subjects may include ethics in government, a comparative study of American and Texas government, civil rights and the United States role in the world. May be repeated for credit when topics vary.

**POL 2503. Introduction to Political Theory. (3-0) 3 Credit Hours.**
Prerequisite: POL 1013. The fundamental concepts and problems of politics as viewed by the classical political philosophers and contemporary theorists: justice, power, authority, obligation, freedom, and equality.

**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.”).

**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.

**POL 2603. International Politics. (3-0) 3 Credit Hours.**
Prerequisite: POL 1013. This course offers an opportunity for broad study of issues such as North-South and East-West conflicts; international aid and trade through transnational enterprises; economic development and debt; military conflicts and nuclear weapons; new frontiers of oceanic resources, tropical forests, and space; cross-cultural communications; American and foreign values; language issues; and investigations of issues related to a particular nation and culture. (Formerly INS 2403. Same as GLA 2603. Credit cannot be earned for more than one of the following: POL 2603, GLA 2603, or INS 2403.).

**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. Various theories and systems of law are examined. Possible topics can be drawn from general areas of legal study such as legal philosophy, critical legal studies, and comparative law, as well as from specific subject areas such as natural, constitutional, common, civil, customary, socialist, and theocratic law.
**POL 2633. Comparative Politics. (3-0) 3 Credit Hours.**
Prerequisite: 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. (Same as GLA 2633. Credit cannot be earned for both POL 2633 and GLA 2633.).

**POL 2703. Scope and Methods in Political Science. (3-0) 3 Credit Hours.**
Prerequisite: POL 1013. An introduction to methods of conducting and interpreting research in political science. Topics include principles of the philosophy of science; research designs, statistical concepts and techniques (conceptualization, operationalization, and measurement), and data-gathering procedures; data analysis; and qualitative methods. May also include standard computer packages and secondary data analysis.

**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.

**POL 3023. Civil Liberties in American Law and Practice. (3-0) 3 Credit Hours.**
Prerequisite: POL 1013. An analytical, normative, and empirical examination of civil liberties and rights in the United States. Topics may include freedom of speech, religion, and assembly, equal protection of the laws, due process, and privacy.

**POL 3033. International Governance. (3-0) 3 Credit Hours.**
Prerequisite: 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. This course explains theories of international governance, and compares these perspectives to the analysis of political scientists on the past record and likely future of world order. (Same as GLA 3033. Credit cannot be earned for both POL 3033 and GLA 3033.).

**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.).

**POL 3063. Comparative Political Participation. (3-0) 3 Credit Hours.**
Prerequisite: POL 1013. This course examines the citizen participation in the democratic process across industrialized democracies, including the United States. The course covers participation within mainstream channels of the democratic process, such as voting and campaign participation, and also participation in unconventional activities such as social movements and protests. (Same as GLA 3063. Credit cannot be earned for both POL 3063 and GLA 3063.).

**POL 3093. Mexican American Politics. (3-0) 3 Credit Hours.**
Prerequisite: POL 1013. An opportunity to study Mexican American participation in the electoral process, political and economic institutions, labor organizations, and alternative modes of political action.
POL 3103. Political Ideology. (3-0) 3 Credit Hours.
Prerequisite: POL 1013. This course is an examination of the political ideologies that shape contemporary political debate. Ideologies may include liberalism, libertarianism, socialism, communitarianism, neoconservatism, feminism, environmentalism, and critical race perspectives. Authors may include Marx, Mill, Rawls, Nozick, Sandel, MacKinnon, and others.

POL 3113. American Political Theory. (3-0) 3 Credit Hours.
Prerequisite: POL 1013. The political theory of the Constitution, the Federalist Papers, Adams, Jefferson, Paine, Calhoun, Thoreau, Social Darwinism, Pragmatism, and 20th-century political thought.

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.

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.

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.

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.

POL 3163. Introduction to Feminist Theory. (3-0) 3 Credit Hours.
Prerequisite: POL 1013. A reading-intensive, upper-level lecture course for political science majors and women’s studies majors and minors, introducing students to feminist approaches to theory. Covers feminist critiques of some of the dominant traditions in Western political and social theory as well as ways in which women have begun to construct theories from their own distinctive perspectives within the intersecting hierarchies of race, class, and gender.

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.
POL 3193. Theories of Citizenship. (3-0) 3 Credit Hours.
Prerequisite: POL 1013. A political philosophy approach to the concept of citizenship. The philosophical underpinnings of citizenship will be analyzed from a race, class, gender, and gay perspective. The notion of nation-states and their exclusive and arbitrary standards of what rights belong to people and to which people will be examined and at times challenged in the context of contemporary politics, American as well as global. In this examination the discussion will go beyond rights and into process. In other words, citizenship will be examined from a participatory, as well as rights, perspective.

POL 3203. African American Political Thought. (3-0) 3 Credit Hours.
Prerequisite: POL 1013. This course examines diverse African American political thought spanning the history of the U.S. Political and social thought examined may include diverse writings from Booker T. Washington, W.E.B. Dubois, Marcus Garvey, Sojourner Truth, David Walker, Elijah Muhammad, Martin Luther King Jr., Malcolm X, Kimberlé Crenshaw, Angela Davis, Cornell West, Clarence Thomas, Lani Guinier, Patricia Williams, Louis Farrakhan, and Eldridge Cleaver.

POL 3213. Business and Politics in the Third World. (3-0) 3 Credit Hours.
Prerequisite: POL 1013. Business-government relations in Third World nations at a time of deep policy changes initiated in the 1980s. Major theories of business-government relations and their explanatory validity for Third World nations. Particular emphasis may be given to Latin America and Asia and their dynamic emerging markets.

POL 3223. Judicial Politics. (3-0) 3 Credit Hours.
Prerequisite: POL 1013. Political behavior of the major participants in the judicial process: judges, attorneys, juries, defendants, and litigants; the political and administrative context of the judicial process; judicial-executive and judicial-legislative relations; the impact of court decisions.

POL 3234. Political Campaigns and Elections. (3-2) 4 Credit Hours.
Prerequisite: POL 1013. A study of the ways in which public officials are recruited and elected in the United States and other democracies. Campaign strategy and tactics; nominations and primaries; the legal framework of elections; the problem of constituency; voting studies; campaign finance. Three lecture and two laboratory hours per week. (Formerly POL 3233. Credit can be earned for both POL 3234 and POL 3233 with special permission.).

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.).

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.
POL 3273. Introduction to Global Analysis. (3-0) 3 Credit Hours.
Prerequisite: POL 1013. An overview of global conditions and events traditionally subject to analysis by American and international organizations, such as defense and security concerns, economic development, natural resources, human migration, terrorism, arms transfers and weapons proliferation, natural disasters, and international cooperation. Provides an overview of how government and private sector organizations respond and how they engage in defense, diplomacy, intelligence, etc. Discusses the role and operations of analytical functions in government and private organizations. May be taught from different perspectives depending upon faculty expertise and interests. (Same as GLA 3013. Credit cannot be earned for both POL 3273 and GLA 3013.).

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.

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.

POL 3303. Race, Ethnicity and Public Policy. (3-0) 3 Credit Hours.
Prerequisite: POL 1013. The objective of this course is to familiarize students with a range of discourses to understand the complexities of racial and ethnic inequalities in the United States as well as the history and current state of racial and ethnic politics. The course examines the politics and experiences of several groups, such as African Americans, Hispanics, American Indians, and Asian Americans. It also reviews the wide range of public policy issues as they affect, and are affected by, racial and ethnic considerations. (Formerly SSC 3253. Credit cannot be earned for both POL 3303 and SSC 3253.).

POL 3323. Constitutional Law. (3-0) 3 Credit Hours.
Prerequisite: POL 1013. An examination of major constitutional issues, past and present, through the intensive study of leading cases. Recommended for pre-law students.

POL 3353. Leadership and Elites. (3-0) 3 Credit Hours.
Prerequisite: POL 1013. An examination of national political executives in parliamentary and presidential democracies and in authoritarian states. Topics examined may include the selection process, decision making, leadership and bureaucracy, executive-legislative relations, and neocorporatism.

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.

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.
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.).

POL 3393. Latin American Politics. (3-0) 3 Credit Hours.
Prerequisite: 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 GLA 3393. Credit cannot be earned for both POL 3393 and GLA 3393.).

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.).

POL 3413. The Politics of Urban Development. (3-0) 3 Credit Hours.
Prerequisite: POL 1013. An opportunity to pursue a political-economic analysis of the metropolis, focusing on the problems and conflicts stemming from urban growth and stagnation. Topics examined may include uneven development, planning, industrial development policy, taxation, and intergovernmental rivalry. Case studies may be drawn from societies other than the United States.

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.).

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.).

POL 3453. The Politics of Mexico. (3-0) 3 Credit Hours.
Prerequisite: 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 GLA 3453. Credit cannot be earned for both POL 3453 and GLA 3453.).
POL 3463. Politics of the Third World. (3-0) 3 Credit Hours.
   Prerequisite: POL 1013. The political system of various Third World nations. An inquiry into the political and economic problems of these countries, such as development, instability, and political change. (Same as GLA 3463. Credit cannot be earned for both POL 3463 and GLA 3463.).

POL 3483. International Political Economy. (3-0) 3 Credit Hours.
   Prerequisite: POL 1013. This course is an introduction to the 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. (Same as GLA 3483. Credit cannot be earned for both POL 3483 and GLA 3483.).

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.).

POL 3503. American Foreign Policy since World War II. (3-0) 3 Credit Hours.
   Prerequisite: POL 1013. Major private interests and public institutions involved in American foreign policy making; public opinion and foreign involvement; specific policies toward international organizations and major world regions. (Same as GLA 3503. Credit cannot be earned for both POL 3503 and GLA 3503.).

POL 3513. International Organizations in World Politics. (3-0) 3 Credit Hours.
   Prerequisite: POL 1013. Major issues involving international organizations: nationalism and globalism, financing problems, international staffing, voting patterns, peace-keeping, and international conferences. Organizations examined include the United Nations system, regional development banks, alliance systems, cartels, and common markets. (Same as GLA 3513. Credit cannot be earned for both POL 3513 and GLA 3513.).

POL 3523. Force in International Politics. (3-0) 3 Credit Hours.
   Prerequisite: POL 1013. An examination of modern research into the use of coercion in international relations, specifically economic sanctions, war, and terrorism. Special emphasis will be placed on the causes, trends, and consequences of interstate wars. Peace movements and the technologies of peace making will also be covered. (Same as GLA 3523. Credit cannot be earned for both POL 3523 and GLA 3523.).

POL 3553. Social Policy in Modern Welfare States. (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 child care.

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.).
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.).

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.

POL 3753. Latino/a Politics. (3-0) 3 Credit Hours.  
Prerequisite: POL 1013. This course examines political developments in Latino communities. Topics may include political history and organization, Latino naturalization, patterns of participation, political attitudes, and policy-making influence.

POL 3763. Globalization. (3-0) 3 Credit Hours.  
Prerequisite: POL 1013. This course examines normative and empirical issues in globalization debates, such as the role of states and nonstate actors, the emergence of global civil society, patterns of international development, the influence of international integration on security, health, violence, and intercultural toleration, and the status of institutions for global justice. (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.).

POL 3783. Comparative Democratization. (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.).

POL 3813. Political Polling. (3-0) 3 Credit Hours.  
Prerequisite: POL 1013. This course examines the principles, techniques and problems involved in conducting survey research. Emphasis is on applied quantitative and qualitative techniques of data collection and analysis commonly used by political scientists, polling organizations, and political consultants in measuring citizen orientations. Topics may include questionnaire design, sampling, interviewing techniques, coding and processing of data, analysis and interpretation of data, and survey research ethics.

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.
POL 4003. Comparative Foreign Policy. (3-0) 3 Credit Hours.
Prerequisite: POL 1013 or consent of instructor. This course is an in-depth comparative examination of the worldviews, institutional processes, political actors, and outcomes of foreign policy-making of several major nation-states. Themes that may be covered are comparative policies for international security, international governance, economic competition, humanitarian action, and regional crises such as the Middle East and African development. (Same as GLA 4003. Credit cannot be earned for both GLA 4003 and POL 4003.).

POL 4013. The Intelligence Community and World Affairs. (3-0) 3 Credit Hours.
Prerequisite: POL 1013. Discusses the historical and political developments of intelligence as a component of defense and security policy, mainly in the post-World War II era. Examines the legal foundations of the American national security and intelligence functions, including discussion of accountability and control measures. Emphasizes the role of intelligence in national security policy making, principally conducted by the Executive and Legislative branches in democratic societies. Discusses the main functions of intelligence. (Same as GLA 4013. Credit cannot be earned for both POL 4013 and GLA 4013.).

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.).

POL 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. (Same as LGS 4123. Credit cannot be earned for both POL 4123 and LGS 4123.).

POL 4143. The European Union. (3-0) 3 Credit Hours.
Prerequisite: POL 1013, POL 2633, POL 3403, or consent of instructor. This course focuses on the historical, political, and intellectual sources of the European Union, the evolution of its institutions, and the effectiveness of its system of governance. Emphasis will be placed on the influence of regional integration on politics and democracy within Europe. The course will consider the construction of united Europe in the context of relations between the EU and member states, European institutions and citizens, and the EU and the world system of politics. (Same as GLA 4143. Credit cannot be earned for both POL 4143 and GLA 4143.).

POL 4153. Seminar in Jurisprudence. (3-0) 3 Credit Hours.
Prerequisite: POL 1013. An analytic inquiry into the normative, empirical, and ideological underpinnings of law. The functions, nature, and utilities of law in various social and conceptual schemes. Alternatives to formal law and jural dispute settling.
POL 4203. Current Topics in Global Analysis. (3-0) 3 Credit Hours.
Prerequisite: POL 1013. An organized course offering the opportunity for specialized study of topics in such areas as domestic security planning, politics of national defense budgets and products, terrorism, arms transfers and controls, natural disaster preparedness, peace making, nuclear weapons proliferation and negotiations, international trade agreements and policies, national security economics, and civil liberties controversies. (Same as GLA 4203. Credit cannot be earned for both POL 4203 and GLA 4203.).

POL 4323. Administrative Law. (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.

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.

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.

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.

POL 4923. Advanced Research Tutorial. (0-0) 3 Credit Hours.
Prerequisites: Permission in writing (form available) of the instructor, the student’s advisor and the Department Chair. The tutorial provides students with the opportunity to serve as an apprentice to a professor in order to learn the process of academic research. The student would engage in all aspects of the professor’s research project, potentially including data collection, report writing, joint paper presentations or publications, providing ideal preparation for graduate school.

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.

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.
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.

POL 4973. Seminar in Political Science. (3-0) 3 Credit Hours.
Prerequisites: POL 1013, 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.

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.

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.
DEPARTMENT OF PSYCHOLOGY

The Department of Psychology offers a Bachelor of Arts degree in Psychology and a Minor in Psychology. The bachelor’s 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.

Department of Psychology Admission Policy

The goal of the Department of Psychology is to provide its students with a program of study that has the highest possible standards. To achieve this goal, the admission policy of the Department of Psychology is designed to identify those students most likely to succeed in their undergraduate psychology education. A psychology minor is, however, available to all UTSA students who seek to complement a different academic major with a strong foundation in psychology.

Direct Admission Criteria

1. Applicants entering UTSA from high school and transfer students who have completed fewer than 30 hours of transferable college credit will be directly admitted to the Department of Psychology if they:
   a. meet all UTSA undergraduate admission requirements
   b. are ranked in the top 25 percent of their high school graduation class
   c. have a cumulative grade point average of 2.0 or better for all college-level courses completed.
   d. have successfully completed evaluation under the Texas Success Initiative for unencumbered registration for courses.

2. Applicants who have completed 30 or more hours of transferable college credit will be directly admitted to the Department of Psychology if they:
   a. meet all UTSA undergraduate admission requirements
   b. have a cumulative grade point average of 2.0 or better for all college-level courses completed
   c. have successfully completed the following or equivalent courses with the grade of “C-” or better:
      i. PSY 1013 Introduction to Psychology
      ii. And one of the following Math or Statistics courses: MAT 1023, MAT 1033, MAT 1073, MAT 1093, MAT 1163, MAT 1193, MAT 1214, STA 1053, or STA 1043.

Applicants Who Do Not Meet Direct Admission Criteria

Applicants for admission to the Department of Psychology who do not meet the criteria for direct admission stated above will be admitted to the Department as prepsychology (PRP) students. Academic performance for admittance to the Department of Psychology will be evaluated after students have met all the following conditions:

1. have a grade point average of at least 2.0 for all UTSA coursework
2. have a grade point average of at least 2.0 for all UTSA Department of Psychology coursework
3. have successfully completed the following or equivalent courses with the grade of “C-” or better
   a. PSY 1013 Introduction to Psychology
   b. And one of the following Math or Statistics courses: MAT 1023, MAT 1033, MAT 1073, MAT 1093, MAT 1163, MAT 1193, MAT 1214, STA 1053, or STA 1043.
A student who does not meet the requirements to declare a Psychology major after completing 12 total semester credit hours of psychology coursework at UTSA will only be permitted to take additional psychology courses that are needed for a psychology minor and will no longer be considered a prepyschology student.

**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 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 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 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 Bachelor of Arts 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. For a complete listing of courses that satisfy the Core Curriculum requirements, see chapter 1 of this catalog.

MAT 1023, MAT 1033, 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.
Degree Requirements

A. Psychology major courses

1. Lower-division courses

a. Introduction to Psychology

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSY 1013</td>
<td>Introduction to Psychology</td>
<td>3</td>
</tr>
</tbody>
</table>

b. Select two of the following courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSY 2503</td>
<td>Developmental Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PSY 2513</td>
<td>Abnormal Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PSY 2523</td>
<td>Personality</td>
<td>3</td>
</tr>
<tr>
<td>PSY 2533</td>
<td>Social Psychology</td>
<td>3</td>
</tr>
</tbody>
</table>

c. Select one of the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSY 2543</td>
<td>Theories of Learning</td>
<td>3</td>
</tr>
<tr>
<td>PSY 2573</td>
<td>Psychology of Thought</td>
<td>3</td>
</tr>
</tbody>
</table>

d. Statistics for Psychology or approved substitute

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSY 2073</td>
<td>Statistics for Psychology</td>
<td>3</td>
</tr>
</tbody>
</table>


2. Upper-Division courses

a. Experimental Psychology

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSY 3403</td>
<td>Experimental Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PSY 3413</td>
<td>Experimental Psychology Laboratory</td>
<td>3</td>
</tr>
</tbody>
</table>

b. Select two of the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSY 3103</td>
<td>Cognition</td>
<td>3</td>
</tr>
<tr>
<td>PSY 3153</td>
<td>Sensation and Perception</td>
<td>3</td>
</tr>
<tr>
<td>PSY 4113</td>
<td>Cognitive Development</td>
<td>3</td>
</tr>
<tr>
<td>PSY 4143</td>
<td>Memory</td>
<td>3</td>
</tr>
<tr>
<td>PSY 4183</td>
<td>Physiological Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PSY 4213</td>
<td>Social Cognition</td>
<td>3</td>
</tr>
<tr>
<td>PSY 4323</td>
<td>Psychology of Language</td>
<td>3</td>
</tr>
</tbody>
</table>

c. Select 12 semester credit hours of upper-division courses in psychology. No more than 3 hours of Independent Study, Internship in Psychology, or Honors Thesis may be counted toward this requirement.

B. Support work outside of psychology

Select 9 semester credit hours of support work outside of psychology. The courses taken to meet this requirement must have a common focus and must be approved by the student’s faculty advisor. A list of the sets of courses that meet this requirement is available from the student’s academic advisor. This requirement may be satisfied by completing a minor outside psychology.
C. Electives
Select 30 semester credit hours of 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 advisors in the College of Liberal and Fine Arts Undergraduate Advising Center 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

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIS 1203</td>
<td>Academic Inquiry and Scholarship (core)</td>
</tr>
<tr>
<td>HIS 1043, 1053, or 2053</td>
<td>United States History: Pre-Columbus to Civil War Era (core)</td>
</tr>
<tr>
<td>MAT 1023, 1033, or 1073</td>
<td>College Algebra with Applications (core)</td>
</tr>
<tr>
<td>PSY 1013</td>
<td>Introduction to Psychology (core and major)</td>
</tr>
<tr>
<td>WRC 1013</td>
<td>Freshman Composition I (core)</td>
</tr>
</tbody>
</table>

Spring

| HIS 1043, 1053, or 2053 | United States History: Pre-Columbus to Civil War Era (core) | 3 |
| PSY 2073               | Statistics for Psychology | 3 |
| WRC 1023               | Freshman Composition II (core) | 3 |
| Life & Physical Sciences core | | 3 |
| Select one of the following: | | 3 |
| PSY 2503               | Developmental Psychology | |
| PSY 2513               | Abnormal Psychology | |
| PSY 2523               | Personality | |
| PSY 2533               | Social Psychology | |

Second Year

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECO 2003, 2013, or 2023</td>
<td>Economic Principles and Issues (core)</td>
</tr>
<tr>
<td>POL 1013</td>
<td>Introduction to American Politics (core)</td>
</tr>
<tr>
<td>PSY 2543 or 2573</td>
<td>Theories of Learning (or Psychology of Thought)</td>
</tr>
<tr>
<td>Life &amp; Physical Sciences core</td>
<td></td>
</tr>
<tr>
<td>Select one of the following:</td>
<td></td>
</tr>
<tr>
<td>PSY 2503</td>
<td>Developmental Psychology</td>
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</table>

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
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<tbody>
<tr>
<td>PSY 2513</td>
<td>Abnormal Psychology</td>
<td></td>
</tr>
<tr>
<td>PSY 2523</td>
<td>Personality</td>
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<tr>
<td>PSY 2533</td>
<td>Social Psychology</td>
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<tr>
<td></td>
<td><strong>Spring</strong></td>
<td></td>
</tr>
<tr>
<td>POL 1133</td>
<td>Texas Politics and Society (core)</td>
<td>3</td>
</tr>
<tr>
<td>PSY 3403</td>
<td>Experimental Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PSY 3413</td>
<td>Experimental Psychology Laboratory</td>
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<tr>
<td>Free elective</td>
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<td>3</td>
</tr>
<tr>
<td>Language, Philosophy &amp; Culture core</td>
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<td><strong>Third Year</strong></td>
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<td><strong>Fall</strong></td>
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<tr>
<td>Free elective</td>
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<tr>
<td>Free elective</td>
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<tr>
<td>PSY Cognitive component</td>
<td></td>
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<tr>
<td>Upper-division PSY elective</td>
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<tr>
<td>Creative Arts core</td>
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<tr>
<td></td>
<td><strong>Spring</strong></td>
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<tr>
<td>Free elective</td>
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<tr>
<td>PSY Cognitive component</td>
<td></td>
<td>3</td>
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<tr>
<td>Upper division free elective</td>
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<tr>
<td>Upper-division PSY elective</td>
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<tr>
<td>Upper-division support work</td>
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<td></td>
<td><strong>Fourth Year</strong></td>
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<td></td>
<td><strong>Fall</strong></td>
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<tr>
<td>Free elective</td>
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<tr>
<td>Free elective</td>
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<tr>
<td>Upper-division PSY elective</td>
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<td>3</td>
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<tr>
<td>Upper-division PSY elective</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Upper-division support work</td>
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<td>3</td>
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<tr>
<td></td>
<td><strong>Spring</strong></td>
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<tr>
<td>Free elective</td>
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<tr>
<td>Free elective</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Free elective (to meet 120 hour minimum)</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Upper-division free elective</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Upper-division support work</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

**Total Credit Hours: 120.0**
Minor in Psychology

All students pursuing a Minor in Psychology must complete 18 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: Social and Behavioral Science.)  3

PSY 3403  Experimental Psychology (Concurrent enrollment in PSY 3413 waived; prerequisite of PSY 2073 or equivalent required.)  3

B. Select one of the following:  3

PSY 2503  Developmental Psychology
PSY 2513  Abnormal Psychology
PSY 2523  Personality
PSY 2533  Social Psychology

C. Select one of the following  3

PSY 2543  Theories of Learning
PSY 2573  Psychology of Thought

D. Upper-division psychology courses

Select 6 additional upper-division credit hours of psychology courses, no more than 3 hours of which may be in Independent Study or Internship  6

Total Credit Hours: 18

To declare a Minor in Psychology, obtain advice, or seek approval of substitutions for course requirements, students should consult the undergraduate advisor in the College of Liberal and Fine Arts Advising Center.

Psychology (PSY) Courses

Department of Psychology, College of Liberal and Fine Arts

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.).

**PSY 2073. Statistics for Psychology. (3-0) 3 Credit Hours.**
Prerequisites: MAT 1023, MAT 1033, 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.).

**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.

**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.

**PSY 2523. Personality. (3-0) 3 Credit Hours. (TCCN = PSYC 2316)**
Prerequisite: PSY 1013. Problems, methods, major theories, and results in the study of development and maintenance of typical modes of behavior and dynamics of adjustment.

**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.

**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.

**PSY 2573. Psychology of Thought. (3-0) 3 Credit Hours.**
Prerequisites: PSY 1013 or equivalent; and MAT 1023 or equivalent. An introduction to the principles of human thought as they relate to memory, comprehension, and problem solving. These principles will be used to analyze the nature of the cognitive strategies and skills that individuals develop to cope with the adaptive challenges they face.

**PSY 3023. Social Psychology of Small Groups. (3-0) 3 Credit Hours.**
Prerequisites: PSY 2533 and PSY 3403; 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.
PSY 3053. Cross-Cultural Psychology. (3-0) 3 Credit Hours.
Prerequisites: ANT 1013, ANT 2053, or PSY 1013; and PSY 3403 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.

PSY 3103. Cognition. (3-0) 3 Credit Hours.
Prerequisites: PSY 2543 or PSY 2573; and PSY 3403. 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.

PSY 3113. Motivation and Emotion. (3-0) 3 Credit Hours.
Prerequisite: PSY 3403 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.

PSY 3123. Attitudes. (3-0) 3 Credit Hours.
Prerequisites: PSY 2533 or PSY 2543; and PSY 3403. Examination of current theory and research on the nature of attitudes, their acquisition, and processes of attitude change. Topics may include psychological foundations of attitudes, structure and function of attitudes, attitude measurement, attitude-behavior consistency, theories of attitude change, and the role of attitudes in social behavior.

PSY 3153. Sensation and Perception. (3-0) 3 Credit Hours.
Prerequisites: PSY 2543 or PSY 2573, and PSY 3403. 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.).

PSY 3203. Industrial and Organizational Psychology. (3-0) 3 Credit Hours.
Prerequisites: PSY 2073 or the equivalent, and PSY 3403 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.

PSY 3303. Psychological Perspectives on Gender. (3-0) 3 Credit Hours.
Prerequisites: PSY 2503, PSY 2513, PSY 2523, or PSY 2533; and PSY 3403 or the equivalent; or consent of instructor. Consideration of physiological and social-learning origins of sex differences and psychological theories of sex-stereotyped and sexual behavior. Topics may include androgyny versus sex-typed behavior, gender dysfunction, origins of sex stereotypes, sexual preferences, and sex differences in reasoning ability, aggression, sexual behavior, personality, and psychopathology.

PSY 3403. Experimental Psychology. (3-0) 3 Credit Hours.
Prerequisites: One course from PSY 2503, PSY 2513, PSY 2523, or PSY 2533; PSY 2543 or PSY 2573; a minimum grade of “C-” in PSY 2073 or consent of instructor; and concurrent enrollment in PSY 3413. 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.

**PSY 3413. Experimental Psychology Laboratory. (2-2) 3 Credit Hours.**
Prerequisite: Concurrent enrollment in PSY 3403. Application of observational and experimental procedures to selected problems in the collection of psychological data and the evaluation of psychological theories.

**PSY 3513. Developmental Psychopathology. (3-0) 3 Credit Hours.**
Prerequisites: PSY 2513 and PSY 3403; or consent of instructor. Clinical findings and experimental research regarding childhood behavior problems, including hyperactivity, autism, schizophrenia, and anxiety disorders. Additional topics may include family influences on development of abnormal behavior and various psychotherapeutic techniques. (Formerly titled “Psychopathology and Childhood.”).

**PSY 3523. Psychology of Adulthood and Aging. (3-0) 3 Credit Hours.**
Prerequisites: PSY 2503 and PSY 3403; or consent of instructor. Descriptive and theoretical accounts of psychological developments from early adulthood to old age. Relevant data are reviewed in the areas of memory, intellect, mental and physical health, social development, personality, grief, and dying.

**PSY 3543. Introduction to Clinical Psychology. (3-0) 3 Credit Hours.**
Prerequisites: PSY 2513 and PSY 3403; 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.

**PSY 4003. History of Psychology. (3-0) 3 Credit Hours.**
Prerequisite: PSY 3403 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.

**PSY 4013. Social Psychology of the Self. (3-0) 3 Credit Hours.**
Prerequisites: PSY 2523 or PSY 2533; and PSY 3403; 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. (Formerly PSY 3143. Credit cannot be earned for both PSY 4013 and PSY 3143.).

**PSY 4103. Social Psychology of Prejudice. (3-0) 3 Credit Hours.**
Prerequisites: PSY 2533 and PSY 3403. Consideration of social, psychological, and personality factors in prejudice and stereotyping, and their interaction with cultural factors in producing racism and other prejudices.

**PSY 4113. Cognitive Development. (3-0) 3 Credit Hours.**
Prerequisites: PSY 2503 or PSY 2573; and PSY 3403; or consent of instructor. The development of perception, memory, and thinking in children, with attention to the roles of experience and maturation in development of thought, and the validity of the concept of cognitive stages, particularly Piagetian models.
PSY 4133. Social and Personality Development. (3-0) 3 Credit Hours.
Prerequisites: PSY 2503, PSY 2523, or PSY 2533; and PSY 3403 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.

PSY 4143. Memory. (3-0) 3 Credit Hours.
Prerequisites: PSY 2543 or PSY 2573; and PSY 3403 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.

PSY 4183. Physiological Psychology. (3-0) 3 Credit Hours.
Prerequisite: PSY 3403 or consent of instructor. 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.

PSY 4193. Relationships. (3-0) 3 Credit Hours.
Prerequisites: PSY 2533 or PSY 2543; and PSY 2073. 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.

PSY 4213. Social Cognition. (3-0) 3 Credit Hours.
Prerequisites: PSY 2533 or PSY 2573; and PSY 3403 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.

PSY 4253. Psychology of Health. (3-0) 3 Credit Hours.
Prerequisite: PSY 3403 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.

PSY 4323. Psychology of Language. (3-0) 3 Credit Hours.
Prerequisites: PSY 2543 or PSY 2573, and PSY 3403. Investigates how humans represent, produce, understand, and acquire language. Topics may include language processing, neurolinguistics, language acquisition, conversational interaction, language disorders, and reading development. (Formerly PSY 2583. Credit cannot be earned for both PSY 4323 and PSY 2583.).

PSY 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 of independent study, regardless of discipline, will apply to a bachelor’s degree. No more than 3 semester credit hours of independent study will apply to Psychology major or minor requirements.
PSY 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 3 semester credit hours of independent study will apply to Psychology major or minor requirements.

PSY 4923. Current Topics in Psychology. (3-0) 3 Credit Hours.
Prerequisites: PSY 1013 and PSY 3403. Coverage of topics of current interest in the field of psychology. May be repeated once for credit when topics vary, but not more than 3 semester credit hours will apply to the major in Psychology.

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. Not more than 3 semester credit hours will apply to Psychology major or minor requirements. Must be taken on a credit/no-credit basis.

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. Not more than 3 semester credit hours will apply to Psychology major or minor requirements. Must be taken on a credit/no-credit basis.

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.

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. Not more than 3 semester credit hours will apply to Psychology major requirements.
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

As part of the COLFA Signature Experience, majors in Sociology are required to apply 3 semester credit hours of internship study to their baccalaureate program. 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.

A student may seek a waiver of the internship requirement by submitting a written request to the Chair of the Sociology Department explaining the reasons for waiver. Should a waiver be granted, an Independent Study course must be taken with the approval of the internship coordinator to meet the 36 hour minimum for the major.

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 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 Bachelor of Arts 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. For a complete listing of courses that satisfy the Core Curriculum requirements, see chapter 1 of this catalog.

SOC 1013 Introduction to Sociology should be used to satisfy the core requirement in Social and Behavioral Sciences.

**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 3343 Classical Sociological Theory 3
   - or SOC 3353 Contemporary Sociological Theory
   - SOC 3323 Introduction to Social Research 3
   - SOC 3373 Qualitative Research Methods 3
   - or SOC 3393 Quantitative Research Methods
   - SOC 4933 Internship in Sociology 3

2. Select 21 additional semester credit hours of Sociology electives as approved by the student's advisor. 21

   Students are encouraged to take a broad variety of courses.

B. Support work in social sciences outside the major

   Select 6 semester credit hours. Social science may include AMS, ANT, BBL, CRJ, GRG, HIS, NPO, POL, PSY, and WS. 6

C. Single language other than English

   Select 6 semester credit hours in a single language other than English 6

D. Electives

   Select 30 semester credit hours of electives. Recommended areas include foreign languages, social sciences, and statistics. 30

   **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 advisors in the College of Liberal and Fine Arts Undergraduate Advising Center 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**

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIS 1203</td>
<td>Academic Inquiry and Scholarship (core) 3</td>
</tr>
<tr>
<td>HIS 1043, 1053, or 2053</td>
<td>United States History: Pre-Columbus to Civil War Era (core) 3</td>
</tr>
<tr>
<td>SOC 1013</td>
<td>Introduction to Sociology (core and major) 3</td>
</tr>
<tr>
<td>WRC 1013</td>
<td>Freshman Composition I (core) 3</td>
</tr>
<tr>
<td>Mathematics 1</td>
<td>Mathematics core 3</td>
</tr>
</tbody>
</table>

**Spring**

| HIS 1043, 1053, or 2053 | United States History: Pre-Columbus to Civil War Era (core) 3 |
| WRC 1023                | Freshman Composition II (core) 3 |
| Free elective           | Free elective 3 |
| Free elective           | Free elective 3 |
| Life & Physical Sciences core | Life & Physical Sciences core 3 |

**Second Year**

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECO 2003, 2013, or 2023</td>
<td>Economic Principles and Issues 3</td>
</tr>
<tr>
<td>SOC 3343 or 3353</td>
<td>Classical Sociological Theory (or Contemporary Sociological Theory) 3</td>
</tr>
<tr>
<td>Free elective</td>
<td>Free elective 3</td>
</tr>
<tr>
<td>Life &amp; Physical Sciences core</td>
<td>Life &amp; Physical Sciences core 3</td>
</tr>
<tr>
<td>Creative Arts core</td>
<td>Creative Arts core 3</td>
</tr>
</tbody>
</table>

**Spring**

| SOC 3323                 | Introduction to Social Research 3 |
| Free elective            | Free elective 3 |
| Free elective            | Free elective 3 |
| Language, Philosophy, & Culture core | Language, Philosophy, & Culture core 3 |
| Support work             | Support work 3 |

**Third Year**

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>POL 1013</td>
<td>Introduction to American Politics (core) 3</td>
</tr>
<tr>
<td>SOC 3373 or 3393</td>
<td>Qualitative Research Methods (or Quantitative Research Methods) 3</td>
</tr>
<tr>
<td>Foreign language (semester I)</td>
<td>Foreign language (semester I) 3-4</td>
</tr>
<tr>
<td>SOC elective</td>
<td>SOC elective 3</td>
</tr>
<tr>
<td>Upper-division free elective</td>
<td>Upper-division free elective 3</td>
</tr>
</tbody>
</table>

**Spring**

| POL 1133                 | Texas Politics and Society (core) 3 |
| Foreign language (semester II) | Foreign language (semester II) 3-4 |
| Support work             | Support work 3 |
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

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOC 1013</td>
<td>Introduction to Sociology</td>
<td>3</td>
</tr>
<tr>
<td>SOC 3343</td>
<td>Classical Sociological Theory</td>
<td>3</td>
</tr>
<tr>
<td>or SOC 3353</td>
<td>Contemporary Sociological Theory</td>
<td></td>
</tr>
<tr>
<td>SOC 3323</td>
<td>Introduction to Social Research</td>
<td>3</td>
</tr>
</tbody>
</table>

B. Select 12 semester credit hours of Sociology electives

Total Credit Hours: 21

To declare a Minor in Sociology, obtain advice, or seek approval of substitutions for course requirements, students should consult the College of Liberal and Fine Arts Advising Center.
Sociology (SOC)
Department of Sociology, College of Liberal and Fine Arts

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.”).

SOC 1043. Introduction to Public Health. (3-0) 3 Credit Hours.
Introduces the discipline of public health. Covers a variety of disciplines to the basic tenets of public health. Provides a history of public health, an introduction to the five core disciplines (Epidemiology, Biostatistics, Environmental Health, Social and Behavioral Health, and Health Policy & Management). Also covers the role of public health in global society. (Same as PUB 1113. Credit cannot be earned for both SOC 1043 and PUB 1113.).

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.

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.").

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.

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.

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.

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.
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.

SOC 3083. Social Change and Development. (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.

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.

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.

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.”).

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.

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.

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.

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.”).
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.

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 familism; 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.).

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.

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.”).

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.”).

SOC 3343. Classical Sociological Theory. (3-0) 3 Credit Hours.
Prerequisite: SOC 1013. Examines the transition from social philosophy to sociology, with special emphasis on the work of Karl Marx, Emile Durkheim and Max Weber. The foundational theories and concepts in sociology are addressed, with attention also given to the application of theory to longstanding and current social issues. (Formerly SOC 3153. Credit cannot be earned for both SOC 3343 and SOC 3153.).

SOC 3353. Contemporary Sociological Theory. (3-0) 3 Credit Hours.
Prerequisite: SOC 1013. Examines contemporary paradigms in sociological theory (e.g., functionalism, neo-Marxism, phenomenology, and feminism), and current debates over the state of theory. 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.).

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.
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, crosstabulations, 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.)

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. (Formerly titled “Mexican American Family.”).

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.

SOC 3433. Mexican Immigration and U.S. Society. (3-0) 3 Credit Hours.
Focuses on the growth and development of the Mexican population in the United States and controversies around Mexican immigration, both legal and undocumented. Uses a sociological perspective to present a historical analysis of Mexican migration to the United States, theoretical explanations of migrations, and the social implications of these issues.

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.

SOC 3503. Sociology of Education. (3-0) 3 Credit Hours.
Explores education as an institution that affects and is affected by the larger social structure. Topics may include the role of schools in society; connections between schooling, stratification and the economy; gender and ethnic differences in achievement; and social and cultural contexts of learning.

SOC 3513. Children and Society. (3-0) 3 Credit Hours.
Examines the evolution of concepts of childhood over time. Topics may include theories of child development, cultural and social influences in child raising, the effects of affluence and poverty on children, children in postmodern societies, and child socialization in different cultures.

SOC 3543. Data Management in Public Health. (3-0) 3 Credit Hours.
Provides an introduction to data management for research projects in public health using microcomputers. Topics include design of data collection forms, data entry, computer managed documentation and statistical computing using SPSS/SAS. (Same as PUB 2113. Credit cannot be earned for both SOC 3543 and PUB 2113.).
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.).

SOC 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.

SOC 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.

SOC 4073. Social and Behavioral Theories in Public Health. (3-0) 3 Credit Hours.
Examines the fundamental social and behavioral theories that drive research and practice in public health. The course covers a number of social and behavioral theories commonly used in public health education interventions at the individual, group, and community levels.

SOC 4083. Behavioral Epidemiology. (3-0) 3 Credit Hours.
Provides an introduction to the social/behavioral sciences in public health, basic behavioral measurement methods, and basic knowledge of epidemiologic application in the area of social and behavioral science. The course will stress the relationship of human behavior to disease, and ways in which the social/behavioral sciences differ from epidemiology with respect to approaches to measurement, terminology, and analytic methods. In addition, the course will examine the literature, and explore in-depth and quantify the determinants of behavior that are risk factors for several chronic and infectious disorders. (Same as PUB 3413. Credit cannot be earned for both SOC 4083 and PUB 3413.).

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.

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.
SOC 4853. Special Studies in Sociology. (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. (Formerly SOC 4953. Credit may be earned for both SOC 4853 and SOC 4953 but may not exceed 6 semester credit hours combined.).

SOC 4863. Topics in Sociology. (3-0) 3 Credit Hours.
Prerequisite: Consent of instructor. 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.

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.

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.

SOC 4933. Internship in Sociology. (0-0) 3 Credit Hours.
Prerequisites: Completion of SOC 3343 or SOC 3353 and 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.

SOC 4936. Internship in Sociology. (0-0) 6 Credit Hours.
Prerequisites: Completion of SOC 3343 or SOC 3353 and 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.

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.
OTHER PROGRAMS IN COLFA

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
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 the College of Liberal and Fine Arts Undergraduate Advising Center.

**Human Neuroscience (HNSC) Courses**

**College of Liberal and Fine Arts**

**HNSC 1013. Introduction to Human Neuroscience. (3-0) 3 Credit Hours.**

This course introduces students to system level human neuroscience using noninvasive imaging methodology (MRI, PET, TMS) as the primary tool to explore different motor, perceptual (e.g., vision, audition), and cognitive systems (e.g., attention, memory) in the human brain.

**HNSC 2013. Disorders of the Human Nervous System. (3-0) 3 Credit Hours.**

Prerequisite: HNSC 1013. This course explores the mechanism of action of disorders of the human nervous system (e.g., autism, aphasia, motor disorders). Based on a system level approach to the human brain, each disorder is introduced with attention to the primary behavioral symptoms. The application of noninvasive brain imaging to explore the mechanism of action of disease, and diagnosis and treatment of disorders is covered whenever possible.

**HNSC 3013. Introduction to Imaging Meta-Analysis. (3-0) 3 Credit Hours.**

Prerequisites: HNSC 1013 and a course in statistics. This course is designed to provide students with the tools to conduct system level meta-analysis of brain imaging data. Students are introduced to meta-analysis, including the analytic tools of this statistical methodology. Students use an existing database of imaging data to conduct a meta-analysis in an area of interest.
8. College of Public Policy

DEPARTMENT OF CRIMINAL JUSTICE

The Department of Criminal Justice offers a Bachelor of Arts degree which provides the opportunity for comprehensive study of criminal justice, and a Minor in 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 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. 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 Bachelor of Arts degree in 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. For a complete listing of courses that satisfy the Core Curriculum requirements, see chapter 1 of this catalog.

CRJ 1113 The American Criminal Justice System may be used to satisfy the core requirement in Social and Behavioral Sciences as well as a major requirement.

Degree Requirements

A. Core criminal justice coursework

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRJ 1113</td>
<td>The American Criminal Justice System</td>
<td>3</td>
</tr>
<tr>
<td>CRJ 2153</td>
<td>Nature of Crime and Justice</td>
<td>3</td>
</tr>
<tr>
<td>CRJ 3013</td>
<td>Research Design and Analysis in Criminal Justice</td>
<td>3</td>
</tr>
<tr>
<td>CRJ 3213</td>
<td>Managing Criminal Justice Organizations</td>
<td>3</td>
</tr>
<tr>
<td>CRJ 3623</td>
<td>Substantive Criminal Law</td>
<td>3</td>
</tr>
</tbody>
</table>

B. Justice Studies

Select six of the following, five of which must be upper division:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRJ 2213</td>
<td>Introduction to Policing</td>
</tr>
<tr>
<td>CRJ 2513</td>
<td>Introduction to Corrections</td>
</tr>
<tr>
<td>CRJ 2813</td>
<td>Introduction to Courts and the Legal System</td>
</tr>
<tr>
<td>CRJ 3233</td>
<td>Introduction to Forensic Science</td>
</tr>
</tbody>
</table>
CRJ 3533 Probation, Parole and Intermediate Sanctions
CRJ 3563 Juvenile Justice
CRJ 3573 Restorative Justice
CRJ 3613 Legal Research and Writing
CRJ 3633 Trial and Evidence
CRJ 3713 Ethics in Criminal Justice Practice
CRJ 4123 Investigations
CRJ 4303 Victimology
CRJ 4403 Race, Ethnicity, and Criminal Justice
CRJ 4413 Contemporary Police Practices
CRJ 4443 Special Topics in Policing and Crime Prevention
CRJ 4453 Drugs and Crime
CRJ 4463 Gender and Crime
CRJ 4523 Special Topics in Forensic Science
CRJ 4563 Special Topics in Juvenile Justice
CRJ 4613 Supervising the Correctional Client
CRJ 4633 Constitutional Criminal Procedure
CRJ 4653 White Collar Crime
CRJ 4663 Special Topics in Corrections
CRJ 4833 Violent Crime
CRJ 4843 Study Abroad: International Criminal Justice
CRJ 4853 Sex Crimes and the Law
CRJ 4863 Special Topics in Legal Issues and Adjudication
CRJ 4913 Independent Study
CRJ 4953 Special Studies in Criminal Justice
CRJ 4993 Honors Thesis

C. Internship in Criminal Justice
   CRJ 4933 Internship in Criminal Justice (taken in consultation with the Department’s internship coordinator) 3

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.

D. Upper-division support work
Select 15 semester credit hours of upper-division support-work, chosen in consultation with an academic advisor 15
### Course Sequence Guide for Bachelor of Arts Degree in Criminal Justice

This course sequence guide is designed to assist students in completing their UTSA undergraduate Criminal Justice degree requirements. This is merely a guide and students must satisfy other requirements of this catalog and meet with advisors in the Downtown Undergraduate Advising Center 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 Criminal Justice – Recommended Four-Year Academic Plan

<table>
<thead>
<tr>
<th>First Year</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fall</strong></td>
<td></td>
</tr>
<tr>
<td>AIS 1203</td>
<td>Academic Inquiry and Scholarship (core)</td>
</tr>
<tr>
<td>CRJ 1113</td>
<td>The American Criminal Justice System (major and core)</td>
</tr>
<tr>
<td>HIS 1043, 1053, or 2053</td>
<td>United States History: Pre-Columbus to Civil War Era (core)</td>
</tr>
<tr>
<td>WRC 1013</td>
<td>Freshman Composition I (core)</td>
</tr>
<tr>
<td>Component Area Option core</td>
<td>3</td>
</tr>
<tr>
<td><strong>Spring</strong></td>
<td></td>
</tr>
<tr>
<td>CRJ 2153</td>
<td>Nature of Crime and Justice</td>
</tr>
<tr>
<td>HIS 1043, 1053, or 2053</td>
<td>United States History: Pre-Columbus to Civil War Era (core)</td>
</tr>
<tr>
<td>STA 1053</td>
<td>Basic Statistics (or Mathematics core)</td>
</tr>
<tr>
<td>WRC 1023</td>
<td>Freshman Composition II (core)</td>
</tr>
<tr>
<td>Elective</td>
<td>3</td>
</tr>
</tbody>
</table>

| Second Year |              |
| **Fall**    |              |
| CRJ 3213    | Managing Criminal Justice Organizations | 3 |
| POL 1013    | Introduction to American Politics (core) | 3 |
| Elective    | 3 |
| Language, Philosophy & Culture core | 3 |
| Life & Physical Sciences core | 3 |
| **Spring**  |              |
| CRJ 3013    | Research Design and Analysis in Criminal Justice | 3 |
| CRJ 3623    | Substantive Criminal Law | 3 |
| POL 1133    | Texas Politics and Society | 3 |
| Creative Arts core | 3 |
| Life & Physical Sciences core | 3 |

E. Electives

Select 27 semester credit hours of electives

27

Total Credit Hours: 78
### Third Year

**Fall**
- Elective 3
- Elective 3
- Justice Studies course 3
- Justice Studies course 3
- Upper-division support work 3

**Spring**
- Elective 3
- Elective 3
- Elective 3
- Elective 3
- Upper-division support work 3

### Fourth Year

**Fall**
- CRJ 4933 Internship in Criminal Justice 3
- Elective 3
- Justice Studies course 3
- Upper-division support work 3
- Upper-division support work 3

**Spring**
- Elective 3
- Justice Studies course 3
- Justice Studies course 3
- Justice Studies course 3
- Upper-division support work 3

**Total Credit Hours:** 120.0

### Minor in Criminal Justice

All students pursuing a Minor in Criminal Justice must complete 21 semester credit hours.

A. Required courses
- CRJ 1113 The American Criminal Justice System 3
- CRJ 2153 Nature of Crime and Justice 3
- CRJ 3623 Substantive Criminal Law 3
B. Electives
9 hours of 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 Criminal Justice, obtain advice, obtain lists of relevant courses, or seek approval of substitutions for course requirements, students should consult the College of Public Policy Advising Center (located on the Downtown Campus).

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**Criminal Justice (CRJ) Courses**

Department of Criminal Justice, College of Public Policy

**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.

**CRJ 2153. Nature of Crime and Justice. (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.

**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.

**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.”).

**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.

**CRJ 3013. Research Design and Analysis in Criminal Justice. (3-0) 3 Credit Hours.**

Prerequisite: Completion of 3 hours of college-level mathematics or statistics. 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.

**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.

**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.

CRJ 3533. Probation, Parole and Intermediate Sanctions. (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.

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.

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.

CRJ 3613. Legal Research and Writing. (3-0) 3 Credit Hours.
Detailed study of theory and practice of legal research. Development and refinement of legal writing techniques. (Same as LGS 3013. Credit cannot be earned for both CRJ 3613 and LGS 3013.).

CRJ 3623. Substantive Criminal Law. (3-0) 3 Credit Hours.
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.

CRJ 3633. Trial and Evidence. (3-0) 3 Credit Hours.
Issues and problems of proof in civil and criminal trials, admissibility, examining witnesses, constitutional considerations, and exclusionary rules.

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.

CRJ 4123. 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 titled “Concepts of Investigations.”).

CRJ 4303. Victimology. (3-0) 3 Credit Hours.
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.”).

CRJ 4403. Race, Ethnicity, and Criminal Justice. (3-0) 3 Credit Hours.
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.).
CRJ 4413. Contemporary Police Practices. (3-0) 3 Credit Hours.
A survey of leading research-based law enforcement practices for crime prevention and problem solving.

CRJ 4443. Special Topics in Policing and Crime Prevention. (3-0) 3 Credit Hours.
Considers special topics in policing and crime prevention not ordinarily evaluated in depth in other courses, such as comparative policing systems, personnel issues, police civil and criminal liabilities, job satisfaction and stress, diversity issues, ethics, police use of force, and future of policing. 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.

CRJ 4453. Drugs and Crime. (3-0) 3 Credit Hours.
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.

CRJ 4463. Gender and Crime. (3-0) 3 Credit Hours.
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.).

CRJ 4523. Special Topics in Forensic Science. (3-0) 3 Credit Hours.
In-depth examination and analysis of issues in forensic science beyond topics covered in CRJ 3233 Introduction to Forensic Science. 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.

CRJ 4563. Special Topics in Juvenile Justice. (3-0) 3 Credit Hours.
Considers special and contemporary topics in juvenile justice not ordinarily considered 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.

CRJ 4613. Supervising the Correctional Client. (3-0) 3 Credit Hours.
Examines the components of effective supervision of correctional clients, including risk and needs assessment. Provides skills for successful face-to-face encounters with correctional clients. Study of service delivery programs tailored to the specific needs of the correctional clients.

CRJ 4633. Constitutional Criminal Procedure. (3-0) 3 Credit Hours.
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.

CRJ 4653. White Collar Crime. (3-0) 3 Credit Hours.
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.

CRJ 4663. Special Topics in Corrections. (3-0) 3 Credit Hours.
Considers special topics in corrections not ordinarily evaluated in depth in other courses, such as the death penalty, special correctional populations, and correctional administration. 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.”).
CRJ 4833. Violent Crime. (3-0) 3 Credit Hours.
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.

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.

CRJ 4853. Sex Crimes and the Law. (3-0) 3 Credit Hours.
Examination of the nature and etiology of the major categories of sexual offending and overview of contemporary justice system responses.

CRJ 4863. Special Topics in Legal Issues and Adjudication. (3-0) 3 Credit Hours.
Considers special topics in courts and adjudication not ordinarily evaluated in depth in other courses, such as judicial administration, specialized courts, judicial intervention and emerging areas of criminal law. 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.

CRJ 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.

CRJ 4933. Internship in Criminal Justice. (0-0) 3 Credit Hours.
Prerequisites: CRJ 2153, CRJ 3213, and CRJ 3623; consent of academic advisor and Internship Coordinator. 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.

CRJ 4953. Special Studies in Criminal Justice. (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. 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.

CRJ 4993. Honors Thesis. (0-0) 3 Credit Hours.
Prerequisites: 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.
DEPARTMENT OF DEMOGRAPHY

Currently programs are in effect at the graduate level only.
DEPARTMENT OF PUBLIC ADMINISTRATION

The Department of Public Administration offers a Bachelor of Public Administration degree which provides the opportunity for comprehensive study of public administration, a Minor in Public Administration, and a Minor in Nonprofit Management. Students completing the Bachelor of Public Administration 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 Public Administration Degree

A Bachelor of Public Administration 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.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the Bachelor of Public Administration 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. For a complete listing of courses that satisfy the Core Curriculum requirements, see chapter 1 of this catalog.

Degree Requirements

A. Core Public Administration coursework

- PAD 1113 Public Administration in American Society 3
- PAD 2153 Analysis and Assessment for Public Administration 3
- PAD 3013 Introduction to Public Policy 3
- PAD 3023 Introduction to Urban Management and Policy 3
- PAD 3033 Introduction to Nonprofit Agencies 3
- PAD 4853 Contemporary Issues in Public Administration (Senior Seminar) (Senior Seminar) 3

B. Prescribed courses

Select 21 semester credit hours of prescribed courses selected from the following, at least 9 of which must be Public Administration (Section I) coursework:

Section I:

- NPO 3003 Fundraising in Nonprofit Agencies
- NPO 4933 Internship in Nonprofit Management (prior approval required)
- NPO 4936 Internship in Nonprofit Management (prior approval required)
- PAD 3043 Public and Nonprofit Financial Management
- PAD 3053 Urban Economic Development
- PAD 3113 Managing Public and 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 Legal Context of Public Policy and 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 4953 Special Topics in Nonprofit Organizations
PAD 4963 Special Topics in Public Administration
PAD 4993 Honors Thesis

Section II:
COM 3893 Organizational Communication
CRJ 1113 The American Criminal Justice System
CRJ 3213 Managing Criminal Justice Organizations
CRJ 3623 Substantive Criminal Law
ECO 2003 Economic Principles and Issues
ECO 3273 Introduction to Public Sector Economics
FIN 3003 Survey of Finance
GRG 3314 Introduction to Geographic Information Systems
HIS 3153 Development of American Urban Society
IS 3003 Principles of Information Systems for Management
MS 4333 Project Management
SOC 1043 Introduction to Public Health
SOC 3223 Population Dynamics and Demographic Techniques
SOC 4053 Health Care System
SOC 4083 Behavioral Epidemiology
SOC 4683 Health Disparities

In addition to the above list, Section II also includes any course listed in the UTSA Minor in Business Administration, or the Minor in Political Science.

C. Upper-division support work
Select 15 semester credit hours of upper-division support work, chosen in consultation with an academic advisor

D. Free electives
Select 24 semester hours of free electives, some may need to be upper division in order to meet the 39 hour University requirement

Electives 24

Total Credit Hours: 78
Course Sequence Guide for Bachelor of Public Administration Degree

This course sequence guide is designed to assist students in completing their UTSA undergraduate Public Administration degree requirements. This is merely a guide and students must satisfy other requirements of this catalog and meet with advisors in the Downtown Undergraduate Advising Center 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 Public Administration – Recommended Four-Year Academic Plan

<table>
<thead>
<tr>
<th>First Year</th>
<th>Credit Hours</th>
</tr>
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<tbody>
<tr>
<td><strong>Fall</strong></td>
<td></td>
</tr>
<tr>
<td>AIS 1203</td>
<td>Academic Inquiry and Scholarship (core)</td>
</tr>
<tr>
<td>HIS 1043, 1053, or 2053</td>
<td>United States History: Pre-Columbus to Civil War Era (core)</td>
</tr>
<tr>
<td>PAD 1113</td>
<td>Public Administration in American Society</td>
</tr>
<tr>
<td>POL 1013</td>
<td>Introduction to American Politics (core)</td>
</tr>
<tr>
<td>WRC 1013</td>
<td>Freshman Composition I (core)</td>
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<tr>
<td>HIS 1043, 1053, or 2053</td>
<td>United States History: Pre-Columbus to Civil War Era (core)</td>
</tr>
<tr>
<td>WRC 1023</td>
<td>Freshman Composition II (core)</td>
</tr>
<tr>
<td>Mathematics core</td>
<td></td>
</tr>
<tr>
<td>Creative Arts core</td>
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</tr>
<tr>
<td>Component Area Option core</td>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Second Year</th>
<th></th>
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</thead>
<tbody>
<tr>
<td><strong>Fall</strong></td>
<td></td>
</tr>
<tr>
<td>PAD 2153</td>
<td>Analysis and Assessment for Public Administration</td>
</tr>
<tr>
<td>Elective</td>
<td></td>
</tr>
<tr>
<td>Elective</td>
<td></td>
</tr>
<tr>
<td>Language, Philosophy &amp; Culture core</td>
<td></td>
</tr>
<tr>
<td>Life &amp; Physical Sciences core</td>
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<tr>
<td><strong>Spring</strong></td>
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<tr>
<td>PAD 3013</td>
<td>Introduction to Public Policy</td>
</tr>
<tr>
<td>POL 1133</td>
<td>Texas Politics and Society (core)</td>
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<tr>
<td>Life &amp; Physical Sciences core</td>
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<tr>
<td>Social &amp; Behavioral Sciences core</td>
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<tr>
<td>Prescribed course (see degree requirement B)</td>
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<table>
<thead>
<tr>
<th>Third Year</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fall</strong></td>
<td></td>
</tr>
<tr>
<td>PAD 3023</td>
<td>Introduction to Urban Management and Policy</td>
</tr>
<tr>
<td>Prescribed course (see degree requirement B)</td>
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</table>
Prescribed course (see degree requirement B) 3  
Prescribed course (see degree requirement B) 3  
Upper-division support work 3  

**Spring**  
PAD 3033 Introduction to Nonprofit Agencies 3  
Elective 3  
Elective 3  
Prescribed course (see degree requirement B) 3  
Upper-division support work 3  

**Fourth Year**

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Fall</td>
<td>Elective</td>
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<td>3</td>
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<tr>
<td>Fall</td>
<td>Elective</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Fall</td>
<td>Prescribed course (see degree requirement B)</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Fall</td>
<td>Upper-division support work</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Fall</td>
<td>Upper-division support work</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td><strong>Spring</strong></td>
<td>PAD 4853</td>
<td>Contemporary Issues in Public Administration (Senior Seminar)</td>
<td>3</td>
</tr>
<tr>
<td>Spring</td>
<td>Elective</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Spring</td>
<td>Elective</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Spring</td>
<td>Prescribed course (see degree requirement B)</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Spring</td>
<td>Upper-division support work</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

**Total Credit Hours: 120.0**

### 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 students seeking the Minor in Nonprofit Management must complete the following 12 semester credit hours:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>NPO 3003</td>
<td>Fundraising in Nonprofit Agencies</td>
<td>3</td>
</tr>
<tr>
<td>NPO 3013</td>
<td>Introduction to Nonprofit Agencies</td>
<td>3</td>
</tr>
<tr>
<td>or PAD 3033</td>
<td>Introduction to Nonprofit Agencies</td>
<td></td>
</tr>
<tr>
<td>NPO 4933</td>
<td>Internship in Nonprofit Management</td>
<td>3</td>
</tr>
<tr>
<td>PAD 3043</td>
<td>Public and Nonprofit Financial Management</td>
<td>3</td>
</tr>
</tbody>
</table>
Select two of the following: 6

COM 3893  Organizational Communication
PAD 3113  Managing Public and Nonprofit Organizations
PAD 3013  Introduction to Public Policy
PAD 3023  Introduction to Urban Management and Policy
PAD 3053  Urban Economic Development
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  Legal Context of Public Policy and Administration
PAD 4953  Special Topics in Nonprofit Organizations
PAD 4963  Special Topics in Public Administration
SOC 4053  Health Care System
SOC 4083  Behavioral Epidemiology
SOC 4683  Health Disparities

Total Credit Hours: 18

Students should not take NPO 4933 Internship in Nonprofit Management 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 the College of Public Policy Advising Center (located on the Downtown Campus).

**Minor in Public Administration**

The Minor in Public Administration 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 must complete 18 semester credit hours.

A. Required courses:

PAD 1113  Public Administration in American Society  3
PAD 3013  Introduction to Public Policy  3
PAD 3023  Introduction to Urban Management and Policy  3

B. Three courses selected from the following lists, at least two must be PAD or NPO courses:

Two courses selected from the following list: 6

PAD 2153  Analysis and Assessment for Public Administration
PAD 3033  Introduction to Nonprofit Agencies
PAD 3043  Public and Nonprofit Financial Management
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>PAD 3053</td>
<td>Urban Economic Development</td>
</tr>
<tr>
<td>PAD 3113</td>
<td>Managing Public and Nonprofit Organizations</td>
</tr>
<tr>
<td>PAD 3123</td>
<td>Strategic Planning in the Public and Nonprofit Sectors</td>
</tr>
<tr>
<td>PAD 3133</td>
<td>Politics and Policies of San Antonio and South Texas</td>
</tr>
<tr>
<td>PAD 3143</td>
<td>Urban and Regional Planning</td>
</tr>
<tr>
<td>PAD 3153</td>
<td>Legal Context of Public Policy and Administration</td>
</tr>
<tr>
<td>PAD 4911</td>
<td>Independent Study (prior approval required)</td>
</tr>
<tr>
<td>PAD 4913</td>
<td>Independent Study (prior approval required)</td>
</tr>
<tr>
<td>PAD 4933</td>
<td>Internship in Public Administration (prior approval required)</td>
</tr>
<tr>
<td>PAD 4936</td>
<td>Internship in Public Administration (prior approval required)</td>
</tr>
<tr>
<td>PAD 4953</td>
<td>Special Topics in Nonprofit Organizations</td>
</tr>
<tr>
<td>PAD 4963</td>
<td>Special Topics in Public Administration</td>
</tr>
<tr>
<td>PAD 4993</td>
<td>Honors Thesis (prior approval required)</td>
</tr>
<tr>
<td>NPO 3003</td>
<td>Fundraising in Nonprofit Agencies</td>
</tr>
<tr>
<td>NPO 4933</td>
<td>Internship in Nonprofit Management (prior approval required)</td>
</tr>
<tr>
<td>NPO 4936</td>
<td>Internship in Nonprofit Management (prior approval required)</td>
</tr>
</tbody>
</table>

One course selected from the following list:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>COM 3893</td>
<td>Organizational Communication</td>
</tr>
<tr>
<td>CRJ 1113</td>
<td>The American Criminal Justice System</td>
</tr>
<tr>
<td>CRJ 3213</td>
<td>Managing Criminal Justice Organizations</td>
</tr>
<tr>
<td>CRJ 3623</td>
<td>Substantive Criminal Law</td>
</tr>
<tr>
<td>ECO 2003</td>
<td>Economic Principles and Issues</td>
</tr>
<tr>
<td>ECO 3273</td>
<td>Introduction to Public Sector Economics</td>
</tr>
<tr>
<td>FIN 3003</td>
<td>Survey of Finance</td>
</tr>
<tr>
<td>GRG 3314</td>
<td>Introduction to Geographic Information Systems</td>
</tr>
<tr>
<td>HIS 3153</td>
<td>Development of American Urban Society</td>
</tr>
<tr>
<td>IS 3003</td>
<td>Principles of Information Systems for Management</td>
</tr>
<tr>
<td>MS 4333</td>
<td>Project Management</td>
</tr>
<tr>
<td>SOC 1043</td>
<td>Introduction to Public Health</td>
</tr>
<tr>
<td>SOC 3223</td>
<td>Population Dynamics and Demographic Techniques</td>
</tr>
<tr>
<td>SOC 4053</td>
<td>Health Care System</td>
</tr>
<tr>
<td>SOC 4083</td>
<td>Behavioral Epidemiology</td>
</tr>
<tr>
<td>SOC 4683</td>
<td>Health Disparities</td>
</tr>
</tbody>
</table>

**Total Credit Hours: 18**

To declare a Minor in Public Administration, obtain advice, obtain lists of relevant courses, or seek approval of substitutions for course requirements, students should consult the College of Public Policy Advising Center (located on the Downtown Campus).
Nonprofit Management (NPO) Courses
Department of Public Administration, College of Public Policy

NPO 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.

NPO 3013. Introduction to Nonprofit Agencies. (3-0) 3 Credit Hours.
An overview of the historical background, development, role, auspices, organization, and purposes of nonprofit agencies. Special emphasis is placed on structure, program, organizational management, planning and stewardship, fundraising, community building, volunteer services, and problems which confront these organizations. NPO 3013 should be taken in the student’s first semester in the minor. (Same as PAD 3033. Credit cannot be earned for both NPO 3013 and PAD 3033.).

NPO 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.

NPO 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.

NPO 4933. Internship in Nonprofit Management. (0-0) 3 Credit Hours.
Prerequisite: Prior approval of Nonprofit Management Internship Coordinator. Supervised experience within selected not-for-profit agencies. Students must complete 150 clock hours of internship for the minor. May be repeated for credit, but not more than 6 semester credit hours may be earned through the internship.

NPO 4936. Internship in Nonprofit Management. (0-0) 6 Credit Hours.
Prerequisite: Prior approval of Nonprofit Management Internship Coordinator. Supervised experience within selected not-for-profit agencies. Students must complete 150 clock hours of internship for the minor. May be repeated for credit, but not more than 6 semester credit hours may be earned through the internship.

NPO 4953. Special Studies in Nonprofit Management. (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 once for credit, but not more than 6 semester credit hours of special study, regardless of discipline, will apply to a bachelor’s degree.
Public Administration (PAD) Courses
Department of Public Administration, College of Public Policy

PAD 1113. Public Administration 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 the Core Curriculum requirement in the Component Area Option.

PAD 2153. 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 titled “Methodological Tools in Public Administration.”).

PAD 3013. Introduction to Public Policy. (3-3) 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.

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.

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 unique 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.).

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.

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.

PAD 3113. Managing Public and Nonprofit Organizations. (3-0) 3 Credit Hours.
This course focuses on understanding the nature and role of public and nonprofit organizations. The course explores strategies for preserving and maximizing the public value of public and 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 public and nonprofit sectors, and how to maximize organizational performance, are emphasized.
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.

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.

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.

PAD 3153. Legal Context of Public Policy and Administration. (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.

PAD 4853. Contemporary Issues in Public Administration (Senior Seminar). (3-0) 3 Credit Hours.
Prerequisite: Completion of at least 9 semester credit hours of Public Administration coursework. This is the capstone course for the Bachelor of Public Administration degree and will involve a major writing assignment and/or presentation. Specific topics to be covered will vary by semester.

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.

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.

PAD 4933. Internship in Public Administration. (3-0) 3 Credit Hours.
Prerequisites: PAD 1113, PAD 2153, 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.
PAD 4936. Internship in Public Administration. (0-0) 6 Credit Hours.
Prerequisites: PAD 1113, PAD 2153, 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.

PAD 4953. Special Topics in Nonprofit Organizations. (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.

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.”)

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.
DEPARTMENT OF SOCIAL WORK

Currently programs are in effect at the graduate level only.
9. 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.

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 degree in Biology, a Minor in Biology, a Bachelor of Science degree in Microbiology and Immunology, and a Bachelor of Science degree in Environmental Science.

The Bachelor of Science 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 four area concentrations: Cell and Molecular Biology, Integrative Biology, Neurobiology, or Plant Biology.

The Bachelor of Science 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.

The UTSA Department of Biology offers two accelerated degree programs in conjunction with the University of Texas Health Science Center at San Antonio (UTHSCSA). 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 UTHSCSA Dental School within a seven year period. For eligibility requirements and application visit the DEAP web site. The FAME program allows students to earn both the Bachelor of Science (B.S.) degree in Biology from UTSA and their Doctor of Medicine (M.D.) degree at the UTHSCSA Medical School within a seven year period. For eligibility requirements and application visit the FAME Web site.

Admission Policy for the Bachelor of Science Degree in Biology and the Bachelor of Science Degree in Microbiology and Immunology

The goal of the Department of Biology 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 Biology is designed to identify those students most likely to succeed in their undergraduate biology education. All applicants for admission to the Department of Biology will be admitted to the Department as prebiology (PBI) students. In order to declare a major in Biology or a major in Microbiology and Immunology, a student’s academic performance will be evaluated after the five courses listed below have been completed. To declare either major, a PBI student must have:

- a grade point average of at least 2.0 for all UTSA coursework
- a grade point average of at least 2.25 for all UTSA Department of Biology coursework
- successfully satisfied all three sections (mathematics, reading, and writing) of the Texas Success Initiative (TSI)
- successfully completed the following or equivalent courses with a grade of “C–” or better:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 1404</td>
<td>Biosciences I</td>
<td>4</td>
</tr>
<tr>
<td>BIO 1413</td>
<td>Biosciences II</td>
<td>3</td>
</tr>
<tr>
<td>CHE 1103</td>
<td>General Chemistry I</td>
<td>3</td>
</tr>
<tr>
<td>MAT 1193</td>
<td>Calculus for the Biosciences</td>
<td>3</td>
</tr>
<tr>
<td>PHY 1943</td>
<td>Physics for Scientists and Engineers I</td>
<td>3</td>
</tr>
<tr>
<td>or PHY 1603</td>
<td>Algebra-based Physics I</td>
<td>3</td>
</tr>
</tbody>
</table>
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 either a Biology major or a Microbiology and Immunology major if they:

- meet all UTSA undergraduate admission requirements
- have a cumulative grade point average of 2.25 or better for all college-level courses completed
- have successfully satisfied all three sections (mathematics, reading, and writing) of the Texas Success Initiative (TSI)

PBI students are restricted from registering for upper-division (3000- and 4000-level) Biology courses without the consent of an undergraduate academic advisor in Life and Health Sciences Advising. A student who does not meet all the above requirements after completing 60 hours of credit will no longer be considered a PBI student and their major will be changed from PBI to undeclared (UND) in the University student record system. The student 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. Students can be reinstated as a Biology major or Microbiology and Immunology major, but only after successfully completing all the PBI requirements, and upon approval of the Biology Department.

**Academic Standing Policy for the Bachelor of Science Degree in Biology and the Bachelor of Science Degree in Microbiology and Immunology**

All B.S. Majors in Biology or Microbiology and Immunology must maintain:

- a minimum overall UTSA grade point average of 2.0.
- a minimum overall grade point average of 2.25 in all Department of Biology courses.

Students who do not meet these requirements are placed on Department of Biology academic probation. Students on Department of Biology academic probation must achieve the minimum required grade point averages by the end of the next enrolled long semester at UTSA (Fall or Spring) that follows the semester in which the student falls below the required grade point averages. Students who do not meet the minimum requirements by the end of the next subsequent-enrolled long semester will be dismissed from the B.S. degree in Biology or the B.S. degree in Microbiology and Immunology and classified as undeclared (UND) in the University student record system. The student 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. Dismissed students may appeal one time for reinstatement to either B.S. degree program: such appeals will be granted only under extraordinary circumstances. The deadline for appeal is no later than four weeks into the semester immediately following dismissal. See Life and Health Sciences Advising for required forms. All Biology majors and Microbiology and Immunology majors must have the required minimum grade point averages in order to receive the Bachelor of Science degree.
Bachelor of Science Degree in Biology

The minimum number of semester credit hours required for the Bachelor of Science degree in Biology, 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. Students seeking teacher certification should contact the Teacher Advising and Certification Center in the College of Education and Human Development for information. Undergraduates seeking elementary teacher certification must complete the Interdisciplinary Studies degree.

For students wishing to add focus and expertise to their degree, the Department of Biology also offers the Bachelor of Science degree with a concentration in one of four areas: Cell and Molecular Biology, Integrative Biology, Neurobiology, and Plant Biology. Adding an area of concentration does not require additional coursework beyond the normal Bachelor of Science degree program. Students do, however, have to restrict their selection of biology electives to a predefined list of complementary courses and complete the coursework within the concentration with a minimum cumulative grade point average of 3.0 or better. Students are also encouraged to enroll in Laboratory Research: Biology Concentrations (BIO 4923 Laboratory Research: Biology Concentrations) as part of their program of study. Specific courses required for each concentration are listed following the general degree requirements.

All candidates for this degree must fulfill the Core Curriculum requirements and the degree requirements, which are listed on the following pages.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the Bachelor of Science 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. For a complete listing of courses that satisfy the Core Curriculum requirements, see chapter 1 of this catalog.

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 Natural Sciences, as well as major requirements: BIO 1404, BIO 1413, 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.

Degree Requirements

A. Required courses in the major

1. Biology requirements

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 1122</td>
<td>Laboratory Investigations in Biology</td>
<td>2</td>
</tr>
<tr>
<td>BIO 1404</td>
<td>Biosciences I</td>
<td>4</td>
</tr>
<tr>
<td>BIO 1413</td>
<td>Biosciences II</td>
<td>3</td>
</tr>
<tr>
<td>BIO 2313</td>
<td>Genetics</td>
<td>5</td>
</tr>
<tr>
<td>&amp; BIO 2322</td>
<td>and Genetics Laboratory</td>
<td></td>
</tr>
<tr>
<td>BIO 3413</td>
<td>Advanced Physiology</td>
<td>5</td>
</tr>
<tr>
<td>&amp; BIO 3422</td>
<td>and Advanced Physiology Laboratory</td>
<td></td>
</tr>
<tr>
<td>BIO 3513</td>
<td>Biochemistry</td>
<td>5</td>
</tr>
<tr>
<td>&amp; BIO 3522</td>
<td>and Biochemistry Laboratory</td>
<td></td>
</tr>
</tbody>
</table>
BIO 3813  Cell Biology  5
& BIO 3822  and Cell Biology Laboratory

2. Select one of the following sequences:  5
BIO 3283  Principles of Ecology
& BIO 3292  and Principles of Ecology Laboratory
BIO 3433  Neurobiology
& BIO 3442  and Neurobiology Laboratory
BIO 3713  Microbiology
& BIO 3722  and Microbiology Laboratory
BIO 4143  Developmental Biology
& BIO 4152  and Developmental Biology Laboratory

Note: A laboratory section adds a valuable dimension to the understanding of the material presented in a lecture. In general, students are encouraged to add the appropriate laboratory section to any lecture beyond the minimum 5-semester-credit-hour requirement.

3. Additional biology electives at the upper-division level
Electives  12

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  General Chemistry I  4
& CHE 1121  and General Chemistry I Laboratory
CHE 1113  General Chemistry II  4
& CHE 1131  and General Chemistry II Laboratory
CHE 2603  Organic Chemistry I  5
& CHE 2612  and Organic Chemistry I Laboratory
CHE 3673  Organic Chemistry II with Biological Applications  3
or CHE 3643  Organic Chemistry II

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:
Select one of the following options:  8
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  

4. Computer-based data visualization and analysis:
CS 1173  Data Analysis and Visualization using MATLAB  

C. Free electives
Select 8 semester credit hours of free electives, at least 4 hours of which must be at the upper-division level to reach the minimum requirement of 39 upper-division semester credit hours  
Total Credit Hours: 87  

Concentrations
For students interested in research or graduate programs, the Department of Biology offers four areas of concentration. To declare a concentration or obtain advice, students should consult an undergraduate advisor in Life and Health Sciences Advising. It is highly recommended that the student complete a research project related to the specific concentration by taking BIO 4923 Laboratory Research: Biology Concentrations. 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. The coursework within the concentration must be completed with a minimum cumulative grade point average of 3.0 or better.  

Concentration in Cell and Molecular Biology
All candidates for the Concentration in Cell and Molecular Biology must complete the following:
BIO 3913  Molecular Biology  
Select three of the following:
BIO 3163  Histology and Cytology  
BIO 3933  Principles of Cancer Biology  
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.)

Concentration in Integrative Biology

All candidates for the Concentration in Integrative Biology must complete the following:

BIO 3283 Principles of Ecology
& BIO 3292 and Principles of Ecology Laboratory

Select two of the following:
BIO 3003 Introduction to Marine Ecology
BIO 3063 Invertebrate Biology
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.)

Concentration in Neurobiology

All candidates for the Concentration in Neurobiology must complete the following:

BIO 3433 Neurobiology
& BIO 3442 and Neurobiology Laboratory

Select two of the following:
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.)

Concentration in Plant Biology

All candidates for the Concentration in Plant Biology must complete the following:

BIO 3343 Plant Cell Biology
Select three of the following:

BIO 3263  The Woody Plants
BIO 3273  Biology of Flowering Plants
BIO 3333  Plants and Society
BIO 4643  Medicinal Plants
BIO 4773  Plant-Microbe Interactions
BIO 4923  Laboratory Research: Biology Concentrations (Research must be in a laboratory engaged in plant-based research.)

Course Sequence Guide for B.S. Degree in Biology

This course sequence guide is designed to assist students in completing their UTSA undergraduate Biology degree requirements. This is merely a guide and students must satisfy other requirements of this catalog and meet with advisors in Life and Health Sciences Advising 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 Biology – Recommended Four-Year Academic Plan

First Year

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>AIS 1203</td>
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<tr>
<td>BIO 1404</td>
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<td>CHE 1103</td>
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<td>CHE 1121</td>
<td>1</td>
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<tr>
<td>MAT 1193</td>
<td>3</td>
</tr>
<tr>
<td>WRC 1013</td>
<td>3</td>
</tr>
</tbody>
</table>

Spring

| BIO 1122  | 2 |
| BIO 1413  | 3 |
| CHE 1113  | 3 |
| CHE 1131  | 1 |
| CS 1173   | 3 |
| WRC 1023  | 3 |

Second Year

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>CHE 2603</td>
<td>3</td>
</tr>
<tr>
<td>CHE 2612</td>
<td>2</td>
</tr>
<tr>
<td>American History core</td>
<td>3</td>
</tr>
<tr>
<td>Course Code</td>
<td>Course Title</td>
</tr>
<tr>
<td>-------------</td>
<td>------------------------------------------------</td>
</tr>
<tr>
<td>PHY 1603</td>
<td>Algebra-based Physics I ¹</td>
</tr>
<tr>
<td></td>
<td>&amp; PHY 1611</td>
</tr>
<tr>
<td>PHY 1943</td>
<td>Physics for Scientists and Engineers I</td>
</tr>
<tr>
<td></td>
<td>&amp; PHY 1951</td>
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**Spring**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>BIO 2313</td>
<td>Genetics</td>
<td>3</td>
</tr>
<tr>
<td>BIO 2322</td>
<td>Genetics Laboratory</td>
<td>2</td>
</tr>
<tr>
<td>CHE 3673 or 3643</td>
<td>Organic Chemistry II with Biological Applications</td>
<td>3</td>
</tr>
<tr>
<td>STA 1403</td>
<td>Probability and Statistics for the Biosciences</td>
<td>3</td>
</tr>
</tbody>
</table>

Select one of the following: 4

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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</tr>
</thead>
<tbody>
<tr>
<td>PHY 1623</td>
<td>Algebra-based Physics II</td>
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<tr>
<td></td>
<td>&amp; PHY 1631</td>
<td>6</td>
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<tr>
<td>PHY 1963</td>
<td>Physics for Scientists and Engineers II</td>
<td>4</td>
</tr>
<tr>
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<td>&amp; PHY 1971</td>
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**Third Year**

**Fall**

<table>
<thead>
<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>BIO 3413</td>
<td>Advanced Physiology</td>
<td>3</td>
</tr>
<tr>
<td>BIO 3422</td>
<td>Advanced Physiology Laboratory</td>
<td>2</td>
</tr>
<tr>
<td>BIO 3513</td>
<td>Biochemistry</td>
<td>3</td>
</tr>
<tr>
<td>BIO 3522</td>
<td>Biochemistry Laboratory</td>
<td>2</td>
</tr>
<tr>
<td>Language, Philosophy &amp; Culture core</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Social &amp; Behavioral Sciences core</td>
<td>3</td>
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</table>

**Spring**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 3813</td>
<td>Cell Biology</td>
<td>3</td>
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<td>BIO 3822</td>
<td>Cell Biology Laboratory</td>
<td>2</td>
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<tr>
<td>Free elective</td>
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<tr>
<td>Upper-division BIO lab (BIO 3XX2)</td>
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</tr>
<tr>
<td>Upper-division BIO lecture (BIO 3XX3)</td>
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</tr>
<tr>
<td>Creative Arts core</td>
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**Fourth Year**

**Fall**

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<thead>
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<th>Course Title</th>
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<tbody>
<tr>
<td>Upper-division BIO elective</td>
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</tr>
<tr>
<td>Upper-division BIO elective</td>
<td>3</td>
</tr>
<tr>
<td>Upper-division BIO elective</td>
<td>3</td>
</tr>
<tr>
<td>American History core</td>
<td>3</td>
</tr>
<tr>
<td>Government-Political Science core</td>
<td>3</td>
</tr>
</tbody>
</table>

**Spring**

<table>
<thead>
<tr>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upper-division BIO elective</td>
<td>3</td>
</tr>
</tbody>
</table>
Upper-division free elective 3
Upper-division free elective 1
Free elective 1
Component Area Option core 3
Government-Political Science core 3

Total Credit Hours: 120.0

1 In order to declare Biology as a major, a student’s academic performance will be evaluated after these five courses have been completed. Students must see an advisor in Life and Health Sciences Advising to declare a Biology major.

2 These laboratory courses include a lecture component as indicated on the University Schedule of Classes.

Bachelor of Science Degree in Microbiology and Immunology

The minimum number of semester credit hours (SCH) required for the Bachelor of Science 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. Students seeking teacher certification should contact the Teacher Advising and Certification Center in the College of Education and Human Development for information. Undergraduates seeking elementary teacher certification must complete the Interdisciplinary Studies degree.

All candidates for this degree must fulfill the Core Curriculum requirements and the degree requirements, which are on the following pages.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the Bachelor of Science 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. For a complete listing of courses that satisfy the Core Curriculum requirements, see chapter 1 of this catalog.

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 1413, PHY 1943 or PHY 1963.

Degree Requirements

A. Required courses in the major, 34 of which must be at the upper-division level

1. Required biology courses

BIO 1122 Laboratory Investigations in Biology 2
BIO 1404  Biosciences I  4
BIO 1413  Biosciences II  3
BIO 2313  Genetics  5
& BIO 2322  and Genetics Laboratory
BIO 3413  Advanced Physiology  3
BIO 3513  Biochemistry  5
& BIO 3522  and Biochemistry Laboratory
BIO 3713  Microbiology  5
& BIO 3722  and Microbiology Laboratory
BIO 3813  Cell Biology  5
& BIO 3822  and Cell Biology Laboratory
BIO 4743  Immunology  4
& BIO 4751  and Immunology Laboratory
BIO 4783  Microbial Genetics and Physiology  3
BIO 4981  Senior Seminar in Microbiology and Immunology  1

2. 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 (Research must be in a laboratory engaged in microbiology or immunology research.)

3. Two free elective courses  6

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  18
CHE 1103  General Chemistry I
& CHE 1121  and General Chemistry I Laboratory
CHE 1113  General Chemistry II
& CHE 1131  and General Chemistry II Laboratory
CHE 2603  Organic Chemistry I
& CHE 2612  and Organic Chemistry I Laboratory
CHE 3673  Organic Chemistry II with Biological Applications  
& CHE 3652  and Organic Chemistry II Laboratory

2. Required mathematics and statistics courses

MAT 1193  Calculus for the Biosciences  
STA 1403  Probability and Statistics for the Biosciences

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

Total Credit Hours: 87

---

**Course Sequence Guide for B.S. Degree in Microbiology and Immunology**

This course sequence guide is designed to assist students in completing their UTSA undergraduate Microbiology and Immunology degree requirements. *This is merely a guide and students must satisfy other requirements of this catalog and meet with advisors in Life and Health Sciences Advising 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 Microbiology and Immunology – Recommended Four-Year Academic Plan**

**First Year**

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIS 1203</td>
<td>Academic Inquiry and Scholarship (core)</td>
</tr>
<tr>
<td>BIO 1404</td>
<td>Biosciences I (core and major)</td>
</tr>
<tr>
<td>CHE 1103</td>
<td>General Chemistry I</td>
</tr>
<tr>
<td>CHE 1121</td>
<td>General Chemistry I Laboratory</td>
</tr>
<tr>
<td>MAT 1193</td>
<td>Calculus for the Biosciences (core and major)</td>
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<tr>
<td>WRC 1013</td>
<td>Freshman Composition I</td>
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<table>
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<tr>
<th>Spring</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 1122</td>
<td>Laboratory Investigations in Biology</td>
</tr>
<tr>
<td>BIO 1413</td>
<td>Biosciences II (core and major)</td>
</tr>
<tr>
<td>Course</td>
<td>Title</td>
</tr>
<tr>
<td>----------</td>
<td>-------------------------------------------------</td>
</tr>
<tr>
<td>CHE 1113</td>
<td>General Chemistry II</td>
</tr>
<tr>
<td>CHE 1131</td>
<td>General Chemistry II Laboratory ²</td>
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<td></td>
<td>Free elective</td>
</tr>
<tr>
<td>WRC 1023</td>
<td>Freshman Composition II</td>
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</table>

**Second Year**

**Fall**

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>CHE 2603</td>
<td>Organic Chemistry I</td>
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</tr>
<tr>
<td>CHE 2612</td>
<td>Organic Chemistry I Laboratory ²</td>
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</tr>
<tr>
<td>STA 1403</td>
<td>Probability and Statistics for the Biosciences</td>
<td>3</td>
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Select one of the following:

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<tbody>
<tr>
<td>PHY 1603</td>
<td>Algebra-based Physics I ¹</td>
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<tr>
<td>PHY 1943</td>
<td>Physics for Scientists and Engineers ¹</td>
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<tr>
<td>&amp; PHY 1951</td>
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**Spring**

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<th>Course</th>
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<tr>
<td>BIO 2313</td>
<td>Genetics</td>
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<td>BIO 2322</td>
<td>Genetics Laboratory</td>
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<tr>
<td>CHE 3673 or 3643</td>
<td>Organic Chemistry II with Biological Applications</td>
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</tr>
<tr>
<td>CHE 3652</td>
<td>Organic Chemistry II Laboratory ²</td>
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Select one of the following:

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<td>&amp; PHY 1631</td>
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<td>PHY 1963</td>
<td>Physics for Scientists and Engineers II</td>
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<td>&amp; PHY 1971</td>
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**Third Year**

**Fall**

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<th>Credits</th>
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<td>Biochemistry Laboratory</td>
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<tr>
<td>BIO 3713</td>
<td>Microbiology</td>
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<td>BIO 3722</td>
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<td>Social &amp; Behavioral Sciences core</td>
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**Spring**

<table>
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<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 3813</td>
<td>Cell Biology</td>
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<td>Cell Biology Laboratory</td>
<td>2</td>
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<tr>
<td>BIO 4743</td>
<td>Immunology</td>
<td>3</td>
</tr>
<tr>
<td>BIO 4751</td>
<td>Immunology Laboratory</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Upper-division BIO elective</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Creative Arts core</td>
<td>3</td>
</tr>
</tbody>
</table>
Fourth Year

**Fall**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 3413</td>
<td>Advanced Physiology</td>
<td>3</td>
</tr>
<tr>
<td>BIO 4783</td>
<td>Microbial Genetics and Physiology</td>
<td>3</td>
</tr>
<tr>
<td>Upper-division BIO elective</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>American History core</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Government-Political Science core</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

**Spring**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 4981</td>
<td>Senior Seminar in Microbiology and Immunology</td>
<td>1</td>
</tr>
<tr>
<td>Free elective</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Upper-division BIO elective</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>American History core</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Government-Political Science core</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Component Area Option core</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

Total Credit Hours: 120.0

1 In order to declare Microbiology and Immunology as a major, a student’s academic performance will be evaluated after these five courses have been completed. Students must see an advisor in Life and Health Sciences Advising to declare a Biology major.

2 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 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 an undergraduate advisor in Life and Health Sciences Advising. All students pursuing the minor must complete a minimum of 19 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

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 1404</td>
<td>Biosciences I</td>
<td>4</td>
</tr>
<tr>
<td>BIO 1413</td>
<td>Biosciences II</td>
<td>3</td>
</tr>
<tr>
<td>BIO 2313</td>
<td>Genetics</td>
<td>3</td>
</tr>
</tbody>
</table>

B. 3000- or 4000-level organized biology courses.

Excludes laboratory, independent study, research and seminar courses. Substitutions are not allowed without approval of the Biology department.

Total Credit Hours: 19
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 Bachelor of Science 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. For a complete listing of courses that satisfy the Core Curriculum requirements, see chapter 1 of this catalog.

The core requirements in Mathematics and Natural Sciences are automatically fulfilled in obtaining a B.S. degree in Environmental Science.

Degree Requirements

A. Required environmental science courses must be completed with a grade of “C-” or better

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ES 1113</td>
<td>Environmental Botany</td>
<td>4</td>
</tr>
<tr>
<td>&amp; ES 1111</td>
<td>and Environmental Botany Laboratory</td>
<td></td>
</tr>
<tr>
<td>ES 1123</td>
<td>Environmental Zoology</td>
<td>4</td>
</tr>
<tr>
<td>&amp; ES 1121</td>
<td>and Environmental Zoology Laboratory</td>
<td></td>
</tr>
<tr>
<td>ES 1213</td>
<td>Environmental Geology</td>
<td>4</td>
</tr>
<tr>
<td>&amp; ES 1211</td>
<td>and Environmental Geology Laboratory</td>
<td></td>
</tr>
<tr>
<td>ES 1314</td>
<td>Environmental Statistics</td>
<td>4</td>
</tr>
<tr>
<td>ES 2013</td>
<td>Introduction to Environmental Systems I</td>
<td>4</td>
</tr>
<tr>
<td>&amp; ES 2021</td>
<td>and Introduction to Environmental Systems I Laboratory</td>
<td></td>
</tr>
<tr>
<td>ES 2023</td>
<td>Introduction to Environmental Systems II</td>
<td>4</td>
</tr>
<tr>
<td>Course Code</td>
<td>Course Title</td>
<td>Credit Hours</td>
</tr>
<tr>
<td>-------------</td>
<td>------------------------------------------------------------------</td>
<td>--------------</td>
</tr>
<tr>
<td>&amp; ES 2031</td>
<td>and Introduction to Environmental Systems II Laboratory</td>
<td></td>
</tr>
<tr>
<td>ES 3033</td>
<td>Environmental Ecology</td>
<td>5</td>
</tr>
<tr>
<td>&amp; ES 3042</td>
<td>and Environmental Ecology Laboratory</td>
<td></td>
</tr>
<tr>
<td>ES 3123</td>
<td>Introduction to Soils</td>
<td>4</td>
</tr>
<tr>
<td>&amp; ES 3121</td>
<td>and Introduction to Soils Laboratory</td>
<td></td>
</tr>
<tr>
<td>ES 3143</td>
<td>Watershed Processes</td>
<td>4</td>
</tr>
<tr>
<td>&amp; ES 3141</td>
<td>and Watershed Processes Laboratory</td>
<td></td>
</tr>
<tr>
<td>ES 3203</td>
<td>Environmental Law</td>
<td>3</td>
</tr>
<tr>
<td>ES 4103</td>
<td>Global Change</td>
<td>3</td>
</tr>
<tr>
<td>ES 4203</td>
<td>Environmental Assessment</td>
<td>3</td>
</tr>
<tr>
<td>ES 4211</td>
<td>Senior Seminar</td>
<td>1</td>
</tr>
<tr>
<td>ES 4253</td>
<td>Sources, Fate, and Transport of Chemicals in the Environment</td>
<td>3</td>
</tr>
</tbody>
</table>

B. Required science courses must be completed with a grade of “C–” or better:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHE 1103</td>
<td>General Chemistry I</td>
<td>4</td>
</tr>
<tr>
<td>&amp; CHE 1121</td>
<td>and General Chemistry I Laboratory</td>
<td></td>
</tr>
<tr>
<td>CHE 1113</td>
<td>General Chemistry II</td>
<td>4</td>
</tr>
<tr>
<td>&amp; CHE 1131</td>
<td>and General Chemistry II Laboratory</td>
<td></td>
</tr>
<tr>
<td>CHE 2603</td>
<td>Organic Chemistry I</td>
<td>5</td>
</tr>
<tr>
<td>&amp; CHE 2612</td>
<td>and Organic Chemistry I Laboratory</td>
<td></td>
</tr>
<tr>
<td>CS 1073</td>
<td>Introductory Computer Programming for Scientific Applications</td>
<td>3</td>
</tr>
<tr>
<td>or CS 1173</td>
<td>Data Analysis and Visualization using MATLAB</td>
<td></td>
</tr>
<tr>
<td>GEO 2113</td>
<td>Fundamentals of Geographic Information Systems (GIS)</td>
<td>3</td>
</tr>
<tr>
<td>MAT 1193</td>
<td>Calculus for the Biosciences</td>
<td>3</td>
</tr>
</tbody>
</table>

C. Area of Study courses. Upper-division environmental science courses completed with a grade of “C–” or better:

15 semester credit hours of additional upper-division level environmental science courses are required. While the degree is a general degree in environmental science, three areas of study have been identified within the B.S. degree program for students interested in conservation and restoration ecology, environmental management, or natural resources and wildlife management. Depending on their area of interest, students must select courses from the following areas of study.

**Conservation and Restoration Ecology**

Required courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ES 4213</td>
<td>Conservation Biology</td>
</tr>
<tr>
<td>ES 4233</td>
<td>Restoration Ecology</td>
</tr>
</tbody>
</table>

Select three courses from the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ES 3053</td>
<td>Environmental Remediation</td>
</tr>
<tr>
<td>ES 3103</td>
<td>Environmental Microbiology</td>
</tr>
<tr>
<td>ES 3153</td>
<td>Environmental Chemistry</td>
</tr>
</tbody>
</table>
ES 3163  Ornithology
ES 3173  Mammalogy
ES 3183  Entomology
ES 3193  Herpetology
ES 3213  Biology of Flowering Plants
ES 3223  Woody Plants
ES 4113  Field Biology
ES 4123  Desert Biology
ES 4133  Natural Resource Policy and Administration
ES 4143  Environmental Geomorphology
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

**Environmental Management**

Required courses:

- ES 3053  Environmental Remediation
- ES 3153  Environmental Chemistry
- ES 4183  Environmental Toxicology

Select two courses from the following:

- ES 3103  Environmental Microbiology
- 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 three courses from the following:

- ES 3053  Environmental Remediation
- ES 3103  Environmental Microbiology
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 advisors in the College of Sciences Undergraduate Advising Center 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

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIS 1203</td>
<td>Academic Inquiry and Scholarship (core)</td>
</tr>
<tr>
<td>ES 1113 &amp; ES 1111</td>
<td>Environmental Botany</td>
</tr>
<tr>
<td>ES 2013 &amp; ES 2021</td>
<td>Introduction to Environmental Systems I (core and major)</td>
</tr>
<tr>
<td>WRC 1013</td>
<td>Freshman Composition I</td>
</tr>
</tbody>
</table>

Spring

| CHE 1103 & CHE 1121     | General Chemistry I | 4 |

Total Credit Hours: 87
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>ES 1123</td>
<td>Environmental Zoology</td>
<td>4</td>
</tr>
<tr>
<td>&amp; ES 1121</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ES 2023</td>
<td>Introduction to Environmental Systems II (core and major)</td>
<td>4</td>
</tr>
<tr>
<td>&amp; ES 2031</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WRC 1023</td>
<td>Freshman Composition II</td>
<td>3</td>
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</table>

**Second Year**

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall</td>
<td>CHE 1113</td>
<td>General Chemistry II ¹</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>&amp; CHE 1131</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ES 1213</td>
<td>Environmental Geology</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>&amp; ES 1211</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ES 1314</td>
<td>Environmental Statistics</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>American History core</td>
<td>3</td>
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</table>

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spring</td>
<td>CHE 2603</td>
<td>Organic Chemistry I ¹</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>&amp; CHE 2612</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ES 3033</td>
<td>Environmental Ecology</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>&amp; ES 3042</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>MAT 1193</td>
<td>Calculus for the Biosciences (core and major)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Government-Political Science core</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

**Third Year**

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall</td>
<td>CS 1073 or 1173</td>
<td>Introductory Computer Programming for Scientific Applications</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>ES 3123</td>
<td>Introduction to Soils</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>&amp; ES 3121</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>GEO 2113</td>
<td>Fundamentals of Geographic Information Systems (GIS)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Government-Political Science core</td>
<td>3</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spring</td>
<td>ES 3143</td>
<td>Watershed Processes</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>&amp; ES 3141</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ES 3203</td>
<td>Environmental Law</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>ES 4253</td>
<td>Sources, Fate, and Transport of Chemicals in the Environment</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>American History core</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Social and Behavioral Sciences core</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

**Fourth Year**

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall</td>
<td>ES 4103</td>
<td>Global Change</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Creative Arts core</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Language, Philosophy, &amp; Culture core</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>
ES Area of Study Required Course 3
ES Area of Study Elective 3

Spring
ES 4203    Environmental Assessment 3
ES 4211    Senior Seminar 1
ES Area of Study Required Course 3
ES Elective 3
ES Elective ² 3
Component Area Option core 3

Total Credit Hours: 120.0

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, this is the third required course.

Note: Some courses are only offered once a year; Fall or Spring. Check with the Department of Biology for scheduling of courses.

**Biology (BIO) Courses**

Department of Biology, College of Sciences

NOTE: All prerequisites for Biology (BIO) courses must be completed with a grade of “C–” or better.

**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.

**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.).

**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.).
BIO 1122. Laboratory Investigations in Biology. (0-6) 2 Credit Hours. (TCCN = BIOL 1106)
Prerequisite: Completion of or concurrent enrollment in BIO 1233 or BIO 1404. Introduction to the tools, techniques, and topics of modern experimental biology. (Formerly BIO 1212. Credit cannot be earned for both BIO 1122 and BIO 1212.).

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.

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.

BIO 1404. Biosciences I. (4-0) 4 Credit Hours. (TCCN = BIOL 1306)
Prerequisite: Completion of or concurrent enrollment in one of the following: STA 1053, MAT 1023, MAT 1033, 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 a mandatory one-hour recitation 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.).

BIO 1413. Biosciences II. (3-0) 3 Credit Hours. (TCCN = BIOL 1307)
Prerequisite: BIO 1404. 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. May be applied toward the Core Curriculum requirement in Life and Physical Sciences. (Formerly BIO 1143 and BIO 1223. Credit cannot be earned for both BIO 1413 and BIO 1143 or BIO 1223 or ES 2013.).

BIO 1511. Biomedical Research as a Career. (1-0) 1 Credit Hour.
Intended for science majors of any discipline, this course is designed to introduce students to career options in the biosciences, particularly biomedical research. Students will explore the opportunities available in research and learn what they can do now to successfully launch a future career as a scientist.

BIO 1882. Introduction to Health Professions. (2-0) 2 Credit Hours.
This course is designed to provide an overview of careers in the health professions. Medical terminology, professional roles and concepts, career opportunities, and specialties within each profession will be discussed. (Formerly AHS 1883. Credit cannot be earned for both BIO 1882 and AHS 1883.).

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.).
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. Credit cannot be earned for both BIO 2043 and AHS 2043.).

BIO 2083. Human Anatomy. (3-0) 3 Credit Hours. (TCCN = BIOL 2301)
Prerequisite: BIO 1233 or BIO 1404. Systemic anatomy of the human organism. Includes cell biology, histology, and gross anatomy of major organ systems. (Formerly AHS 2083. Credit cannot be earned for both BIO 2083 and AHS 2083.).

BIO 2091. Human Anatomy Laboratory. (0-3) 1 Credit Hour. (TCCN = BIOL 2101)
Prerequisites: BIO 1233 or BIO 1404, and completion of or concurrent enrollment in BIO 2083. The study of human anatomical systems using dissection of representative organisms. (Formerly AHS 2091. Credit cannot be earned for both BIO 2091 and AHS 2091.).

BIO 2103. Human Physiology. (3-0) 3 Credit Hours. (TCCN = BIOL 2302)
Prerequisite: BIO 1233 or BIO 1404. Human physiological processes will be examined at the chemical, cellular, tissue and organ system levels. (Formerly AHS 2103. Credit cannot be earned for both BIO 2103 and AHS 2103. BIO 2103 cannot substitute for BIO 3413.).

BIO 2111. Human Physiology Laboratory. (0-3) 1 Credit Hour. (TCCN = BIOL 2102)
Prerequisites: BIO 1233 or BIO 1404, and completion of or concurrent enrollment in BIO 2103. Lab based investigations of system physiological processes with emphasis on humans. (Formerly AHS 2111. Credit cannot be earned for both BIO 2111 and AHS 2111. BIO 2111 cannot substitute for BIO 3422.).

BIO 2313. Genetics. (3-0) 3 Credit Hours. (TCCN = BIOL 2316)
Prerequisites: BIO 1413 and completion or concurrent enrollment in one of the following: MAT 1093 (or higher) or STA 1053. Concurrent enrollment in BIO 2322 is recommended. Principles governing transmission of hereditary factors in plants and animals, with emphasis on molecular, biochemical, and population genetics.

BIO 2322. Genetics Laboratory. (1-4) 2 Credit Hours.
Prerequisites: BIO 1122 and BIO 1413, and completion or concurrent enrollment in BIO 2313, and in one of the following: MAT 1093 (or higher) or STA 1053. A practical introduction to genetic problem solving that focuses on experiments with model organisms using classic, biochemical and molecular biological techniques. This laboratory includes a lecture component.

BIO 3003. Introduction to Marine Ecology. (3-0) 3 Credit Hours.
Prerequisites: BIO 1122 and BIO 1413. An introduction to the study of marine ecology with an emphasis on the physio-chemical and biological factors that determine biodiversity and the affect the biology and distribution of marine organisms. Topics covered include functional biology, biodiversity, ecology and conservation of organisms in marine environments.
BIO 3013. Introduction to Clinical Medicine and Pathology. (3-0) 3 Credit Hours.
Prerequisite: BIO 1404. Introduction to concepts of human disease, diagnosis, and underlying pathology. (Formerly titled “Introductory Pathology.”).

BIO 3063. Invertebrate Biology. (3-0) 3 Credit Hours.
Prerequisites: BIO 1122 and BIO 1413. A comprehensive study of the invertebrates that aims to 1) examine the biodiversity of invertebrates in their mode of behavior, physiology, genetics and ecology, 2) understand the functional morphology of invertebrate phyla and their evolutionary relationships, and 3) appreciate the importance of invertebrates in ecosystems.

BIO 3123. Comparative Vertebrate Anatomy. (3-0) 3 Credit Hours.
Prerequisite: BIO 1413. Concurrent enrollment in BIO 3132 is recommended. 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.).

BIO 3163. Histology and Cytology. (3-0) 3 Credit Hours.
Prerequisite: BIO 2313. Concurrent enrollment in BIO 3172 is recommended. The cytological and histological aspects of cellular organization.

BIO 3172. Histology and Cytology Laboratory. (0-6) 2 Credit Hours.
Prerequisites: BIO 2313 and completion of or concurrent enrollment in BIO 3163. Microscopic study of tissues and organs. Basic techniques to prepare tissues will be studied.

BIO 3213. Animal Behavior. (3-0) 3 Credit Hours.
Prerequisite: BIO 1413 or consent of instructor. A detailed study of animal behaviors and their biological determinants.

BIO 3263. The 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.

BIO 3273. 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.

BIO 3283. Principles of Ecology. (3-0) 3 Credit Hours.
Prerequisite: BIO 1413. Concurrent enrollment in BIO 3292 is recommended for biology majors. A study of the interaction of organisms with their environment, with focus on ecological principles, adaptations of organisms, environmental pollution, and principles of conservation.
BIO 3292. Principles of Ecology Laboratory. (0-6) 2 Credit Hours.
Prerequisites: BIO 1413 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.

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.

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.)

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.”).

BIO 3413. Advanced Physiology. (3-0) 3 Credit Hours.
Prerequisites: BIO 2313 and MAT 1193. Concurrent enrollment in BIO 3422 is also recommended. 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.).

BIO 3422. Advanced Physiology Laboratory. (0-6) 2 Credit Hours.
Prerequisites: BIO 2313, one of the following: MAT 1093 (or higher) or STA 1053 and 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.).

BIO 3433. Neurobiology. (3-0) 3 Credit Hours.
Prerequisite: Completion of or concurrent enrollment in BIO 3413. Concurrent enrollment in BIO 3442 is recommended. Anatomy and physiology of nervous systems; the mechanisms of neuronal functions.

BIO 3442. Neurobiology Laboratory. (0-6) 2 Credit Hours.
Prerequisite: Completion of or concurrent enrollment in BIO 3433. A laboratory course emphasizing principles presented in BIO 3433.

BIO 3513. Biochemistry. (3-0) 3 Credit Hours.
Prerequisites: CHE 2603 and CHE 2612; BIO 2313 and CHE 3673 are highly recommended. Concurrent enrollment in BIO 3522 is recommended. 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.).
BIO 3522. Biochemistry Laboratory. (1-4) 2 Credit Hours.
Prerequisites: CHE 2603 and 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 a lecture component.

BIO 3533. FAME-Biophysics. (3-0) 3 Credit Hours.
This course is only open to students who are participating in the FAME Program. Biophysics is an algebra-based introduction to the science of physics with an emphasis on the life sciences and the practice of medicine. Topics include mechanics, fluids, sounds, and electromagnetism and their biomedical applications.

BIO 3543. FAME-Behavioral Health. (3-0) 3 Credit Hours.
This course is only open to students who are participating in the FAME Program. This course is designed to introduce students to the challenges and opportunities of treating patients with mental illness. Students will learn key ethical principles, differential diagnosis, and pharmacological and psychotherapeutic interventions for managing serious mental illnesses including schizophrenia, bipolar disorder, depression, and anxiety disorders. Students will also learn how to conduct a psychiatric interview and prepare a new patient intake including patient history, mental status exam, assessment, and plan.

BIO 3553. FAME-Geriatrics. (3-0) 3 Credit Hours.
This course is only open to students who are participating in the FAME Program. Using interdisciplinary perspectives, students will learn about medical and psychosocial aspects of aging including physiological, societal, social, physical, and psychological changes as they relate to the aging process, geriatric health care, palliative care and end of life care. Hands-on educational experiences will involve interaction with healthy elders, clinical rotations at hospital consult services, long term care communities and hospice care. All activities will be case-based, interactive and will have an online learning component.

BIO 3563. FAME-Maternal Health/Pediatrics. (3-0) 3 Credit Hours.
This course is only open to students who are participating in the FAME Program. This course is designed to provide an overview and historical perspective in the evolution of maternal health and pediatrics as fields of practice in medicine. Topics discussed will include public health and policy, representations of the field in the arts, literature and media, and the development of careers in pediatric medicine. Opportunities for interactive community and clinically based experiences will be incorporated in the coursework.

BIO 3573. FAME-Obesity/Nutrition. (3-0) 3 Credit Hours.
This course is only open to students who are participating in the FAME Program. Students will explore the physiological, socio-behavioral, public health and philosophical implications of obesity and nutrition through acute and preventive medicine perspectives.

BIO 3583. FAME-Cardiovascular Disease/Diabetes. (3-0) 3 Credit Hours.
This course is only open to students who are participating in the FAME Program. Students will explore the genetic, biologic, physiologic, cultural, and economic implications of cardiovascular disease through didactic sessions, group projects, self-study and direct patient contact.

BIO 3593. FAME-Cancer. (3-0) 3 Credit Hours.
This course is only open to students who are participating in the FAME Program. Students will explore the historical, genetic, biologic, social, ethical, legal and economic implications of cancer, its predisposing
factors and treatments. This will be accomplished through readings, didactic sessions, group projects, self-study, and clinical contact with patients and cancer center health care providers.

BIO 3613. The Biology of Aging. (3-0) 3 Credit Hours.
Prerequisite: BIO 2313. The biological principles of human life and health; changes that occur with aging and their implications for the lives of students and their families.

BIO 3623. Neuropsychopharmacology. (3-0) 3 Credit Hours.
Prerequisites: BIO 1122 and BIO 1413; 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.

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.

BIO 3713. Microbiology. (3-0) 3 Credit Hours.
Prerequisites: BIO 1122 and BIO 1413. 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.).

BIO 3722. Microbiology Laboratory. (0-6) 2 Credit Hours.
Prerequisites: BIO 1122 and BIO 1413, 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.).

BIO 3743. Bacteriology. (3-0) 3 Credit Hours.
Prerequisite: 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.

BIO 3813. Cell Biology. (3-0) 3 Credit Hours.
Prerequisite: BIO 2313; BIO 3513 is recommended. Concurrent enrollment in BIO 3822 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.

BIO 3822. Cell Biology Laboratory. (1-4) 2 Credit Hours.
Prerequisites: BIO 2313 and either BIO 2322 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 a lecture component.

**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.

**BIO 3933. Principles of Cancer Biology. (3-0) 3 Credit Hours.**
Prerequisite: BIO 1413; BIO 3813 is recommended. A comprehensive study of the molecular mechanisms responsible for cellular and organismal function including: nucleic acid structure, replication, repair and recombination of DNA, transcription (RNA), RNA processing, translation (proteins), regulation of gene expression, organization of genomes and chromosomes, epigenetics, and related scientific methods and approaches.

**BIO 4033. Conservation Biology. (3-0) 3 Credit Hours.**
Prerequisite: 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.

**BIO 4053. Wildlife Biology. (3-0) 3 Credit Hours.**
Prerequisite: 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.

**BIO 4063. Ornithology. (2-3) 3 Credit Hours.**
Prerequisites: BIO 1122 and BIO 1404. A course covering various aspects of the biology of birds, including anatomy, physiology, systematics, evolution, behavior, ecology, and biogeography. Field trips will be included.

**BIO 4073. Law, Ethics, and the Life Sciences. (3-0) 3 Credit Hours.**
Prerequisite: Junior or senior status: a minimum of 60 semester credit hours. Current societal issues which require an understanding of biology (e.g., stem cell research, assisted suicide, abortion, reproductive options, global warming, Intelligent Design, etc.) are considered.

**BIO 4143. Developmental Biology. (3-0) 3 Credit Hours.**
Prerequisite: BIO 2313. Concurrent enrollment in BIO 4152 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.).
BIO 4152. Developmental Biology Laboratory. (0-6) 2 Credit Hours.
Prerequisites: BIO 2313 and BIO 2322, and completion of or concurrent enrollment in BIO 4143. Laboratory applications of concepts presented in BIO 4143. (Formerly BIO 3152. Credit cannot be earned for both BIO 4152 and BIO 3152.).

BIO 4233. 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 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.

BIO 4241. 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 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.).

BIO 4453. Endocrinology. (3-0) 3 Credit Hours.
Prerequisite: BIO 1413. 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).

BIO 4473. Advanced Clinical Medicine and Pathology. (3-0) 3 Credit Hours.
Prerequisite: BIO 3013. Advanced concepts of human disease, diagnosis, and underlying pathology.

BIO 4483. Medical Mycology. (3-0) 3 Credit Hours.
Prerequisites: BIO 3713 and BIO 3722. Comprehensive study of causative agents, pathogenesis, and treatment of human fungal diseases.

BIO 4523. Intermediary Metabolism. (3-0) 3 Credit Hours.
Prerequisites: BIO 3513 and BIO 3522. A detailed consideration of metabolic pathways and energy metabolism and their regulation.

BIO 4583. The Computational Brain. (3-0) 3 Credit Hours.
Prerequisite: BIO 3433. Principles of cellular neurophysiology and neuroanatomy are used to explore the computational operations performed by neurons and networks of neurons.

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.

BIO 4723. Virology. (3-0) 3 Credit Hours.
Prerequisite: BIO 2313; BIO 3513 is recommended. 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.
BIO 4743. Immunology. (3-0) 3 Credit Hours.
Prerequisites: BIO 2313 and BIO 3713. 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.

BIO 4751. Immunology Laboratory. (0-3) 1 Credit Hour.
Prerequisites: BIO 3713 and BIO 3722, and completion or concurrent enrollment in BIO 4743. Laboratory applications of principles presented in BIO 4743. (Formerly BIO 4752. Credit cannot be earned for both BIO 4751 and BIO 4752.).

BIO 4763. Parasitology. (3-0) 3 Credit Hours.
Prerequisites: BIO 1122 and BIO 1413. A study of the animal parasites of medical and veterinary importance, with emphasis on their epidemiology, life cycles, pathology, and control.

BIO 4773. Plant-Microbe Interactions. (3-0) 3 Credit Hours.
Prerequisite: BIO 2313 and BIO 3713. The study of molecular and cellular aspects of the interaction between plants and microorganisms in the environment, such as mycorrhizae, pathogenic fungi, Agrobacterium, pathogenic bacteria and plant viruses. Topics include microbial virulence, signaling, gene expression, and disease resistance in plants.

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.

BIO 4813. Brain and Behavior. (3-0) 3 Credit Hours.
Prerequisites: BIO 1122 and BIO 1413. Basic physiological functions of the brain and how they relate to behavior.

BIO 4823. Cognitive Neuroscience. (3-0) 3 Credit Hours.
Prerequisite: Junior or senior status: a minimum of 60 semester credit hours; BIO 3433 (or PSY 3103) is recommended. The biological foundations of mental phenomena, including perception, attention, learning, memory, language, motor control, and executive function, as well as functional specialization, development and plasticity, through various methodologies.

BIO 4911. Independent Study. (0-0) 1 Credit Hour.
Prerequisite: Permission in writing (form available) from the instructor, an undergraduate advisor in the College of Sciences Undergraduate Advising Center, 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 4911-3, BIO 4923 and BIO 4991-3, in any combination, can be taken as BIO electives. Additional research hours of these courses may be taken as free electives, for a maximum of 12 research hours being applied to the bachelor’s degree.

BIO 4912. Independent Study. (0-0) 2 Credit Hours.
Prerequisite: Permission in writing (form available) from the instructor, an undergraduate advisor in the College of Sciences Undergraduate Advising Center, 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 4911-3, BIO 4923 and BIO 4991-3, in any combination, can be taken as BIO electives. Additional research hours of these courses may be taken as free electives, for a maximum of 12 research hours being applied to the bachelor’s degree.

BIO 4913. Independent Study. (0-0) 3 Credit Hours.
Prerequisite: Permission in writing (form available) from the instructor, an undergraduate advisor in the College of Sciences Undergraduate Advising Center, 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 4911-3, BIO 4923 and BIO 4991-3, in any combination, can be taken as BIO electives. Additional research hours of these courses may be taken as free electives, for a maximum of 12 research hours being applied to the bachelor’s degree.

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 4911-3, BIO 4923 and BIO 4991-3, in any combination, can be taken as BIO electives. Additional research hours of these courses may be taken as free electives, for a maximum of 12 research hours being applied to the bachelor’s degree.

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.

BIO 4952. Special Studies in Biology. (2-0) 2 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.

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.

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).
BIO 4991. Honors Research. (0-0) 1 Credit Hour.
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 4991-3, in any combination, can be taken as BIO electives. Additional research hours of these courses may be taken as free electives, for a maximum of 12 research hours being applied to the bachelor’s degree.

BIO 4992. Honors Research. (0-0) 2 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 4991-3, in any combination, can be taken as BIO electives. Additional research hours of these courses may be taken as free electives, for a maximum of 12 research hours being applied to the bachelor’s degree.

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 4991-3, in any combination, can be taken as BIO electives. Additional research hours of these courses may be taken as free electives, for a maximum of 12 research hours being applied to the bachelor’s degree.

Environmental Science (ES) Courses

College of Sciences

NOTE: All Environmental Science (ES) courses used as prerequisites for other Environmental Science courses must be completed with a grade of “C-” or better.

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.

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.

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.
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.

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.

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.

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.

ES 2013. Introduction to Environmental Systems I. (3-0) 3 Credit Hours. (TCCN = BIOL 2306)  
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 word, 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 Physical and Life Sciences.

ES 2021. Introduction to Environmental Systems 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.

ES 2023. Introduction to Environmental Systems 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 Physical and Life Sciences.

ES 2031. Introduction to Environmental Systems 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.

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.).
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.).

ES 3053. Environmental Remediation. (3-0) 3 Credit Hours.
Prerequisites: CHE 2603, 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.).

ES 3061. Environmental Remediation Laboratory. (0-3) 1 Credit Hour.
Prerequisites: CHE 2603, CHE 2612, 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.

ES 3103. Environmental Microbiology. (3-0) 3 Credit Hours.
Prerequisites: CHE 2603, 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.).

ES 3121. Introduction to Soils Laboratory. (0-3) 1 Credit Hour.
Prerequisites: ES 2013 and ES 2023, or equivalents. Laboratory exercise and field trips designed to develop student competency in soil description, analysis, and assessment.

ES 3123. Introduction to Soils. (3-0) 3 Credit Hours.
Prerequisites: ES 2013 and ES 2023, or equivalents. A study of soil properties and processes and relationships to land use, plant growth, environmental quality, and society.

ES 3141. Watershed Processes Laboratory. (0-3) 1 Credit Hour.
Prerequisites: ES 2013, ES 2023 and ES 1213, or equivalents. Laboratory exercises and field trips designed to develop an understanding of watershed processes, watershed assessment, and watershed management.

ES 3143. Watershed Processes. (3-0) 3 Credit Hours.
Prerequisites: ES 2013, ES 2023 and ES 1213, or equivalents. This course focuses on watershed processes, watershed assessment, and watershed management.

ES 3153. Environmental Chemistry. (3-0) 3 Credit Hours.
Prerequisites: ES 2013, ES 2023, CHE 2603, 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 can only be earned for ES 3153 or CE 4613.).

**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.).

**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.

**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.

**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.

**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.

**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.).

**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.).

**ES 4003. Environmental Chemistry and Toxicology. (3-0) 3 Credit Hours.**
Prerequisites: CHE 2603, ES 2013, and ES 2023, or equivalents. Chemical principles applied to the understanding of processes in aquatic and environmental systems. Emphasis will be on physical, chemical, and biological processes in treatment and processing of hazardous waste materials.
ES 4011. Environmental Chemistry and Toxicology Laboratory. (0-3) 1 Credit Hour.
Prerequisites: CHE 2603, ES 2013, and ES 2023, or equivalents. Concurrent enrollment in ES 4003 is recommended. Laboratory principles applied to the understanding of processes in aquatic and environmental systems. Emphasis will be on physical, chemical, and biological processes in treatment and processing of hazardous wastes materials.

ES 4103. Global Change. (3-0) 3 Credit Hours.
Prerequisites: CHE 2603, ES 2013, and ES 2023, or equivalents. 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.).

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 (Field Biology Lecture) is recommend ed. A field-oriented course offering the opportunity for practical experience observing, collecting, and identifying Texas plants and animals. (Same as BIO 4241. Credit can only be earned for ES 4111 or BIO 4241.).

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 can only be earned for ES 4113 or BIO 4233.).

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.

ES 4133. Natural Resource Policy and Administration. (3-0) 3 Credit Hours.
Prerequisite: ES 3203 Environmental Law, or equivalent. 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.

ES 4143. Environmental Geomorphology. (3-0) 3 Credit Hours.
Prerequisites: ES 1213 or consent of instructor, and junior or senior standing. Examination of landforms on the Earth’s surface and landscape-forming processes. Field trips may be required.
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.

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.

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.

ES 4183. Environmental Toxicology. (3-0) 3 Credit Hours.
Prerequisites: ES 2023 and CHE 2604, 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.

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).

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.

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.).

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.
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.).

ES 4253. Sources, Fate, and Transport of Chemicals in the Environment. (3-0) 3 Credit Hours.
Prerequisites: ES 2013, ES 2023, CHE 2603, or equivalents. Sources of chemicals in the environment. Processes regulating fate and transport of metals, organics, nutrients, salts, pathogens, and radionuclides in the environment.

ES 4911. Special Studies in Environmental Science. (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.

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.

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.

ES 4951. Special Studies in Environmental Science. (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.

ES 4952. Special Studies in Environmental Science. (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.

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.
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. All applicants for admission to the Department of Chemistry will be admitted to the Department as Pre-Chemistry (PCH) students. In order to declare Chemistry as a major, a student’s academic performance will be evaluated after the six courses listed below have been completed. To declare a major in Chemistry, a PCH student must have:

- a grade point average of at least 2.0 for all UTSA coursework
- a grade point average of at least 2.5 the six courses listed below
- successfully satisfied all three sections (mathematics, reading, and writing) of the Texas Success Initiative (TSI)
- successfully completed the following or equivalent courses with a grade of “C–” or better:
  
  - CHE 1103 General Chemistry I
  - or CHE 1143 Principles of Chemistry I
  - CHE 1113 General Chemistry II
  - or CHE 1153 Principles of Chemistry II
  - CHE 1121 General Chemistry I Laboratory
  - CHE 1131 General Chemistry II Laboratory
  - MAT 1214 Calculus I
  - PHY 1943 Physics for Scientists and Engineers I
  - & PHY 1951 and Physics for Scientists and Engineers I Laboratory

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 six course listed above
- have successfully satisfied all three sections (mathematics, reading, and writing) of the Texas Success Initiative (TSI).

PCH students 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 16 credit hours will no longer be considered a PCH student and their major will be changed from PCH to undeclared (UND) in the University student record system. The student must choose a major other than chemistry. A chemistry minor is, however, available to all UTSA students who seek to complement a different academic major with a strong foundation in chemistry. Students can be reinstated as a Chemistry major, but only after successfully completing all the PCH requirements, and upon approval of the Chemistry Department.
Bachelor of Science Degree in Chemistry

The Bachelor of Science 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 Bachelor of Science 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. For a complete listing of courses that satisfy the Core Curriculum requirements, see chapter 1 of this catalog.

STA 1053 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.

Degree Requirements

A. Required courses in chemistry

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHE 1103</td>
<td>General Chemistry I</td>
<td>3</td>
</tr>
<tr>
<td>or CHE 1143</td>
<td>Principles of Chemistry I</td>
<td></td>
</tr>
<tr>
<td>CHE 1113</td>
<td>General Chemistry II</td>
<td>3</td>
</tr>
<tr>
<td>or CHE 1153</td>
<td>Principles of Chemistry II</td>
<td></td>
</tr>
<tr>
<td>CHE 1121</td>
<td>General Chemistry I Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>CHE 1131</td>
<td>General Chemistry II Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>CHE 2603</td>
<td>Organic Chemistry I</td>
<td>3</td>
</tr>
<tr>
<td>CHE 2612</td>
<td>Organic Chemistry I Laboratory</td>
<td>2</td>
</tr>
<tr>
<td>CHE 2803</td>
<td>Quantitative Topics for Chemists</td>
<td>3</td>
</tr>
<tr>
<td>CHE 3214</td>
<td>Analytical Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>CHE 3464</td>
<td>Descriptive Inorganic Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>CHE 3643</td>
<td>Organic Chemistry II</td>
<td>3</td>
</tr>
<tr>
<td>CHE 3652</td>
<td>Organic Chemistry II Laboratory</td>
<td>2</td>
</tr>
<tr>
<td>CHE 3804</td>
<td>Physical Chemistry I and Laboratory</td>
<td>4</td>
</tr>
<tr>
<td>CHE 3824</td>
<td>Physical Chemistry II and Laboratory</td>
<td>4</td>
</tr>
<tr>
<td>CHE 4213</td>
<td>Instrumental Analysis</td>
<td>3</td>
</tr>
</tbody>
</table>
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 advisors in the College of Sciences Undergraduate Advising Center 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

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>AIS 1203 Academic Inquiry and Scholarship (core)</td>
<td>3</td>
</tr>
<tr>
<td>CHE 1103 or 1143 General Chemistry I</td>
<td>3</td>
</tr>
<tr>
<td>Course Code</td>
<td>Course Title</td>
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<td>-------------</td>
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</tr>
<tr>
<td>CHE 1121</td>
<td>General Chemistry I Laboratory</td>
</tr>
<tr>
<td>MAT 1214</td>
<td>Calculus I</td>
</tr>
<tr>
<td>WRC 1013</td>
<td>Freshman Composition I (core)</td>
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<tr>
<td><strong>Spring</strong></td>
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</tr>
<tr>
<td>CHE 1113 or 1153</td>
<td>General Chemistry II</td>
</tr>
<tr>
<td>CHE 1131</td>
<td>General Chemistry II Laboratory</td>
</tr>
<tr>
<td>MAT 1224</td>
<td>Calculus II</td>
</tr>
<tr>
<td>WRC 1023</td>
<td>Freshman Composition II (core)</td>
</tr>
<tr>
<td>STA 1053</td>
<td>Basic Statistics (core and major)</td>
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<tr>
<td><strong>Second Year</strong></td>
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<tr>
<td><strong>Fall</strong></td>
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<tr>
<td>CHE 2603</td>
<td>Organic Chemistry I</td>
</tr>
<tr>
<td>CHE 2612</td>
<td>Organic Chemistry I Laboratory</td>
</tr>
<tr>
<td>CHE 3214</td>
<td>Analytical Chemistry</td>
</tr>
<tr>
<td>PHY 1943</td>
<td>Physics for Scientists and Engineers I (core and major)</td>
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<tr>
<td>&amp; PHY 1951</td>
<td></td>
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<tr>
<td><strong>Spring</strong></td>
<td></td>
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<tr>
<td>CHE 2803</td>
<td>Quantitative Topics for Chemists</td>
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<tr>
<td>CHE 3643</td>
<td>Organic Chemistry II</td>
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<tr>
<td>CHE 3652</td>
<td>Organic Chemistry II Laboratory</td>
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<tr>
<td>PHY 1963</td>
<td>Physics for Scientists and Engineers II (core and major)</td>
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<tr>
<td>&amp; PHY 1971</td>
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<tr>
<td>American History core</td>
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<tr>
<td><strong>Summer</strong></td>
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<tr>
<td>Government-Political Science core</td>
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<tr>
<td>College of Sciences elective</td>
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<tr>
<td><strong>Third Year</strong></td>
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<tr>
<td><strong>Fall</strong></td>
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<tr>
<td>CHE 3804</td>
<td>Physical Chemistry I and Laboratory</td>
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<tr>
<td>CHE 4303</td>
<td>Biochemistry</td>
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<tr>
<td>Free elective</td>
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<tr>
<td>Government-Political Science core</td>
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</tr>
<tr>
<td>Language, Philosophy &amp; Culture core</td>
<td></td>
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<tr>
<td><strong>Spring</strong></td>
<td></td>
</tr>
<tr>
<td>CHE 3464</td>
<td>Descriptive Inorganic Chemistry</td>
</tr>
<tr>
<td>CHE 3824</td>
<td>Physical Chemistry II and Laboratory</td>
</tr>
<tr>
<td>American History core</td>
<td></td>
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<tr>
<td>Social &amp; Behavioral Sciences core</td>
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Fourth Year

<table>
<thead>
<tr>
<th>Fall</th>
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<tbody>
<tr>
<td>CHE 4463</td>
<td>Inorganic Chemistry</td>
<td>3</td>
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<tr>
<td>CHE 4913 or 4923</td>
<td>Independent Study</td>
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<td>Upper-division CHE elective</td>
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<td>3</td>
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<tr>
<td>Upper-division CHE elective</td>
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<tr>
<td>Component Area Option core</td>
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<table>
<thead>
<tr>
<th>Spring</th>
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<tbody>
<tr>
<td>CHE 4213</td>
<td>Instrumental Analysis</td>
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<td>CHE 4971</td>
<td>Proseminar</td>
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<td>Upper-division CHE elective</td>
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<tr>
<td>Creative Arts core</td>
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</tr>
</tbody>
</table>

Total Credit Hours: 120.0

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 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 Bachelor of Science 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 Bachelor of Science 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. For a complete listing of courses that satisfy the Core Curriculum requirements, see chapter 1 of this catalog.
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.

**Degree Requirements**

A. Required chemistry courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHE 1103</td>
<td>General Chemistry I</td>
<td>3</td>
</tr>
<tr>
<td>CHE 1113</td>
<td>General Chemistry II</td>
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<td>CHE 1121</td>
<td>General Chemistry I Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>CHE 1131</td>
<td>General Chemistry II Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>CHE 2603</td>
<td>Organic Chemistry I</td>
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</tr>
<tr>
<td>CHE 2612</td>
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<tr>
<td>CHE 3214</td>
<td>Analytical Chemistry</td>
<td>4</td>
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<tr>
<td>CHE 3643</td>
<td>Organic Chemistry II</td>
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</tr>
<tr>
<td>CHE 3652</td>
<td>Organic Chemistry II Laboratory</td>
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<tr>
<td>CHE 3854</td>
<td>Basic Biophysical Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>CHE 4213</td>
<td>Instrumental Analysis</td>
<td>3</td>
</tr>
<tr>
<td>CHE 4303</td>
<td>Biochemistry</td>
<td>3</td>
</tr>
<tr>
<td>or BIO 3513</td>
<td>Biochemistry</td>
<td></td>
</tr>
<tr>
<td>CHE 4913</td>
<td>Independent Study</td>
<td>3</td>
</tr>
<tr>
<td>CHE 4971</td>
<td>Proseminar</td>
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</table>

B. Required biology and physics courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
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<tbody>
<tr>
<td>BIO 1404</td>
<td>Biosciences I</td>
<td>4</td>
</tr>
<tr>
<td>BIO 1413</td>
<td>Biosciences II</td>
<td>3</td>
</tr>
<tr>
<td>BIO 2313</td>
<td>Genetics</td>
<td>3</td>
</tr>
<tr>
<td>BIO 3522</td>
<td>Biochemistry Laboratory</td>
<td>2</td>
</tr>
<tr>
<td>BIO 3813</td>
<td>Cell Biology</td>
<td>3</td>
</tr>
<tr>
<td>BIO 3822</td>
<td>Cell Biology Laboratory</td>
<td>2</td>
</tr>
<tr>
<td>BIO 3913</td>
<td>Molecular Biology</td>
<td>3</td>
</tr>
<tr>
<td>PHY 4833</td>
<td>Molecular Biophysics</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6</td>
</tr>
</tbody>
</table>

C. Upper-division biology and chemistry electives

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, or BIO 4923 Laboratory Research, or CHE 4993 Honors Research, or BIO 4991 Honors Research.

D. Support work in science and mathematics

1. Required courses
MAT 1214  Calculus I  4
MAT 1224  Calculus II  4
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
2. Electives  6
6 additional semester credit hours of elective work from the College of Sciences, as approved by the advisor.

Total Credit Hours: 87

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 advisors in the College of Sciences Undergraduate Advising Center 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

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIS 1203</td>
<td>Academic Inquiry and Scholarship (core)</td>
</tr>
<tr>
<td>BIO 1404</td>
<td>Biosciences I</td>
</tr>
<tr>
<td>CHE 1103 or 1143</td>
<td>General Chemistry I</td>
</tr>
<tr>
<td>CHE 1121</td>
<td>General Chemistry I Laboratory</td>
</tr>
<tr>
<td>MAT 1214</td>
<td>Calculus I (core and major)</td>
</tr>
</tbody>
</table>

Spring

| CHE 1113 or 1153   | General Chemistry II | 3 |
| CHE 1131           | General Chemistry II Laboratory | 1 |
| MAT 1224           | Calculus II | 4 |
| WRC 1013           | Freshman Composition I | 3 |
| BIO 1413           | Biosciences II | 3 |

Second Year

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 2313</td>
<td>Genetics</td>
</tr>
<tr>
<td>CHE 2603</td>
<td>Organic Chemistry I</td>
</tr>
<tr>
<td>CHE 2612</td>
<td>Organic Chemistry I Laboratory</td>
</tr>
<tr>
<td>PHY 1943 &amp; PHY 1951</td>
<td>Physics for Scientists and Engineers I (core and major)</td>
</tr>
<tr>
<td>Course Code</td>
<td>Course Title</td>
</tr>
<tr>
<td>-------------</td>
<td>--------------------------------------------------</td>
</tr>
<tr>
<td>CHE 3643</td>
<td>Organic Chemistry II</td>
</tr>
<tr>
<td>CHE 3652</td>
<td>Organic Chemistry II Laboratory 1</td>
</tr>
<tr>
<td>PHY 1963</td>
<td>Physics for Scientists and Engineers II (core and major)</td>
</tr>
<tr>
<td>&amp; PHY 1971</td>
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</tr>
<tr>
<td>WRC 1023</td>
<td>Freshman Composition II (core)</td>
</tr>
<tr>
<td>American History core</td>
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</table>

**Third Year**

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall</td>
<td>BIO 3522</td>
<td>Biochemistry Laboratory</td>
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<td></td>
<td>CHE 3214</td>
<td>Analytical Chemistry</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>CHE 4303 or BIO 3513</td>
<td>Biochemistry</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Government-Political Science core</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Social &amp; Behavioral Sciences core</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Spring</td>
<td>BIO 3913</td>
<td>Molecular Biology</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>CHE 4971</td>
<td>Proseminar</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>CHE 3854</td>
<td>Basic Biophysical Chemistry</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Language, Philosophy, &amp; Culture core</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Upper-division COS elective</td>
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<td></td>
</tr>
<tr>
<td>Summer</td>
<td>BIO 3813</td>
<td>Cell Biology</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>BIO 3822</td>
<td>Cell Biology Laboratory</td>
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**Fourth Year**

<table>
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<th>Semester</th>
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<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>Fall</td>
<td>CHE 4913 or BIO 4923</td>
<td>Independent Study</td>
<td>3</td>
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<tr>
<td></td>
<td>American History core</td>
<td></td>
<td>3</td>
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<tr>
<td></td>
<td>Creative Arts core</td>
<td></td>
<td>3</td>
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<tr>
<td></td>
<td>Upper-division CHE or BIO elective</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Upper-division COS elective</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Spring</td>
<td>CHE 4213</td>
<td>Instrumental Analysis</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>PHY 4833</td>
<td>Molecular Biophysics</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Component Area Option core</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Government-Political Science core</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Upper-division CHE or BIO elective</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

Total Credit Hours: 120.0
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 degree in Chemistry is a less comprehensive degree than the Bachelor of Science 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 Bachelor of Arts 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. For a complete listing of courses that satisfy the Core Curriculum requirements, see chapter 1 of this catalog.

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.

**Degree Requirements**

A. Required courses in chemistry

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHE 1103</td>
<td>General Chemistry I</td>
<td>3</td>
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<tr>
<td>or CHE 1143</td>
<td>Principles of Chemistry I</td>
<td></td>
</tr>
<tr>
<td>CHE 1113</td>
<td>General Chemistry II</td>
<td>3</td>
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<tr>
<td>or CHE 1153</td>
<td>Principles of Chemistry II</td>
<td></td>
</tr>
<tr>
<td>CHE 1121</td>
<td>General Chemistry I Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>CHE 1131</td>
<td>General Chemistry II Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>CHE 2603</td>
<td>Organic Chemistry I</td>
<td>3</td>
</tr>
<tr>
<td>CHE 2612</td>
<td>Organic Chemistry I Laboratory</td>
<td>2</td>
</tr>
<tr>
<td>CHE 3214</td>
<td>Analytical Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>CHE 3464</td>
<td>Descriptive Inorganic Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>CHE 3643</td>
<td>Organic Chemistry II</td>
<td>3</td>
</tr>
<tr>
<td>or CHE 3673</td>
<td>Organic Chemistry II with Biological Applications</td>
<td></td>
</tr>
</tbody>
</table>
B. Upper-division chemistry electives
Select 12 additional semester credit hours of approved upper-division 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 Physics for Scientists and Engineers I 4
   - PHY 1951 and Physics for Scientists and Engineers I Laboratory 4
   - PHY 1963 Physics for Scientists and Engineers II 4
   - PHY 1971 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 (9 semester credit hours from the College of Education and Human Development for students seeking teacher certification) 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 advisors in the College of Sciences Undergraduate Advising Center 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

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>AIS 1203 Academic Inquiry and Scholarship (core)</td>
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<td>CHE 1103 or 1143 General Chemistry I</td>
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<tr>
<td>Course</td>
<td>Title</td>
</tr>
<tr>
<td>----------</td>
<td>--------------------------------------------</td>
</tr>
<tr>
<td>CHE 1121</td>
<td>General Chemistry I Laboratory (core) 1</td>
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<tr>
<td>MAT 1214</td>
<td>Calculus I (core and major)</td>
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<tr>
<td>WRC 1013</td>
<td>Freshman Composition I (core)</td>
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**Spring**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>CHE 1113 or 1153</td>
<td>General Chemistry II</td>
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</tr>
<tr>
<td>CHE 1131</td>
<td>General Chemistry II Laboratory 1</td>
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</tr>
<tr>
<td>MAT 1224</td>
<td>Calculus II</td>
<td>4</td>
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<tr>
<td>WRC 1023</td>
<td>Freshman Composition II (core)</td>
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**Social & Behavioral Sciences core**

<table>
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</thead>
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**Second Year**

**Fall**

<table>
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<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>CHE 2603</td>
<td>Organic Chemistry I</td>
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</tr>
<tr>
<td>CHE 2612</td>
<td>Organic Chemistry I Laboratory 1</td>
<td>2</td>
</tr>
<tr>
<td>CHE 3214</td>
<td>Analytical Chemistry</td>
<td>4</td>
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<tr>
<td></td>
<td>American History core</td>
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**Spring**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>CHE 3643</td>
<td>Organic Chemistry II</td>
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<td>CHE 3652</td>
<td>Organic Chemistry II Laboratory</td>
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</tr>
<tr>
<td>PHY 1943</td>
<td>Physics for Scientists and Engineers I</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>&amp; PHY 1951</td>
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<tr>
<td></td>
<td>Government-Political Science core</td>
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<td>Language, Philosophy and Culture core</td>
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**Summer**

<table>
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<th>Course</th>
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<th>Credits</th>
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<tbody>
<tr>
<td>PHY 1963</td>
<td>Physics for Scientists and Engineers II</td>
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<td></td>
<td>&amp; PHY 1971</td>
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**Third Year**

**Fall**

<table>
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<th>Course</th>
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<th>Credits</th>
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<tr>
<td></td>
<td>Government-Political Science core</td>
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</tr>
<tr>
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<td>Upper-division CHE elective</td>
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<td></td>
<td>Upper-division COS elective</td>
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<td></td>
<td>Upper-division COS elective</td>
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<tr>
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<td>Upper-division COS elective</td>
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**Spring**

<table>
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<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>CHE 3464</td>
<td>Descriptive Inorganic Chemistry</td>
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</tr>
<tr>
<td>CHE 3854</td>
<td>Basic Biophysical Chemistry</td>
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</tr>
<tr>
<td></td>
<td>Free elective</td>
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</table>
## 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

### Spring
- CHE 4213 Instrumental Analysis 3
- CHE 4971 Proseminar 1
- Upper-division CHE elective 3
- Upper-division COS elective 3
- Creative Arts core 3

Total Credit Hours: 120.0

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 program is to permit students majoring in other areas to obtain a solid, broad-based knowledge of chemistry. The program 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.

- CHE 1103 General Chemistry I 3
  or CHE 1143 Principles of Chemistry I
- CHE 1113 General Chemistry II 3
  or CHE 1153 Principles of Chemistry II
- 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
  or CHE 3673 Organic Chemistry II with Biological Applications 7

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

Total Credit Hours: 23

To declare a Minor in Chemistry, obtain advice, or seek approval of substitutions for course requirements, students should consult the undergraduate advisor in the College of Sciences Undergraduate Advising Center.

Chemistry (CHE) Courses
Department of Chemistry, College of Sciences

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.

CHE 1004. Chemistry for Allied Health Sciences. (3-3) 4 Credit Hours.
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.).

CHE 1014. Elementary Organic and Biochemistry. (3-3) 4 Credit Hours.
Prerequisite: A grade of “C-” or better in CHE 1003 (previous catalog) or CHE 1004. 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.).

CHE 1033. Chemistry in Our Daily Lives: A Pathway. (3-0) 3 Credit Hours. (TCCN = CHEM 1305)
An introduction to essential chemical principles including atomic structure, organic and inorganic compounds, types of chemical reactions, and elementary stoichiometry, among others. The interpretation and evaluation of case studies will be used to develop fundamental knowledge and skills. For nonscience majors only. This course requires a fair amount of writing. May apply toward the Core Curriculum requirement in Life and Physical Sciences.

CHE 1073. Basic Chemistry. (3-0) 3 Credit Hours. (TCCN = CHEM 1305)
Prerequisite: Grade of “C-” or better in MAT 1073 or concurrent enrollment. A one-semester preparatory course covering some basic concepts of inorganic chemistry, atomic-molecular structure, and related mathematics. May not be applied to a B.S. or B.A. in Chemistry.
CHE 1103. General Chemistry I. (3-0) 3 Credit Hours. (TCCN = CHEM 1311)
Prerequisites: Passing grade on Chemistry Placement Examination or grade of “C-” or better in CHE 1073, and completion of MAT 1073 with a grade of “C-” or better. 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. Concurrent enrollment in CHE 1121 is recommended. Credit cannot be earned for both CHE 1103 and CHE 1143.

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.

CHE 1120. General Chemistry I Laboratory (lecture component). (0-0) 0 Credit Hours.
Must be taken concurrently with CHE 1121 General Chemistry I Laboratory.

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). 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.

CHE 1130. General Chemistry II Laboratory (lecture component). (0-0) 0 Credit Hours.
Must be taken concurrently with CHE 1131 General Chemistry II Laboratory.

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). Techniques of qualitative and quantitative chemical analysis, illustrated primarily via inorganic chemical systems and their reactions. Laboratory to accompany CHE 1113 and CHE 1153. 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.

CHE 1143. Principles of Chemistry I. (3-0) 3 Credit Hours. (TCCN = CHEM 1311)
Prerequisites: A score of 60% or higher on the Chemistry Placement Examination, or a grade of “B-” or better in CHE 1073 and a grade of “B-” or better in MAT 1073, or admission through the Honors College. The first of a two-part introduction to the chemical sciences for chemistry majors and other students interested in the chemical sciences. An introduction to chemical reactions and atomic-molecular structure, including chemical formulas and stoichiometry, the periodic system of elements, electrons in atoms, valency, chemical bonding, states of matter, solutions, chemical equilibrium, and acids and bases. (Same as CHE 1103. Credit cannot be earned for both CHE 1103 and CHE 1143.

CHE 1153. Principles of Chemistry II. (3-0) 3 Credit Hours. (TCCN = CHEM 1312)
Prerequisites: A grade of “C-” or better in CHE 1143 or a grade of “B-” or better in CHE 1103. A continuation of CHE 1143 for chemistry majors and other students interested in the chemical sciences. Topics
include oxidation-reduction reactions, solubility, coordination complexes, thermochemistry and thermodynamics, electrochemistry, chemical kinetics, and nuclear chemistry. (Same as CHE 1113. Credit cannot be earned for both CHE 1113 and CHE 1153.).

**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). An elementary study of structure, stereochemistry, reactions, and reaction mechanisms associated with organic compounds. Primarily for chemistry, premed, and science majors. Discussion and practice of problems amplifying and clarifying the course. (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, or CHE 2604.).

**CHE 2610. Organic Chemistry I Laboratory (lecture component). (0-0) 0 Credit Hours.**
Must be taken concurrently with Organic Chemistry I Laboratory.

**CHE 2612. Organic Chemistry I Laboratory. (1-4) 2 Credit Hours. (TCCN = CHEM 2223)**
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.).

**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).

**CHE 3214. Analytical Chemistry. (2-5) 4 Credit Hours.**
Prerequisites: A grade of “C-” or better in CHE 1113 (or CHE 1153) 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.).

**CHE 3464. Descriptive Inorganic Chemistry. (3-3) 4 Credit Hours.**
Prerequisites: A grade of “C-” or better in CHE 1113 (or CHE 1153) and CHE 1131. Corequisite: 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.).
CHE 3643. Organic Chemistry II. (3-0) 3 Credit Hours.
Prerequisite: A grade of “C-” or better in CHE 2603. Continuing study of fundamentals of structure, reactions, and reaction mechanisms of phosphorus and sulfur; polyfunctional organic compounds. A continuation of CHE 2603. (Formerly CHE 2303 and CHE 2623. Credit cannot be earned for more than one of the following: CHE 2303, CHE 2623, or CHE 3643.).

CHE 3650. Organic Chemistry II Laboratory (lecture component). (0-0) 0 Credit Hours.
Must be taken concurrently with Organic Chemistry II Laboratory.

CHE 3652. Organic Chemistry II Laboratory. (1-4) 2 Credit Hours.
Prerequisites: Grades of “C-” or better in CHE 2603 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.).

CHE 3673. Organic Chemistry II with Biological Applications. (3-0) 3 Credit Hours.
Prerequisite: A grade of “C-” or better in CHE 2603. Continuing study of fundamentals of structure, mechanism, and reactivity including those in aqueous media and complex biological macromolecules. A continuation of CHE 2603 with emphasis in topics relevant to biology. Chemistry B.S. majors may not substitute this course for CHE 3643. Credit cannot be earned for more than one of the following: CHE 2303, CHE 2623, CHE 3643, or CHE 3673.).

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), 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.”).

CHE 3824. Physical Chemistry II and Laboratory. (3-3) 4 Credit Hours.
Prerequisites: A grade of “C-” or better in CHE 3804, 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.”).

CHE 3854. Basic Biophysical Chemistry. (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.
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.).

CHE 4303. Biochemistry. (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; lipids and membranes. (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.).

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.).

CHE 4473. Bioinorganic Chemistry. (3-0) 3 Credit Hours.
Prerequisites: Grades of “C-” or better in CHE 3464, CHE 3804 (or CHE 3854), and either CHE 4303 or CHE 4463 (or concurrent enrollment in either CHE 4303 or CHE 4463), or consent of instructor. Study of the functions, reaction sites, mechanisms, molecular architecture, and medicinal aspects of metal ions in biological systems, including bio-organometallic compounds. A discussion of the experimental techniques will be included.

CHE 4623. Chemistry of Heterocyclic Compounds. (3-0) 3 Credit Hours.
Prerequisite: A grade of “C-” or better in CHE 3643 or consent of instructor. The chemistry of nitrogen, oxygen, and sulfur heterocycles. Five- and six-membered ring systems with one or more heteroatoms. Applications in the field of synthetic drugs. (Formerly CHE 4403. Credit cannot be earned for both CHE 4623 and CHE 4403.).

CHE 4673. Physical Organic Chemistry. (3-0) 3 Credit Hours.
Prerequisite: A grade of “C-” or better in CHE 3643, or consent of instructor. The study of the relation between structure of carbon compounds and their reactivity and properties: molecular orbital theory and its applications to aromaticity and pericyclic reactions, stereochemistry and conformational analysis, thermodynamic and kinetic data, linear free energy relationships, isotope effects, and catalysis. (Formerly titled “Physical Organic Chemistry.”).

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.
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.)

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.

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.

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.

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.

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.

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.

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.
DEPARTMENT OF COMPUTER SCIENCE

The Department of Computer Science offers a Bachelor of Science degree in Computer Science and a Minor in Computer Science.

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. All applicants for admission to the Department of Computer Science will be admitted to the Department as pre-computer science (PCS) students. In order to declare Computer Science as a major, a PCS student must satisfy the following criteria.

- Completion with a grade of "C–" or better of MAT 1214 Calculus I
- Completion with a grade of "C–" or better of CS 1713 Introduction to Computer Programming II and CS 1711 Introduction to Computer Programming II Recitation

A PCS student who fails to complete the criteria to change the major to CS within two years from the date of admission to the Department of Computer Science will be changed from PCS 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.

Bachelor of Science Degree in Computer Science

The Bachelor of Science 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 Computer and Information Security and Software Engineering.

The Bachelor of Science 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 Bachelor of Science 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. For a complete listing of courses that satisfy the Core Curriculum requirements, see chapter 1 of this catalog.

MAT 1214 may be used to satisfy the core requirement in Mathematics as well as a major requirement.
Degree Requirements

A. Required courses (this also satisfies the 3 hours of Core Curriculum requirements for Mathematics):

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 1063</td>
<td>Introduction to Computer Programming I</td>
<td>3</td>
</tr>
<tr>
<td>CS 1713</td>
<td>Introduction to Computer Programming II</td>
<td>4</td>
</tr>
<tr>
<td>&amp; CS 1711</td>
<td>and Introduction to Computer Programming II Recitation</td>
<td></td>
</tr>
<tr>
<td>CS 2123</td>
<td>Data Structures</td>
<td>4</td>
</tr>
<tr>
<td>&amp; CS 2121</td>
<td>and Data Structures Recitation</td>
<td></td>
</tr>
<tr>
<td>CS 2233</td>
<td>Discrete Mathematical Structures</td>
<td>3</td>
</tr>
<tr>
<td>CS 3333</td>
<td>Mathematical Foundations of Computer Science</td>
<td>3</td>
</tr>
<tr>
<td>CS 3343</td>
<td>Analysis of Algorithms</td>
<td>4</td>
</tr>
<tr>
<td>&amp; CS 3341</td>
<td>and Analysis of Algorithms Recitation</td>
<td></td>
</tr>
<tr>
<td>CS 3423</td>
<td>Systems Programming</td>
<td>4</td>
</tr>
<tr>
<td>&amp; CS 3421</td>
<td>and Systems Programming Recitation</td>
<td></td>
</tr>
<tr>
<td>CS 3443</td>
<td>Application Programming</td>
<td>3</td>
</tr>
<tr>
<td>CS 3723</td>
<td>Programming Languages</td>
<td>3</td>
</tr>
<tr>
<td>CS 3733</td>
<td>Operating Systems</td>
<td>4</td>
</tr>
<tr>
<td>&amp; CS 3731</td>
<td>and Operating Systems Recitation</td>
<td></td>
</tr>
<tr>
<td>CS 3843</td>
<td>Computer Organization</td>
<td>4</td>
</tr>
<tr>
<td>&amp; CS 3841</td>
<td>and Computer Organization Recitation</td>
<td></td>
</tr>
<tr>
<td>CS 3853</td>
<td>Computer Architecture</td>
<td>4</td>
</tr>
<tr>
<td>&amp; CS 3851</td>
<td>and Computer Architecture Recitation</td>
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<tr>
<td>MAT 1214</td>
<td>Calculus I (The student who is not prepared for MAT 1214 must take MAT 1093 Pre calculus.)</td>
<td>4</td>
</tr>
<tr>
<td>MAT 1224</td>
<td>Calculus II</td>
<td>4</td>
</tr>
</tbody>
</table>

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 Computer and Information Security

All candidates for the Concentration in Computer and Information Security 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 three courses:
CS 3433 Principles of Computer and Information Security 3
CS 4353 Unix and Network Security 3
CS 4363 Cryptography 3

Total Credit Hours: 9

Concentration in Software Engineering

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
Select two of the following: 6
CS 4393 User Interfaces
CS 4723 Software Validation and Quality Assurance
CS 4733 Project Management
CS 4743 Applied Software Engineering
CS 4773 Object-Oriented Systems

Total Credit Hours: 9

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 advisors in the College of Sciences Undergraduate Advising Center 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 – Recommended Four-Year Academic Plan

First Year

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIS 1203</td>
<td>Academic Inquiry and Scholarship (core) 3</td>
</tr>
<tr>
<td>CS 1063</td>
<td>Introduction to Computer Programming I 3</td>
</tr>
<tr>
<td>MAT 1214</td>
<td>Calculus I (core and major ) 4</td>
</tr>
<tr>
<td>WRC 1013</td>
<td>Freshman Composition I (core) 3</td>
</tr>
<tr>
<td>Creative Arts core</td>
<td>3</td>
</tr>
</tbody>
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Spring

| CS 1713 & CS 1711     | Introduction to Computer Programming II 4 |
| MAT 1224              | Calculus II 4 |
| POL 1133              | Texas Politics and Society (core) 3 |

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### Second Year

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>WRC 1023</td>
<td>Freshman Composition II (core)</td>
<td>3</td>
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#### Fall

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>CS 2123</td>
<td>Data Structures</td>
<td>4</td>
</tr>
<tr>
<td>&amp; CS 2121</td>
<td></td>
<td></td>
</tr>
<tr>
<td>POL 1013</td>
<td>Introduction to American Politics (core)</td>
<td>3</td>
</tr>
<tr>
<td>Free elective</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Life &amp; Physical Sciences core</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Social &amp; Behavioral Sciences core</td>
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#### Spring

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
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<tbody>
<tr>
<td>CS 2233</td>
<td>Discrete Mathematical Structures</td>
<td>3</td>
</tr>
<tr>
<td>CS 3333</td>
<td>Mathematical Foundations of Computer Science</td>
<td>3</td>
</tr>
<tr>
<td>CS 3443</td>
<td>Application Programming</td>
<td>3</td>
</tr>
<tr>
<td>Life &amp; Physical Sciences core</td>
<td></td>
<td>3</td>
</tr>
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<td>Free elective</td>
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### Third Year

#### Fall

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<tr>
<td>CS 3423</td>
<td>Systems Programming</td>
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<tr>
<td>&amp; CS 3421</td>
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<tr>
<td>CS 3723</td>
<td>Programming Languages</td>
<td>3</td>
</tr>
<tr>
<td>CS 3843</td>
<td>Computer Organization</td>
<td>4</td>
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<tr>
<td>&amp; CS 3841</td>
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<tr>
<td>Upper-division CS elective</td>
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#### Spring

<table>
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<tr>
<th>Course Code</th>
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<th>Credits</th>
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<tbody>
<tr>
<td>CS 3343</td>
<td>Analysis of Algorithms</td>
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<tr>
<td>CS 3733</td>
<td>Operating Systems</td>
<td>4</td>
</tr>
<tr>
<td>&amp; CS 3731</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CS 3853</td>
<td>Computer Architecture</td>
<td>4</td>
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<tr>
<td>&amp; CS 3851</td>
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<tr>
<td>Upper-division CS elective</td>
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</table>

### Fourth Year

#### Fall

<table>
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<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>American History core</td>
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<tr>
<td>Component Area Option core</td>
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<tr>
<td>Upper-division CS elective</td>
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<tr>
<td>Upper-division CS elective</td>
<td>3</td>
</tr>
<tr>
<td>Upper-division CS elective</td>
<td>3</td>
</tr>
</tbody>
</table>
Spring
American History core 3
Language, Philosophy & Culture core 3
Upper-division CS elective 3
Upper-division CS elective 3
Upper-division CS elective 3

Total Credit Hours: 120.0

1 CS 3773 must be taken for Software Engineering concentration.

Note: Some courses are only offered once a year; Fall or Spring. Check with the Department of Computer Science for scheduling of courses.

Minor in Computer Science

All students pursuing the Minor in Computer Science must complete 20 semester credit hours.

A. Required courses
CS 1063 Introduction to Computer Programming I 3
CS 1713 Introduction to Computer Programming II 4
& CS 1711 Introduction to Computer Programming II Recitation
CS 2123 Data Structures 4
& CS 2121 Data Structures Recitation

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 the College of Sciences Undergraduate Advising Center.

Computer Science (CS) Courses

Department of Computer Science, College of Sciences

NOTE: All prerequisites for Computer Science (CS) courses must be completed with a grade of “C−” or better.

CS 1023. Cultural Implications of the Information Society. (3-0) 3 Credit Hours. (TCCN = COSC 1300)
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. May be applied toward the core curriculum requirement in World Society and Issues.
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.).

CS 1063. Introduction to Computer Programming I. (3-0) 3 Credit Hours. (TCCN = COSC 1336)
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.

CS 1073. Introductory Computer Programming for Scientific Applications. (3-0) 3 Credit Hours.
Prerequisite: MAT 1073 or the equivalent. Introductory programming. Data representation, problem-solving methods, algorithm development and implementation, arrays and list structures, searching and sorting. May not be applied toward a major in computer science.

CS 1143. Web Design. (3-0) 3 Credit Hours.
Prerequisite: Computer literacy. Introduction to the process of planning, designing, and building a Web site. Concepts required to design and build interactive Web sites, including page design using XHTML, tables, CSS, and JavaScript. Design tools will be used to design and maintain Web sites.

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.

CS 1173. Data Analysis and Visualization using MATLAB. (3-0) 3 Credit Hours.
Prerequisite: MAT 1023. Introduction to computation for data analysis and visualization using MATLAB. 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 Core Curriculum requirement in the Component Area Option. (Formerly titled “Computation for Scientists and Engineers.”).

CS 1711. Introduction to Computer Programming II Recitation. (1-0) 1 Credit Hour. (TCCN = COSC 1437)
Prerequisite: CS 1063. Concurrent enrollment in CS 1713 is required. Recitation to accompany CS 1713. (Formerly titled “Introduction to Computer Science Recitation.”).

CS 1713. Introduction to Computer Programming II. (3-0) 3 Credit Hours. (TCCN = COSC 1437)
Prerequisite: CS 1063. Concurrent enrollment in CS 1711 is required. Extended programming concepts including multidimensional arrays, pointers, dynamic memory allocation/deallocation and recursion. Problem solving methods, algorithm development and implementation. (Formerly titled “Introduction to Computer Science.”).

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.

CS 2121. Data Structures Recitation. (1-0) 1 Credit Hour. (TCCN = COSC 2436)
Prerequisites: CS 1711 and CS 1713. Concurrent enrollment in CS 2121 is required. Recitation to accompany CS 2123. (Formerly CS 1721. Credit cannot be earned for both CS 2121 and CS 1721.).

CS 2123. Data Structures. (3-0) 3 Credit Hours. (TCCN = COSC 2436)
Prerequisites: CS 1711 and CS 1713. Concurrent enrollment in CS 2121 is required. 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. (Formerly CS 1723. Credit cannot be earned for both CS 2123 and CS 1723.).

CS 2153. Game Design. (3-0) 3 Credit Hours.
Prerequisites: CS 1153. This course builds upon the lessons learned in CS 1153 Game Programming to examine in more detail the design and development of electronic games. The fundamentals of game design and development of electronic games. The fundamentals of game design will be examined in detail and the students will be responsible for building a game using a popular game engine.

CS 2233. Discrete Mathematical Structures. (3-0) 3 Credit Hours. (TCCN = MATH 2405)
Prerequisites: CS 1711, CS 1713, and MAT 1214. 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.).

CS 3333. Mathematical Foundations of Computer Science. (3-0) 3 Credit Hours.
Prerequisites: CS 1711, CS 1713, and MAT 1224. Survey and development of mathematical and statistical tools suitable for describing algorithmic applications. Vectors, matrices, combinatorics, probability and statistical models.

CS 3341. Analysis of Algorithms Recitation. (1-0) 1 Credit Hour.
Prerequisites: CS 2121, CS 2123, CS 2233, and CS 3333. Concurrent enrollment in CS 3343 is required. Recitation to accompany CS 3343.

CS 3343. Analysis of Algorithms. (3-0) 3 Credit Hours.
Prerequisites: CS 2121, CS 2123, CS 2233, and CS 3333. Concurrent enrollment in CS 3341 is required. Analysis of the performance of algorithms; discussion of programming techniques and data structures used in the writing of effective algorithms.

CS 3421. Systems Programming Recitation. (1-0) 1 Credit Hour.
Prerequisites: CS 2121 and CS 2123. Concurrent enrollment in CS 3423 is required. Recitation to accompany CS 3423. (Formerly CS 2411. Credit cannot be earned for both CS 3421 and CS 2411.).

CS 3423. Systems Programming. (3-0) 3 Credit Hours.
Prerequisites: CS 2121 and CS 2123. Concurrent enrollment in CS 3421 is required. 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. (Formerly CS 2413. Credit cannot be earned for both CS 3423 and CS 2413.).
CS 3433. Principles of Computer and Information Security. (3-0) 3 Credit Hours.
Prerequisites: CS 3421 and CS 3423. 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.

CS 3443. Application Programming. (3-0) 3 Credit Hours.
Prerequisites: CS 2121 and CS 2123. Advanced application development in a current object-oriented language. Introduction to the software life cycle, best programming practices, and modern development tools.

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.

CS 3731. Operating Systems Recitation. (1-0) 1 Credit Hour.
Prerequisites: CS 3421, CS 3423, CS 3443, CS 3841, and CS 3843. Concurrent enrollment in CS 3733 is required. Recitation to accompany CS 3733.

CS 3733. Operating Systems. (3-0) 3 Credit Hours.
Prerequisites: CS 3421, CS 3423, CS 3443, CS 3841, and CS 3843. Concurrent enrollment in CS 3731 is required. 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.

CS 3743. Introduction to Database Systems. (3-0) 3 Credit Hours.
Prerequisites: CS 2233, CS 3421, and CS 3423. 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.

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.

CS 3793. Introduction to Artificial Intelligence. (3-0) 3 Credit Hours.
Prerequisites: CS 3341 and CS 3343. Discussion of theorem-proving by machine; includes computational linguistics, psychological modeling, and computer games.

CS 3841. Computer Organization Recitation. (1-0) 1 Credit Hour.
Prerequisites: CS 2121 and CS 2123. Concurrent enrollment in CS 3843 is required. Recitation to accompany CS 3843. (Formerly CS 2731. Credit cannot be earned for both CS 3841 and CS 2731.)
CS 3843. Computer Organization. (3-0) 3 Credit Hours.
Prerequisites: CS 2121 and CS 2123. Concurrent enrollment in CS 3841 is required. 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. (Formerly CS 2733. Credit cannot be earned for both CS 3843 and CS 2733.).

CS 3851. Computer Architecture Recitation. (1-0) 1 Credit Hour.
Prerequisites: CS 3421, CS 3423, CS 3841, and CS 3843. Concurrent enrollment in CS 3853 is required. Recitation to accompany CS 3853. (Formerly CS 4751. Credit cannot be earned for both CS 3851 and CS 4751.).

CS 3853. Computer Architecture. (3-0) 3 Credit Hours.
Prerequisites: CS 3421, CS 3423, CS 3841, and CS 3843. Concurrent enrollment in CS 3851 is required. 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.).

CS 3873. Computer Networks. (3-0) 3 Credit Hours.
Prerequisites: CS 3841 and CS 3843. 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.).

CS 4213. Computing for Bioinformatics. (3-0) 3 Credit Hours.
Prerequisite: CS 1173 or another programming course. Emphasizes computing tasks common in bioinformatics: variables, flow control, input/output, strings, pattern matching, arrays, hash tables, functions, access to databases, and parsing data from queries for common bioinformatics tasks. SQL, XML, and BioPerl. May not be applied to the 24 hours of required electives for computer science majors, but may be included for a computer science minor.

CS 4313. Automata, Computability, and Formal Languages. (3-0) 3 Credit Hours.
Prerequisites: CS 3341 and 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.

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.

CS 4363. Cryptography. (3-0) 3 Credit Hours.
Prerequisites: CS 3341, CS 3343, and 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.
CS 4383. Computer Graphics. (3-0) 3 Credit Hours.
Prerequisites: CS 2121, CS 2123, CS 3341, 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.

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.

CS 4413. Web Technologies. (3-0) 3 Credit Hours.
Prerequisites: CS 3421 and CS 3423. Fundamentals of Web and component technology: markup languages, layout design, client and server side programming, database and Web integration.

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.

CS 4633. Simulation. (3-0) 3 Credit Hours.
Prerequisites: CS 3341 and CS 3343. Design, execution, and analysis of simulation models, discrete event simulation techniques, input and output analysis, random numbers, and simulation tools and languages.

CS 4713. Compiler Construction. (3-0) 3 Credit Hours.
Prerequisites: CS 3341, CS 3343, CS 3841, and CS 3843. 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.”)

CS 4723. Software Validation and Quality Assurance. (3-0) 3 Credit Hours.
Prerequisite: CS 3443. 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.

CS 4733. Project Management. (3-0) 3 Credit Hours.
Prerequisite: CS 3443. Introduction to principles and best practices for software project management. Topics include software process models, capability maturity model, metrics, cost estimation, software project planning, risk management, software configuration management, people management, and software management CASE tools.

CS 4743. Applied Software Engineering. (3-0) 3 Credit Hours.
Prerequisite: CS 3443. Introduction to principles and best practices for the development of software systems. Application of software engineering knowledge of process models, methods, and tools to the design, implementation, and testing of team-based software products.

CS 4763. Multimedia Systems. (3-0) 3 Credit Hours.
Prerequisites: CS 3731 and CS 3733. Multimedia hardware capabilities. Sound and video generation and editing. Multimedia applications development and toolkits. Analysis of operational characteristics of multimedia systems.
CS 4773. Object-Oriented Systems. (3-0) 3 Credit Hours.
Prerequisite: CS 3443. 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.

CS 4823. Introduction to Parallel Programming. (3-0) 3 Credit Hours.
Prerequisites: CS 3341, CS 3343, CS 3421, and CS 3423. Parallel programming concepts (partitioning, synchronization and communication, programming models-shared memory based and message based), programming tools and languages, performance issues.

CS 4833. Embedded Systems. (3-0) 3 Credit Hours.
Prerequisites: CS 3341, CS 3343, CS 3731, CS 3733, CS 3851, and CS 3853. 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.

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.

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).

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.

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.
DEPARTMENT OF GEOLOGICAL SCIENCES

The degree programs offered by the Department of Geological Sciences—a Bachelor of Science degree in Multidisciplinary Science, or Geology, a Bachelor of Science degree in Geology, a Bachelor of Arts degree in Geology, and a Minor in Geology—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 geology. 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.

Bachelor of Science Degree in Multidisciplinary Science

The Bachelor of Science degree in Multidisciplinary Science (MDS) is designed for future scientists or future secondary science teachers, and gives students broad training across the sciences. The MDS degree, coupled with a concentration at the upper-division level in a single science field (major requirements A and B(2), below), is ideal for future scientists interested in an interdisciplinary approach in science. The MDS degree also 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 (major requirements A and B(1), below). Students seeking teacher certification should contact the COEHD 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 Bachelor of Science 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. For a complete listing of courses that satisfy the Core Curriculum requirements, see chapter 1 of this catalog.

The core requirements in Mathematics and Life and Physical Sciences are automatically fulfilled in obtaining a B.S. degree in Multidisciplinary Science.

Degree Requirements

A. Required science courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>AST 1013</td>
<td>Introduction to Astronomy</td>
<td>3</td>
</tr>
<tr>
<td>BIO 1122</td>
<td>Laboratory Investigations in Biology</td>
<td>2</td>
</tr>
<tr>
<td>BIO 1404</td>
<td>Biosciences I</td>
<td>4</td>
</tr>
<tr>
<td>BIO 1413</td>
<td>Biosciences II</td>
<td>3</td>
</tr>
<tr>
<td>BIO 2313</td>
<td>Genetics</td>
<td>3</td>
</tr>
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<td>Course Code</td>
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</tr>
<tr>
<td>BIO 3283</td>
<td>Principles of Ecology</td>
<td>5</td>
</tr>
<tr>
<td>&amp; BIO 3292</td>
<td>and Principles of Ecology Laboratory</td>
<td></td>
</tr>
<tr>
<td>BIO 3323</td>
<td>Evolution</td>
<td>3</td>
</tr>
<tr>
<td>BIO 3413</td>
<td>Advanced Physiology</td>
<td>3</td>
</tr>
<tr>
<td>CHE 1103</td>
<td>General Chemistry I</td>
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<tr>
<td>&amp; CHE 1121</td>
<td>and General Chemistry I Laboratory</td>
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<tr>
<td>CHE 1113</td>
<td>General Chemistry II</td>
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<tr>
<td>&amp; CHE 1131</td>
<td>and General Chemistry II Laboratory</td>
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<tr>
<td>CHE 3214</td>
<td>Analytical Chemistry</td>
<td>4</td>
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<tr>
<td>GEO 1103</td>
<td>Physical Geology</td>
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<tr>
<td>&amp; GEO 1111</td>
<td>and Physical Geology Laboratory</td>
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<tr>
<td>GEO 3004</td>
<td>Rocks, Fossils, and Global Tectonics</td>
<td>4</td>
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<tr>
<td>GEO 3163</td>
<td>Oceanography</td>
<td>3</td>
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<tr>
<td>MAT 1093</td>
<td>Precalculus</td>
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<tr>
<td>PHY 3003</td>
<td>Current Research Topics in Physics</td>
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</tr>
<tr>
<td>STA 1053</td>
<td>Basic Statistics</td>
<td>3</td>
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</table>

Select one of the following options: 8

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

Total Credit Hours: 66

1 Note that the prerequisites for Physics for Scientists are Calculus I and II (MAT 1214 Calculus I and MAT 1224 Calculus II). These can be included among the elective courses in sciences and mathematics.

**MDS degree with Certification (composite science emphasis)**

B(1). Electives to satisfy certification requirements

- C&I 4203 Models of Teaching in the Content Areas of the Secondary School 3
- C&I 4646 Student Teaching: Grades 8–12 6
- EDP 3203 Learning and Development in the Secondary School Adolescent 3
- EDP 4203 Assessment and Evaluation 3
MDS degree without Certification:

B(2). Approved electives in geology, biology, chemistry, physics, environmental science, and/or mathematics

Select 21 semester credit hours of approved electives in geology, biology, chemistry, physics, environmental science, and/or mathematics, including a sufficient number of upper-division hours to meet the UTSA minimum of 39 upper-division hours.

Total Credit Hours: 21

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. Noncertification-seeking students should, at a minimum, pursue a minor in any one or more science. 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.

Course Sequence Guide for B.S. Degree in Multidisciplinary Science (without teacher certification)

This course sequence guide is designed to assist students in completing their UTSA undergraduate Multidisciplinary Science degree requirements. This is merely a guide and students must satisfy other requirements of this catalog and meet with advisors in the College of Sciences Undergraduate Advising Center 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 Science – Recommended Four-Year Academic Plan

First Year

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIS 1203 Academic Inquiry and Scholarship (core)</td>
<td>3</td>
</tr>
<tr>
<td>GEO 1103 Physical Geology &amp; GEO 1111</td>
<td>4</td>
</tr>
<tr>
<td>MAT 1093 Precalculus (core and major)</td>
<td>3</td>
</tr>
<tr>
<td>STA 1053 Basic Statistics</td>
<td>3</td>
</tr>
<tr>
<td>WRC 1013 Freshman Composition I (core)</td>
<td>3</td>
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<tr>
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<tbody>
<tr>
<td>BIO 1122 Laboratory Investigations in Biology</td>
<td>2</td>
</tr>
<tr>
<td>BIO 1404 Biosciences I (core and major)</td>
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</tr>
<tr>
<td>Course</td>
<td>Title</td>
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<tr>
<td>--------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>CHE 1103</td>
<td>General Chemistry I (^1)</td>
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<tr>
<td>&amp; CHE 1121</td>
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<tr>
<td>WRC 1023</td>
<td>Freshman Composition II (core)</td>
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<td>Creative Arts core</td>
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**Second Year**

**Fall**

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<td>General Chemistry II (^1)</td>
<td>4</td>
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<tr>
<td>&amp; CHE 1131</td>
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<td></td>
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<tr>
<td>POL 1013</td>
<td>Introduction to American Politics (core)</td>
<td>3</td>
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<tr>
<td>Language, Philosophy &amp; Culture core</td>
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<td>3</td>
</tr>
<tr>
<td>Social &amp; Behavioral Sciences core</td>
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<td>3</td>
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**Spring**

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<tr>
<td>GEO 3163</td>
<td>Oceanography</td>
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<td>American History core</td>
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**Third Year**

**Fall**

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<td>Select one of the following:</td>
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<td>PHY 1603</td>
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<tr>
<td>PHY 1943</td>
<td>Physics for Scientists and Engineers I</td>
<td>4</td>
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<tr>
<td>&amp; PHY 1951</td>
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**Spring**

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<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
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<tbody>
<tr>
<td>GEO 3004</td>
<td>Rocks, Fossils, and Global Tectonics</td>
<td>4</td>
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<tr>
<td>Approved elective (^2)</td>
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<td>3</td>
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<tr>
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<td>3</td>
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<tr>
<td>Select one of the following:</td>
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<tr>
<td>PHY 1623</td>
<td>Algebra-based Physics II</td>
<td>4</td>
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<tr>
<td>&amp; PHY 1631</td>
<td></td>
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</tr>
<tr>
<td>PHY 1963</td>
<td>Physics for Scientists and Engineers II</td>
<td>4</td>
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<td>&amp; PHY 1971</td>
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Fourth Year

<table>
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<tr>
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<tbody>
<tr>
<td>Fall</td>
<td>PHY 3003</td>
<td>Current Research Topics in Physics</td>
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<tr>
<td></td>
<td>POL 1133</td>
<td>Texas Politics and Society (core)</td>
<td>3</td>
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<td></td>
<td>American History core</td>
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<tr>
<td></td>
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</tr>
<tr>
<td></td>
<td>Approved elective ²</td>
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<tr>
<td>Spring</td>
<td>BIO 3413</td>
<td>Advanced Physiology</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Approved elective ²</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Approved elective ²</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Component Area Option core</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

Total Credit Hours: 120.0

¹ These laboratory courses include a lecture component as indicated on the University Schedule of Classes.
² Approved Electives in BIO, CHE, GEO, PHY, ES, and/or MAT.

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 Science Degree in Geology

The Bachelor of Science degree in Geology provides opportunities to prepare for careers in the geosciences (for example, earth resources exploration and development, water resources, environmental assessment and remediation, engineering geology, geochemistry, and geophysics) 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 Bachelor of Science degree in Geology 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. For a complete listing of courses that satisfy the Core Curriculum requirements, see chapter 1 of this catalog.

The core requirements in Mathematics and Life and Physical Sciences are automatically fulfilled in obtaining a B.S. degree in Geology.
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  
Petroleum  
and Petroleum Laboratory  
4

GEO 3063  
& GEO 3071  
Paleontology  
and Paleontology Laboratory  
4

GEO 3103  
& GEO 3111  
Structural Geology  
and Structural Geology Laboratory  
4

GEO 3112  
Geologic Field Investigations  
2

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 21 additional semester credit hours from the following. Students should meet with the College of Sciences Advising Center and/or a member of the Department of Geological Sciences to verify that they have taken the necessary prerequisites.

GEO 3143  
& GEO 3151  
Economic Geology  
and Economic Geology Laboratory  
21

GEO 3163  
Oceanography  

GEO 3374  
Geochemistry  

GEO 3383  
General Geophysics  

GEO 3393  
Introduction to Isotope Geochemistry  

GEO 4013  
Volcanology  

GEO 4023  
Engineering Geology  

GEO 4063  
Environmental Geology  

GEO 4093  
Principles of Remote Sensing  

GEO 4113  
Geomorphology  
& GEO 4121  
and Geomorphology Laboratory  

GEO 4623  
Ground-Water Hydrology  

GEO 4911  
Independent Study  

GEO 4951  
Special Studies in Geology
GEO 4993  Honors Research

B. Courses within the College of Science

CHE 1103  General Chemistry I 4
& CHE 1121  and General Chemistry I Laboratory
CHE 1113  General Chemistry II 4
& CHE 1131  and General Chemistry II Laboratory
CS 1173  Data Analysis and Visualization using MATLAB 3
MAT 1214  Calculus I 4
MAT 1224  Calculus II 4

Select 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

Total Credit Hours: 87

Course Sequence Guide for B.S. Degree in Geology

This course sequence guide is designed to assist students in completing their UTSA undergraduate Geology degree requirements. This is merely a guide and students must satisfy other requirements of this catalog and meet with advisors in the College of Sciences Undergraduate Advising Center 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 Geology – Recommended Four-Year Academic Plan

First Year

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>CHE 1103</td>
<td>General Chemistry I (^1) 4</td>
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<tr>
<td>&amp; CHE 1121</td>
<td></td>
</tr>
<tr>
<td>GEO 1103</td>
<td>Physical Geology 4</td>
</tr>
<tr>
<td>&amp; GEO 1111</td>
<td></td>
</tr>
<tr>
<td>MAT 1214</td>
<td>Calculus I (core and major) 4</td>
</tr>
<tr>
<td>WRC 1013</td>
<td>Freshman Composition I (core) 3</td>
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### Spring

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>CHE 1113</td>
<td>General Chemistry II</td>
<td>4</td>
</tr>
<tr>
<td>&amp; CHE 1131</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CS 1173</td>
<td>Data Analysis and Visualization using MATLAB</td>
<td>3</td>
</tr>
<tr>
<td>GEO 1123</td>
<td>Life Through Time</td>
<td>4</td>
</tr>
<tr>
<td>&amp; GEO 1131</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MAT 1224</td>
<td>Calculus II</td>
<td>4</td>
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### Second Year

#### Fall

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIS 1203</td>
<td>Academic Inquiry and Scholarship (core)</td>
<td>3</td>
</tr>
<tr>
<td>GEO 2003</td>
<td>Mineralogy</td>
<td>4</td>
</tr>
<tr>
<td>&amp; GEO 2011</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GEO 3112</td>
<td>Geologic Field Investigations</td>
<td>2</td>
</tr>
<tr>
<td>WRC 1023</td>
<td>Freshman Composition II (core)</td>
<td>3</td>
</tr>
</tbody>
</table>

Select one of the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHY 1943</td>
<td>Physics for Scientists and Engineers I</td>
<td>4</td>
</tr>
<tr>
<td>&amp; PHY 1951</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHY 1603</td>
<td>Algebra-based Physics I</td>
<td>4</td>
</tr>
<tr>
<td>&amp; PHY 1611</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Spring

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEO 2113</td>
<td>Fundamentals of Geographic Information Systems (GIS)</td>
<td>3</td>
</tr>
<tr>
<td>GEO 3043</td>
<td>Petrology</td>
<td>4</td>
</tr>
<tr>
<td>&amp; GEO 3051</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Component Area Option core</td>
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<td>3</td>
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</table>

Select one of the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHY 1963</td>
<td>Physics for Scientists and Engineers II</td>
<td>4</td>
</tr>
<tr>
<td>&amp; PHY 1971</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHY 1623</td>
<td>Algebra-based Physics II</td>
<td>4</td>
</tr>
<tr>
<td>&amp; PHY 1631</td>
<td></td>
<td></td>
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</table>

### Third Year

#### Fall

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEO 3123</td>
<td>Sedimentation and Stratigraphy</td>
<td>4</td>
</tr>
<tr>
<td>&amp; GEO 3131</td>
<td></td>
<td></td>
</tr>
<tr>
<td>POL 1013</td>
<td>Introduction to American Politics (core)</td>
<td>3</td>
</tr>
<tr>
<td>Upper-division GEO elective</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Upper-division GEO elective</td>
<td></td>
<td>3</td>
</tr>
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</table>

#### Spring

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEO 3063</td>
<td>Paleontology</td>
<td>4</td>
</tr>
<tr>
<td>&amp; GEO 3071</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Bachelor of Arts Degree in Geology

The Bachelor of Arts degree in Geology 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 Bachelor of Arts degree in Geology 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. For a complete listing of courses that satisfy the Core Curriculum requirements, see chapter 1 of this catalog.

The core requirements in Mathematics and Life and Physical Sciences are automatically fulfilled in obtaining a B.A. degree in Geology.

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 courses from among the remaining GEO course offerings. Students should meet with the College of Sciences Advising Center and/or a member of the Department of Geological Sciences to verify that they have taken the necessary prerequisites.

B. Courses within the College of Science

   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
   or GEO 3374 Geochemistry 4
   MAT 1214 Calculus I 4
   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
C. Electives

Select 24 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

Total Credit Hours: 87

Course Sequence Guide for B.A. Degree in Geology

This course sequence guide is designed to assist students in completing their UTSA undergraduate Geology degree requirements. This is merely a guide and students must satisfy other requirements of this catalog and meet with advisors in the College of Sciences Undergraduate Advising Center 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 Geology – Recommended Four-Year Academic Plan

<table>
<thead>
<tr>
<th>First Year</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fall</strong></td>
<td></td>
</tr>
<tr>
<td>CHE 1103 &amp; CHE 1121</td>
<td>General Chemistry I ¹</td>
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<tr>
<td>GEO 1103 &amp; GEO 1111</td>
<td>Physical Geology</td>
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<tr>
<td>MAT 1214</td>
<td>Calculus I (core and major)</td>
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<tr>
<td>WRC 1013</td>
<td>Freshman Composition I (core)</td>
</tr>
<tr>
<td><strong>Spring</strong></td>
<td></td>
</tr>
<tr>
<td>AIS 1203</td>
<td>Academic Inquiry and Scholarship (core)</td>
</tr>
<tr>
<td>GEO 1123 &amp; GEO 1131</td>
<td>Life Through Time (core and major)</td>
</tr>
<tr>
<td>WRC 1023</td>
<td>Freshman Composition II (core)</td>
</tr>
<tr>
<td>Life &amp; Physical Sciences core</td>
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<tr>
<td>Creative Arts core</td>
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<table>
<thead>
<tr>
<th>Second Year</th>
<th>Credit Hours</th>
</tr>
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<tbody>
<tr>
<td><strong>Fall</strong></td>
<td></td>
</tr>
<tr>
<td>GEO 2003 &amp; GEO 2011</td>
<td>Mineralogy</td>
</tr>
<tr>
<td>CS 1173</td>
<td>Data Analysis and Visualization using MATLAB (or free elective) ³</td>
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<tr>
<td>Free elective</td>
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<tr>
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<td>CHE 1113 &amp; CHE 1131</td>
<td>General Chemistry II ¹</td>
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<tr>
<td>GEO 3374</td>
<td>Geochemistry ²</td>
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### Spring
<table>
<thead>
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<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>GEO 2113</td>
<td>Fundamentals of Geographic Information Systems (GIS)</td>
<td>3</td>
</tr>
<tr>
<td>GEO 3043</td>
<td>Petrology</td>
<td>4</td>
</tr>
<tr>
<td>&amp; GEO 3051</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHY 1603</td>
<td>Algebra-based Physics I</td>
<td>4</td>
</tr>
<tr>
<td>&amp; PHY 1611</td>
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<tr>
<td>Free elective</td>
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<td>3</td>
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### Third Year

#### Fall
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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>GEO 3123</td>
<td>Sedimentation and Stratigraphy</td>
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<tr>
<td>&amp; GEO 3131</td>
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</tr>
<tr>
<td>PHY 1623</td>
<td>Algebra-based Physics II</td>
<td>4</td>
</tr>
<tr>
<td>&amp; PHY 1631</td>
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<td></td>
</tr>
<tr>
<td>Language, Philosophy &amp; Culture core</td>
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<td>Upper-division GEO elective</td>
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#### Spring
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEO 3063</td>
<td>Paleontology</td>
<td>4</td>
</tr>
<tr>
<td>&amp; GEO 3071</td>
<td></td>
<td></td>
</tr>
<tr>
<td>POL 1013</td>
<td>Introduction to American Politics (core)</td>
<td>3</td>
</tr>
<tr>
<td>Upper-division GEO elective</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Upper-division GEO elective</td>
<td>3</td>
<td></td>
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<tr>
<td>Component Area Option core</td>
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### Fourth Year

#### Fall
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<td>3</td>
</tr>
<tr>
<td>Upper-division Free elective</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Upper-division GEO elective</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>American History core</td>
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#### Spring
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>POL 1133</td>
<td>Texas Politics and Society (core)</td>
<td>3</td>
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<td>American History core</td>
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<td>Social &amp; Behavioral Sciences core</td>
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<tr>
<td>Upper-division Free elective</td>
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<td>Upper-division GEO elective</td>
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<td>Upper-division GEO elective (3XX1)</td>
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Total Credit Hours: 120.0

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1 These laboratory courses include a lecture component as indicated on the University Schedule of Classes.
Offered Fall semesters only.

CS 1173 is a prerequisite for GEO 2113 and can be used as a free elective.

Note: Some courses are only offered once a year; fall or spring. Check with the Department of Geological 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  Physical Geology  4
& GEO 1111  and Physical Geology Laboratory
GEO 1123  Life Through Time  4
& GEO 1131  and Life Through Time Laboratory
GEO 2003  Mineralogy  4
& GEO 2011  and Mineralogy Laboratory
or GEO 3004  Rocks, Fossils, and Global Tectonics

B. Approved upper division geology electives

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 the College of Sciences Undergraduate Advising Center.

Geology (GEO) Courses

Department of Geological Sciences, College of Sciences

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.

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.

GEO 1103. Physical Geology. (3-0) 3 Credit Hours. (TCCN = GEOL 1303)

Prerequisites: Completion of or concurrent enrollment in MAT 1093 or higher, or satisfactory performance on placement exam. Completion of or concurrent enrollment in GEO 1111 required. The earth as a dynamic
planet; relation of the earth’s present processes to its resources, structure, and internal composition. Nature of minerals and rocks, the hydrosphere, tectonics, earthquakes, volcanism, and surface features of the earth. (Formerly titled “Introduction to Earth Systems.”).

**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.”).

**GEO 1123. Life Through Time. (3-0) 3 Credit Hours. (TCCN = GEOL 1304)**
The origin of Earth and the interaction of plate tectonics, mountain building, evolution of the oceans and climate, and the history and development of life from the Archean to the present. Concurrent enrollment in GEO 1131 recommended. May apply toward the Core Curriculum requirement in Life and Physical Sciences. (Formerly titled “Earth History.”).

**GEO 1131. Life Through Time Laboratory. (1-3) 1 Credit Hour. (TCCN = GEOL 1104)**
Prerequisite: Completion of or concurrent enrollment in GEO 1123. Field and laboratory study of fossils and rock sequences; interpretation of earth history. Field trips may be required. (Formerly titled “Earth History Laboratory.”).

**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.

**GEO 2011. Mineralogy Laboratory. (1-4) 1 Credit Hour.**
Prerequisite: Concurrent enrollment in GEO 2003. Laboratory study of crystal models, crystals, and minerals. Use of 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.).

**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. (Formerly ES 2113 and ES 4043. Credit cannot be earned for more than one of the following: GEO 2113, ES 2113, or ES 4043.).

**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.
GEO 3043. Petrology. (3-0) 3 Credit Hours.
Prerequisites: GEO 2003, GEO 2011, GEO 3112, MAT 1214, and concurrent enrollment in GEO 3051. Description, classification, occurrence, and origin of igneous and metamorphic rocks. Field trips may be required.

GEO 3051. Petrology Laboratory. (1-4) 1 Credit Hour.
Prerequisites: GEO 2003, GEO 2011, and 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.).

GEO 3063. Paleontology. (3-0) 3 Credit Hours.
Prerequisites: GEO 1103, GEO 1111, GEO 1123, GEO 1131, GEO 3123, GEO 3131, 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.

GEO 3071. Paleontology Laboratory. (1-3) 1 Credit Hour.
Prerequisites: GEO 1103, GEO 1111, GEO 1123, GEO 1131, GEO 3123, GEO 3131, and concurrent enrollment in GEO 3063. Study of fossil specimens, collections, and preparation techniques. Field trips may be required.

GEO 3103. Structural Geology. (3-0) 3 Credit Hours.
Prerequisites: GEO 3043, GEO 3051, and concurrent enrollment in GEO 3111. Response of earth materials to natural stresses. Description and origin of geologic structures. Field trips may be required.

GEO 3111. Structural Geology Laboratory. (1-3) 1 Credit Hour.
Prerequisite: Concurrent enrollment in GEO 3103. Laboratory study of geologic structures using maps, cross-sections, photographs, and descriptive geometric and stereographic methods. Field trips may be required.

GEO 3112. Geologic Field Investigations. (1-4) 2 Credit Hours.
Prerequisites: GEO 1111 and GEO 1131, or consent of instructor. Introduction to techniques for studying geologic features and processes in the field, including rock identification, construction of geological maps, orientation analysis, and report writing. Concurrent enrollment in GEO 4933 or GEO 4943 is not permitted. Some half-day and Saturday field trips may be required. (Formerly GEO 3113. Credit cannot be earned for both GEO 3112 and GEO 3113.).

GEO 3123. Sedimentation and Stratigraphy. (3-0) 3 Credit Hours.
Prerequisites: GEO 1123, GEO 1131, GEO 2003, GEO 2011, GEO 3112, and 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.”).

GEO 3131. Sedimentation and Stratigraphy Laboratory. (1-3) 1 Credit Hour.
Prerequisites: GEO 2003, GEO 2011, and 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.”).

GEO 3143. Economic Geology. (3-0) 3 Credit Hours.
Prerequisites: GEO 2003, GEO 2011, and concurrent enrollment in GEO 3151. Origin and occurrence of economic natural resources including metallic ore deposits, industrial minerals, and fossil fuels. Field trips may be required.

GEO 3151. Economic Geology Laboratory. (1-3) 1 Credit Hour.
Prerequisites: GEO 2003, GEO 2011, and concurrent enrollment in GEO 3143. Laboratory study of ore specimens and industrial minerals from important ore localities. Field trips may be required.

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.

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.

GEO 3383. General Geophysics. (3-0) 3 Credit Hours.
Prerequisites or Corequisites: MAT 1224 and PHY 1623 or 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.

GEO 3393. Introduction to Isotope Geochemistry. (3-0) 3 Credit Hours.
Prerequisites: GEO 1103, GEO 1111, CHE 1103, CHE 1121, and MAT 1093; or GEO 3374. 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.

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.

GEO 4023. Engineering Geology. (3-0) 3 Credit Hours.
Prerequisites: PHY 1923 (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. Field trips may be required. (Formerly GEO 3023. Credit cannot be earned for both GEO 4023 and GEO 3023.).

**GEO 4063. 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, and coasts. The meaning of “geologic repository” for human waste disposal and how the concept is applied will also be addressed.

**GEO 4093. Principles of Remote Sensing. (2-2) 3 Credit Hours.**
Prerequisites: MAT 1073 or higher and PHY 1603 or 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. (Formerly ES 4093. Credit cannot be earned for both GEO 4093 and ES 4093.).

**GEO 4113. Geomorphology. (3-0) 3 Credit Hours.**
Prerequisites: GEO 1103 or GRG 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.

**GEO 4121. Geomorphology Laboratory. (1-3) 1 Credit Hour.**
Prerequisites: GEO 1103 or GRG 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.

**GEO 4623. Ground-Water Hydrology. (3-0) 3 Credit Hours.**
Prerequisites: GEO 1103, GEO 1111, PHY 1603 or PHY 1943, and MAT 1214. Hydrologic cycle and the theory of underground water. Recharge and discharge of aquifers; water quality; exploration and development of ground-water supplies. Field trips may be required.

**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.

**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.

**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.

GEO 4933. Field Geology Part I. (1-6) 3 Credit Hours.
Prerequisites: GEO 3103 and GEO 3111, or consent of instructor. Part I: Field mapping and measurements. Field trips are required. (Formerly GEO 4946. Credit cannot be earned for both GEO 4933 and GEO 4946.).

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. (Formerly GEO 4946. Credit cannot be earned for both GEO 4943 and GEO 4946.).

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.

GEO 4952. Special Studies in Geology. (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.

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.

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.
DEPARTMENT OF MATHEMATICS

The Department of Mathematics offers a Bachelor of Science degree in Mathematics. The degree is offered in two concentrations: Mathematics and General Mathematical Studies. The Mathematics Concentration offers students the opportunity to prepare to provide technical support and conduct research for high-technology industries, government, and private companies. Both concentrations prepare students to pursue advanced graduate study. The General Mathematical Studies Concentration includes a component for those students wishing to obtain state certification to teach mathematics at the secondary level. 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

The Bachelor of Science degree in Mathematics is offered with two concentrations: Mathematics and General Mathematical 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.

Students choosing the General Mathematical Studies Concentration who wish to pursue teacher certification should satisfy the Core Curriculum requirements consistent with the State Board for Educator Certification.

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 Bachelor of Science 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. For a complete listing of courses that satisfy the Core Curriculum requirements, see chapter 1 of this catalog.

MAT 1214 may be used to satisfy the core requirement in Mathematics as well as a major requirement.

Mathematics Degree Requirements

All candidates for the Bachelor of Science degree in Mathematics, regardless of concentration, must complete the following 24 semester credit hours of required courses (this includes the 3 semester credit hours of the Core Curriculum requirement in mathematics):

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAT 1214</td>
<td>Calculus I (The student who is not prepared to begin MAT 1214 must take MAT 1093)</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Precalculus.</td>
<td></td>
</tr>
<tr>
<td>MAT 1224</td>
<td>Calculus II</td>
<td>4</td>
</tr>
<tr>
<td>MAT 2214</td>
<td>Calculus III</td>
<td>4</td>
</tr>
</tbody>
</table>
In addition, a candidate for the Bachelor of Science degree in Mathematics must complete the course requirements for the concentration declared by the candidate.

Mathematics Concentration

All candidates for this concentration must fulfill the Core Curriculum requirements, the mathematics degree requirements, as well as the course requirements necessary for this concentration.

A. Computer Science
Select one of the following:
- CS 1063 Introduction to Computer Programming I
- CS 1713 Introduction to Computer Programming II
  & CS 1711 and Introduction to Computer Programming II Recitation
- CS 2073 Computer Programming with Engineering Applications

B. Required courses
- MAT 3613 Differential Equations I
- MAT 3633 Numerical Analysis
- MAT 4223 Real Analysis II
- MAT 4233 Modern Abstract Algebra
- STA 3003 Applied Statistics
- STA 3513 Probability and Statistics

C. 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

D. Electives
Select 26 or 27 semester credit hours of electives

Total Credit Hours: 57

General Mathematical Studies Concentration

All candidates for this concentration must fulfill the Core Curriculum requirements, the mathematics degree requirements, as well as the course requirements necessary for this concentration.
<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 1063</td>
<td>Introduction to Computer Programming I</td>
<td>3</td>
</tr>
<tr>
<td>or CS 2073</td>
<td>Computer Programming with Engineering Applications</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><strong>B. Mathematics and/or Statistics</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>1. Mathematics</strong></td>
<td></td>
</tr>
<tr>
<td>MAT 3103</td>
<td>Data Analysis and Interpretation</td>
<td>3</td>
</tr>
<tr>
<td>MAT 3123</td>
<td>Fundamentals of Geometry</td>
<td>3</td>
</tr>
<tr>
<td>or MAT 4263</td>
<td>Geometry</td>
<td></td>
</tr>
<tr>
<td>MAT 3233</td>
<td>Modern Algebra</td>
<td>3</td>
</tr>
<tr>
<td>or MAT 4233</td>
<td>Modern Abstract Algebra</td>
<td></td>
</tr>
<tr>
<td>MAT 4013</td>
<td>Graphing Calculator Topics</td>
<td>3</td>
</tr>
<tr>
<td>MAT 4113</td>
<td>Computer Mathematical Topics</td>
<td>3</td>
</tr>
<tr>
<td>MAT 4303</td>
<td>Capstone Course for Mathematics</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><strong>2. Approved upper-division course in mathematics</strong></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><strong>C. Required academic foundations</strong></td>
<td></td>
</tr>
<tr>
<td>COM 1043</td>
<td>Introduction to Communication</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><strong>D. Electives</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Select 30 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.</td>
<td>30</td>
</tr>
</tbody>
</table>

**Total Credit Hours: 57**

*Certification requirements for students pursuing the General Mathematical Studies Concentration 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 Mathematics with a Mathematics Concentration**

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 an undergraduate 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, Mathematics Concentration – Recommended Four-Year Academic Plan

**First Year**

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AIS 1203</strong></td>
<td>Academic Inquiry and Scholarship (core)</td>
</tr>
<tr>
<td><strong>MAT 1214</strong></td>
<td>Calculus I (core and major)</td>
</tr>
<tr>
<td><strong>WRC 1013</strong></td>
<td>Freshman Composition I (core)</td>
</tr>
<tr>
<td>American History core</td>
<td>3</td>
</tr>
<tr>
<td>Life &amp; Physical Sciences core</td>
<td>3</td>
</tr>
</tbody>
</table>

**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 1713 | Introduction to Computer Programming II |
| & CS 1711 | |
| CS 2073 | Computer Programming with Engineering Applications |

**Second Year**

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAT 2214</td>
<td>Calculus III</td>
</tr>
<tr>
<td>MAT 2233</td>
<td>Linear Algebra</td>
</tr>
<tr>
<td>Government-Political Science core</td>
<td>3</td>
</tr>
<tr>
<td>Free elective</td>
<td>3</td>
</tr>
<tr>
<td>Free elective</td>
<td>3</td>
</tr>
</tbody>
</table>

**Spring**

| MAT 3013 | Foundations of Mathematics | 3 |
| STA 3003 | Applied Statistics | 3 |
| Creative Arts core | 3 |
| Government-Political Science core | 3 |
| Free elective | 3 |

**Third Year**

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAT 3613</td>
<td>Differential Equations I</td>
</tr>
<tr>
<td>STA 3513</td>
<td>Probability and Statistics</td>
</tr>
<tr>
<td>Free elective</td>
<td>3</td>
</tr>
<tr>
<td>Social &amp; Behavioral Sciences core</td>
<td>3</td>
</tr>
<tr>
<td>Upper-division MAT or STA elective</td>
<td>3</td>
</tr>
<tr>
<td>Component</td>
<td>Code</td>
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<tr>
<td>--------------------</td>
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</tr>
<tr>
<td>Foundations of Analysis</td>
<td>MAT 3213</td>
</tr>
<tr>
<td>Modern Abstract Algebra</td>
<td>MAT 4233</td>
</tr>
<tr>
<td>Component Area Option core</td>
<td></td>
</tr>
<tr>
<td>Free elective</td>
<td></td>
</tr>
<tr>
<td>Upper-division MAT or STA elective</td>
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<tr>
<td><strong>Fourth Year</strong></td>
<td></td>
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<tr>
<td><strong>Fall</strong></td>
<td></td>
</tr>
<tr>
<td>Numerical Analysis</td>
<td>MAT 3633</td>
</tr>
<tr>
<td>Real Analysis I</td>
<td>MAT 4213</td>
</tr>
<tr>
<td>Free elective</td>
<td></td>
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<tr>
<td>Free elective</td>
<td></td>
</tr>
<tr>
<td>Upper-division Free elective</td>
<td></td>
</tr>
<tr>
<td><strong>Spring</strong></td>
<td></td>
</tr>
<tr>
<td>Real Analysis II</td>
<td>MAT 4223</td>
</tr>
<tr>
<td>Free elective</td>
<td></td>
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<tr>
<td>Upper-division MAT or STA elective</td>
<td></td>
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<tr>
<td>American History core</td>
<td></td>
</tr>
<tr>
<td>Language Philosophy &amp; Culture core</td>
<td></td>
</tr>
</tbody>
</table>

Total Credit Hours: 120.0

1 Only 2 semester credit hours are needed if CS 1713 and CS 1711 are taken.

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 Mathematics with a General Mathematical Studies Concentration**

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 advisors in the Mathematics and Physical Sciences Center 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, General Mathematical Studies Concentration – Recommended Four-Year Academic Plan**

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<tr>
<td>COM 1043 Introduction to Communication</td>
<td>3</td>
</tr>
<tr>
<td>MAT 1214 Calculus I (core and major)</td>
<td>4</td>
</tr>
<tr>
<td>WRC 1013 Freshman Composition I (core)</td>
<td>3</td>
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<tr>
<td>Life &amp; Physical Sciences core</td>
<td>3</td>
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**Spring**

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
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<tbody>
<tr>
<td>CS 1063 or 2073 Introduction to Computer Programming I</td>
<td>3</td>
</tr>
<tr>
<td>MAT 1224 Calculus II</td>
<td>4</td>
</tr>
<tr>
<td>WRC 1023 Freshman Composition II (core)</td>
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</tr>
<tr>
<td>Free elective</td>
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<tr>
<td>Life &amp; Physical Sciences core</td>
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**Second Year**

<table>
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<tr>
<th>Fall</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>MAT 2214 Calculus III</td>
<td>4</td>
</tr>
<tr>
<td>MAT 2233 Linear Algebra</td>
<td>3</td>
</tr>
<tr>
<td>Free elective</td>
<td>3</td>
</tr>
<tr>
<td>American History core</td>
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**Spring**

<table>
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</thead>
<tbody>
<tr>
<td>MAT 3013 Foundations of Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>MAT 3103 Data Analysis and Interpretation</td>
<td>3</td>
</tr>
<tr>
<td>POL 1133 Texas Politics and Society (CORE)</td>
<td>3</td>
</tr>
<tr>
<td>Free elective</td>
<td>3</td>
</tr>
<tr>
<td>Free elective</td>
<td>3</td>
</tr>
</tbody>
</table>

**Third Year**

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAT 4013 Graphing Calculator Topics</td>
<td>3</td>
</tr>
<tr>
<td>MAT 3123 or 4263 Fundamentals of Geometry</td>
<td>3</td>
</tr>
<tr>
<td>POL 1013 Introduction to American Politics (core)</td>
<td>3</td>
</tr>
<tr>
<td>Free elective</td>
<td>3</td>
</tr>
<tr>
<td>Social &amp; Behavioral Sciences core</td>
<td>3</td>
</tr>
</tbody>
</table>

**Spring**

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAT 3213 Foundations of Analysis</td>
<td>3</td>
</tr>
<tr>
<td>MAT 3233 or Modern Algebra</td>
<td>3</td>
</tr>
</tbody>
</table>
Component Area Option core 3
Upper-division Free elective 3
Upper-division MAT or STA elective 3

**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

**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

Total Credit Hours: 120.0

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 Mathematics with a General Mathematical Studies Concentration (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 advisors in the College of Sciences Undergraduate Advising Center 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, General Mathematical Studies Concentration with teacher certification – Recommended Four-Year Academic Plan**

**First Year**

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIS 1203</td>
<td>Academic Inquiry and Scholarship (core) 3</td>
</tr>
<tr>
<td>COM 1043</td>
<td>Introduction to Communication 3</td>
</tr>
<tr>
<td>GEM 1011</td>
<td>GEEMS Mathematics/Science I 1</td>
</tr>
<tr>
<td>MAT 1214</td>
<td>Calculus I (core and major) 4</td>
</tr>
<tr>
<td>Course</td>
<td>Description</td>
</tr>
<tr>
<td>----------</td>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td>WRC 1013</td>
<td>Freshman Composition I (core)</td>
</tr>
<tr>
<td>Life &amp; Physical Sciences core</td>
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</tbody>
</table>

**Spring**

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 1063 or 2073</td>
<td>Introduction to Computer Programming I</td>
<td>3</td>
</tr>
<tr>
<td>GEM 1021</td>
<td>GEEMS Mathematics/Science II</td>
<td>1</td>
</tr>
<tr>
<td>MAT 1224</td>
<td>Calculus II</td>
<td>4</td>
</tr>
<tr>
<td>WRC 1023</td>
<td>Freshman Composition II (core)</td>
<td>3</td>
</tr>
<tr>
<td>Life &amp; Physical Sciences core</td>
<td></td>
<td>3</td>
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</tbody>
</table>

**Second Year**

**Fall**

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Credits</th>
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<tbody>
<tr>
<td>EDU 2103</td>
<td>Social Foundations for Education in a Diverse U.S. Society</td>
<td>3</td>
</tr>
<tr>
<td>GEM 1031</td>
<td>GEEMS Mathematics/Science III</td>
<td>1</td>
</tr>
<tr>
<td>MAT 2214</td>
<td>Calculus III</td>
<td>4</td>
</tr>
<tr>
<td>MAT 3013</td>
<td>Foundations of Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>American History core</td>
<td></td>
<td>3</td>
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</tbody>
</table>

**Spring**

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDP 3203</td>
<td>Learning and Development in the Secondary School Adolescent</td>
<td>3</td>
</tr>
<tr>
<td>MAT 2233</td>
<td>Linear Algebra</td>
<td>3</td>
</tr>
<tr>
<td>MAT 3103</td>
<td>Data Analysis and Interpretation</td>
<td>3</td>
</tr>
<tr>
<td>Creative Arts core</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

**Summer**

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>POL 1013</td>
<td>Introduction to American Politics (core)</td>
<td>3</td>
</tr>
<tr>
<td>Language, Philosophy &amp; Culture core</td>
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<td>3</td>
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**Third Year**

**Fall**

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BBL 3403</td>
<td>Cultural and Linguistic Diversity in a Pluralistic Society</td>
<td>3</td>
</tr>
<tr>
<td>MAT 3123 or 4263</td>
<td>Fundamentals of Geometry</td>
<td>3</td>
</tr>
<tr>
<td>MAT 3233 or 4233</td>
<td>Modern Algebra</td>
<td>3</td>
</tr>
<tr>
<td>POL 1133</td>
<td>Texas Politics and Society (core)</td>
<td>3</td>
</tr>
<tr>
<td>Social &amp; Behavioral Sciences core</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

**Spring**

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
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</tr>
</thead>
<tbody>
<tr>
<td>MAT 3213</td>
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</tr>
<tr>
<td>MAT 4013</td>
<td>Graphing Calculator Topics</td>
<td>3</td>
</tr>
<tr>
<td>SPE 3603</td>
<td>Introduction to Special Education (1)</td>
<td>3</td>
</tr>
<tr>
<td>Upper-division MAT elective (not MAT 3253)</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Component Area Option core</td>
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<td>3</td>
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</tbody>
</table>

**Summer**

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAT 4113</td>
<td>Computer Mathematical Topics</td>
<td>3</td>
</tr>
</tbody>
</table>
American History core

**Fourth Year**

<table>
<thead>
<tr>
<th>Fall</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>C&amp;I 4203</td>
<td>Models of Teaching in the Content Areas of the Secondary School</td>
<td>3</td>
</tr>
<tr>
<td>EDP 4203</td>
<td>Assessment and Evaluation</td>
<td>3</td>
</tr>
<tr>
<td>MAT 4213</td>
<td>Real Analysis I</td>
<td>3</td>
</tr>
<tr>
<td>MAT 4303</td>
<td>Capstone Course for Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>RDG 3773</td>
<td>Reading and Writing Across the Disciplines–Secondary</td>
<td>3</td>
</tr>
</tbody>
</table>

| Spring                    |                                                                 |   |
| C&I 4646                  | Student Teaching: Grades 8–12                                    | 6 |

Total Credit Hours: 120.0

1 BBL 3403, EDU 2103, and SPE 3603 are not required if student is in the Generating Educational Excellence in Mathematics and Science (GEEMS) program. However, these courses must be replaced with upper-division MAT/STA electives.

Note: Some courses are only offered once a year; fall or spring. Check with the Department of Mathematics for scheduling of courses.

**Minor in Mathematics**

All students pursuing the Minor in Mathematics must complete 24 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

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAT 1214</td>
<td>Calculus I</td>
<td>4</td>
</tr>
<tr>
<td>MAT 1224</td>
<td>Calculus II</td>
<td>4</td>
</tr>
<tr>
<td>MAT 2214</td>
<td>Calculus III</td>
<td>4</td>
</tr>
<tr>
<td>MAT 2233</td>
<td>Linear Algebra</td>
<td>3</td>
</tr>
<tr>
<td>MAT 3613</td>
<td>Differential Equations I</td>
<td>3</td>
</tr>
</tbody>
</table>

B. Approved upper-division mathematics electives

Select 6 semester credit hours of approved upper-division mathematics electives

Total Credit Hours: 24

1 For Computer Science majors, substitute CS 3333 Mathematical Foundations of Computer Science and Recitation.

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 the Mathematical and Physical Sciences Center and the Undergraduate Advisor of Record for the Department of Mathematics.
Generating Educational Excellence in Mathematics and Science: GEEMS (GEM) Courses

Department of Mathematics, College of Sciences

GEM 1011. GEEMS Mathematics/Science I. (1-2) 1 Credit Hour.
This course introduces students to the prospect of mathematics and science secondary teaching as a career choice through hands-on experiences observing and teaching in an elementary classroom. Students will work in teams with an exemplary elementary teacher at one of the local school districts participating in mathematics and science classes. Class activities will emphasize the qualities of good mathematics and science teaching, including standards-based instruction and the integration of resources into effective class planning. Field-based experiences required. Restricted course; GEEMS Office approval required for registration. (Formerly UTE 1011. Credit cannot be earned for both GEM 1011 and UTE 1011.).

GEM 1021. GEEMS Mathematics/Science II. (1-2) 1 Credit Hour.
Prerequisite: GEM 1011. Builds on the teaching practices, lesson plan design, and instructional models used in GEM 1011, but in a middle school setting. Students become familiar with the reform movements in the middle school concept and philosophy. Through class activities and observations of middle school mathematics and science teachers, students identify the instructional and management strategies and assessment techniques appropriate to early adolescence. Students work in teams with an exemplary middle school teacher to design and deliver lessons appropriate to middle school students. Field-based experiences required. Restricted course; GEEMS Office approval required for registration. (Formerly UTE 1021. Credit cannot be earned for both GEM 1021 and UTE 1021.).

GEM 1031. GEEMS Mathematics/Science III. (1-2) 1 Credit Hour.
Prerequisite: GEM 1021. Builds on the teaching practices, lesson plan design, and instructional models used in GEM 1021, but in a high school setting. Students become familiar with the reform movements in the high school concept and philosophy. Through class activities and observations of high school mathematics and science teachers, students identify the instructional and management strategies and assessment techniques appropriate to adolescence. Students work in teams with an exemplary high school teacher to design and deliver lessons appropriate to high school students. Field-based experiences required. Restricted course; GEEMS Office approval required for registration. (Formerly UTE 1031. Credit cannot be earned for both GEM 1031 and UTE 1031.).

Mathematics (MAT) Courses
Department of Mathematics, College of Sciences

NOTE: All prerequisites for Mathematics (MAT) courses must be completed with a grade of “C-” or better.

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 Higher Education Assessment (THEA), 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.).

MAT 0213. Intermediate Algebra. (3-0) 3 Credit Hours.
Introductory algebra course that includes the Texas Higher Education Assessment (THEA) 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.).

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.) This course is designed for majors outside sciences and engineering and will not serve as a prerequisite for MAT 1093. May apply toward the Core Curriculum requirement in Mathematics.

MAT 1033. Algebra with Calculus for Business. (3-0) 3 Credit Hours. (TCCN = MATH 1325)
Prerequisite: Satisfactory performance on a placement examination. An introduction to business calculus with an emphasis on the algebra of functions. Concentration is on the algebraic manipulations of functions and includes volume and profit functions, both linear and quadratic; root finding and graphical analysis; matrices; and differentiation and integration. (Formerly MTC 1033. Credit cannot be earned for both MAT 1033 and MTC 1033.) May apply toward the Core Curriculum requirement in Mathematics.

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.

MAT 1073. Algebra for Scientists and Engineers. (3-0) 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.) May apply toward the Core Curriculum requirement in Mathematics.
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.

MAT 1153. Essential Elements in Mathematics I. (3-0) 3 Credit Hours. (TCCN = MATH 1350)
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.).

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.

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.

MAT 1203. Calculus Concepts and Applications. (3-0) 3 Credit Hours.
This course is primarily for students pursuing a degree in Interdisciplinary Studies and/or seeking grades 4–8 teacher certification. The course will include the following calculus concepts: functions, limits, derivatives, and integrals. Applications and the use of technology are incorporated throughout the course. This course may not be applied toward a major in mathematics and will not meet the prerequisite for MAT 1224 Calculus II.

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.

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.).

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.).
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.

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.).

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.

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.

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.

MAT 3223. Complex Variables. (3-0) 3 Credit Hours.
Prerequisites: MAT 2214 and MAT 3013. An introduction to complex variables, including elementary functions, line integrals, power series, residues and poles, and conformal mappings.

MAT 3233. Modern Algebra. (3-0) 3 Credit Hours.
Prerequisites: MAT 1214 and MAT 3013 or consent of instructor. 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.

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.

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, nth-order initial value
problems, Laplace transforms, and may include additional topics such as power series solutions of differential equations, linear systems, and stability.

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.

MAT 3633. Numerical Analysis. (3-0) 3 Credit Hours.
Prerequisites: MAT 2233, MAT 3213, and one of the following: CS 1063, CS 1073, CS 1713, or CS 2073. Solution of linear and nonlinear equations, curve-fitting, and eigenvalue problems.

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.

MAT 4013. Graphing Calculator Topics. (3-0) 3 Credit Hours.
Prerequisite: MAT 1214 or consent of instructor. Mathematical topics from algebra, trigonometry, calculus, modeling, and probability and statistics will be investigated using the graphing calculator. Assessment and evaluation techniques using technology will also be included. May not be applied toward the Mathematics Concentration of the B.S. degree in Mathematics.

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.

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.

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.

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.

MAT 4233. Modern Abstract Algebra. (3-0) 3 Credit Hours.
Prerequisites: MAT 2233 and MAT 3013. An in-depth study of groups and rings.

MAT 4253. Number Theory. (3-0) 3 Credit Hours.
Prerequisite: MAT 3233 or MAT 4233. The theory of primes, congruences, and related subjects.
MAT 4263. Geometry. (3-0) 3 Credit Hours.
Prerequisite: MAT 3013. A study of non-Euclidean geometries, including spherical geometry, hyperbolic geometry and others.

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.

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 4013 or 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.

MAT 4313. Applied Combinatorics. (3-0) 3 Credit Hours.
Prerequisite: MAT 1224. Permutations, combinations, arrangements, selections, distributions, generating functions, inclusion-exclusion principle.

MAT 4323. Applied Graph Theory. (3-0) 3 Credit Hours.
Prerequisite: MAT 1224. Isomorphism, planarity, computer representation of graphs, covering circuits and graph colorings, Euler and Hamiltonian graphs, trees and searching network algorithms (shortest paths, connectivity, traveling salesman, network flow, matching, sorting, etc.).

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).

MAT 4803. Statistical Quality Control. (3-0) 3 Credit Hours.
Prerequisite: STA 1993 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.).

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.
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.

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.
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 ability to apply for positions in industry and government, as well as entry into professional and graduate

Bachelor of Science Degree in Physics

The Bachelor of Science 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 Bachelor of Science 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. For a complete listing of courses that satisfy the Core Curriculum requirements, see chapter 1 of this catalog.

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.

Degree Requirements

A. Physics and Astronomy courses

1. Required courses completed with a grade of "C–" or better

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHY 1943</td>
<td>Physics for Scientists and Engineers I</td>
<td>4</td>
</tr>
<tr>
<td>&amp; PHY 1951</td>
<td>and Physics for Scientists and Engineers I Laboratory</td>
<td></td>
</tr>
<tr>
<td>PHY 1963</td>
<td>Physics for Scientists and Engineers II</td>
<td>4</td>
</tr>
<tr>
<td>&amp; PHY 1971</td>
<td>and Physics for Scientists and Engineers II Laboratory</td>
<td></td>
</tr>
<tr>
<td>PHY 2103</td>
<td>Modern Physics</td>
<td>4</td>
</tr>
<tr>
<td>&amp; PHY 2111</td>
<td>and Modern Physics Laboratory</td>
<td></td>
</tr>
<tr>
<td>PHY 2823</td>
<td>Mathematical Physics I</td>
<td>3</td>
</tr>
<tr>
<td>PHY 3203</td>
<td>Classical Mechanics I</td>
<td>3</td>
</tr>
<tr>
<td>PHY 3293</td>
<td>Thermal Physics</td>
<td>3</td>
</tr>
</tbody>
</table>
PHY 3343  Advanced Physics 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. Select 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 3143  Introduction to Computational Physics
PHY 3313  Materials Physics
PHY 3453  Lasers: Theory and Applications
PHY 3603  Cosmology
PHY 4013  Relativity: Special and General
PHY 4203  Classical Mechanics II
PHY 4563  Biophotonics
PHY 4603  Crystallography and Materials Characterization
PHY 4623  Nanotechnology
PHY 4653  Introduction to Micro and Nanotechnology
PHY 4703  Renewable Energy: Solar Energy Convertors
PHY 4833  Molecular Biophysics
PHY 4843  Condensed Matter Theory
PHY 4911  Independent Study
PHY 4953  Special Studies in Physics
PHY 4993  Honors Research

B. Required courses in the College of Science
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 1073  Introductory Computer Programming for Scientific Applications  3
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 Science  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 an undergraduate 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

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIS 1203</td>
<td>Academic Inquiry and Scholarship (core) 3</td>
</tr>
<tr>
<td>CHE 1103 or 1143</td>
<td>General Chemistry I 3</td>
</tr>
<tr>
<td>CHE 1121</td>
<td>General Chemistry I Laboratory 1 1</td>
</tr>
<tr>
<td>CS 1073</td>
<td>Introductory Computer Programming for Scientific Applications 3</td>
</tr>
<tr>
<td>MAT 1214</td>
<td>Calculus I (core and major) 4</td>
</tr>
<tr>
<td>WRC 1013</td>
<td>Freshman Composition I (core) 3</td>
</tr>
</tbody>
</table>

Spring

| CHE 1113 or 1153 | General Chemistry II 3 |
| MAT 1224         | Calculus II 4 |
| PHY 1943 & PHY 1951 | Physics for Scientists and Engineers I (core and major) 4 |
| WRC 1023         | Freshman Composition II (core) 3 |

Second Year

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAT 2214</td>
<td>Calculus III 4</td>
</tr>
<tr>
<td>MAT 2233</td>
<td>Linear Algebra 3</td>
</tr>
<tr>
<td>PHY 1963 &amp; PHY 1971</td>
<td>Physics for Scientists and Engineers II (core and major) 4</td>
</tr>
<tr>
<td>POL 1013</td>
<td>Introduction to American Politics (core) 3</td>
</tr>
</tbody>
</table>

Spring

| MAT 3613         | Differential Equations I 3 |
| PHY 2103 & PHY 2111 | Modern Physics 4 |
| PHY 2823         | Mathematical Physics I 3 |
### Third Year

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
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<tbody>
<tr>
<td>Fall</td>
<td>PHY 3203</td>
<td>Classical Mechanics I</td>
<td>3</td>
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<tr>
<td></td>
<td></td>
<td>American History core</td>
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### Fourth Year

<table>
<thead>
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<th>Course Name</th>
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</thead>
<tbody>
<tr>
<td>Fall</td>
<td>PHY 3293</td>
<td>Thermal Physics</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>PHY 3423</td>
<td>Electricity and Magnetism</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>PHY 3443</td>
<td>Modern Optics</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>PHY 3583</td>
<td>Mathematical Physics II</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>POL 1133</td>
<td>Texas Politics and Society (core)</td>
<td>3</td>
</tr>
<tr>
<td>Spring</td>
<td>PHY 3343</td>
<td>Advanced Physics Laboratory</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>PHY 3513</td>
<td>Electrodynamics</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>PHY 4263</td>
<td>Quantum Mechanics I</td>
<td>3</td>
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<td></td>
<td></td>
<td>Language, Philosophy &amp; Culture core</td>
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<tr>
<td></td>
<td></td>
<td>Social &amp; Behavioral Sciences core</td>
<td>3</td>
</tr>
</tbody>
</table>

### Total Credit Hours: 120.0

1. These laboratory courses include 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 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 Bachelor of Arts 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. For a complete listing of courses that satisfy the Core Curriculum requirements, see chapter 1 of this catalog.

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.

Degree Requirements

A. Physics and Astronomy courses

1. Required courses completed with a grade of “C–” or better

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>PHY 1943</td>
<td>Physics for Scientists and Engineers I</td>
<td>4</td>
</tr>
<tr>
<td>&amp; PHY 1951</td>
<td>and Physics for Scientists and Engineers I Laboratory</td>
<td></td>
</tr>
<tr>
<td>PHY 1963</td>
<td>Physics for Scientists and Engineers II</td>
<td>4</td>
</tr>
<tr>
<td>&amp; PHY 1971</td>
<td>and Physics for Scientists and Engineers II Laboratory</td>
<td></td>
</tr>
<tr>
<td>PHY 2103</td>
<td>Modern Physics</td>
<td>4</td>
</tr>
<tr>
<td>&amp; PHY 2111</td>
<td>and Modern Physics Laboratory</td>
<td></td>
</tr>
<tr>
<td>PHY 2823</td>
<td>Mathematical Physics I</td>
<td>3</td>
</tr>
<tr>
<td>PHY 3203</td>
<td>Classical Mechanics I</td>
<td>3</td>
</tr>
<tr>
<td>PHY 3293</td>
<td>Thermal Physics</td>
<td>3</td>
</tr>
<tr>
<td>PHY 3343</td>
<td>Advanced Physics Laboratory</td>
<td>3</td>
</tr>
<tr>
<td>PHY 3423</td>
<td>Electricity and Magnetism</td>
<td>3</td>
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</table>

2. Select two additional courses from the following: 6

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>AST 3013</td>
<td>Fundamentals of Astronomy</td>
<td></td>
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<tr>
<td>AST 3023</td>
<td>Introduction to Astrophysics</td>
<td></td>
</tr>
<tr>
<td>PHY 3143</td>
<td>Introduction to Computational Physics</td>
<td></td>
</tr>
</tbody>
</table>
PHY 3313  Materials Physics  
PHY 3443  Modern Optics  
PHY 3603  Cosmology  
PHY 4013  Relativity: Special and General  
PHY 4263  Quantum Mechanics I  
PHY 4843  Condensed Matter Theory

B. Required courses in the College of Science
1. Required courses (excluding physics)

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>CHE 1103</td>
<td>General Chemistry I</td>
<td>3</td>
</tr>
<tr>
<td>CHE 1113</td>
<td>General Chemistry II</td>
<td>3</td>
</tr>
<tr>
<td>CHE 1121</td>
<td>General Chemistry I Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>CS 1073</td>
<td>Introductory Computer Programming for Scientific Applications</td>
<td>3</td>
</tr>
<tr>
<td>MAT 1214</td>
<td>Calculus I</td>
<td>4</td>
</tr>
<tr>
<td>MAT 1224</td>
<td>Calculus II</td>
<td>4</td>
</tr>
<tr>
<td>MAT 2214</td>
<td>Calculus III</td>
<td>4</td>
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</table>

2. Additional approved courses from the College of Science  

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Credit Hours</th>
</tr>
</thead>
</table>

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 advisors in the College of Sciences Undergraduate Advising Center 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

<table>
<thead>
<tr>
<th>Fall</th>
<th>Course</th>
<th>Description</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIS 1203</td>
<td>Academic Inquiry and Scholarship (core)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>CHE 1103 or 1143</td>
<td>General Chemistry I (core and major)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>CHE 1121</td>
<td>General Chemistry I Laboratory ¹</td>
<td>1</td>
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</tr>
<tr>
<td>CS 1073</td>
<td>Introductory Computer Programming for Scientific Applications</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>MAT 1214</td>
<td>Calculus I (core and major)</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>WRC 1013</td>
<td>Freshman Composition I (core)</td>
<td>3</td>
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Spring

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHE 1113 or 1153</td>
<td>General Chemistry II</td>
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</tr>
<tr>
<td>Course Code</td>
<td>Course Description</td>
<td>Credits</td>
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<tr>
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</tr>
<tr>
<td>MAT 1224</td>
<td>Calculus II</td>
<td>4</td>
</tr>
<tr>
<td>PHY 1943</td>
<td>Physics for Scientists and Engineers I (core and major)</td>
<td>4</td>
</tr>
<tr>
<td>&amp; PHY 1951</td>
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<tr>
<td>WRC 1023</td>
<td>Freshman Composition II (core)</td>
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**Second Year**

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<td>PHY 1963</td>
<td>Physics for Scientists and Engineers II (core and major)</td>
<td>4</td>
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<tr>
<td>&amp; PHY 1971</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Social &amp; Behavioral Sciences core</td>
<td>3</td>
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<tr>
<td></td>
<td>American History core</td>
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**Spring**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Description</th>
<th>Credits</th>
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<tbody>
<tr>
<td>PHY 2103</td>
<td>Modern Physics</td>
<td>4</td>
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<tr>
<td>&amp; PHY 2111</td>
<td></td>
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<tr>
<td>PHY 2823</td>
<td>Mathematical Physics I</td>
<td>3</td>
</tr>
<tr>
<td>PHY 3203</td>
<td>Classical Mechanics I</td>
<td>3</td>
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<tr>
<td></td>
<td>American History core</td>
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<tr>
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<td>Component Area Option core</td>
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**Third Year**

<table>
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<tr>
<th>Course Code</th>
<th>Course Description</th>
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<tbody>
<tr>
<td>PHY 3293</td>
<td>Thermal Physics</td>
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<td>PHY 3423</td>
<td>Electricity and Magnetism</td>
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<td>College of Sciences elective 2</td>
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<td>College of Sciences elective 2</td>
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<td>Language, Philosophy &amp; Culture core</td>
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**Spring**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Description</th>
<th>Credits</th>
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<tbody>
<tr>
<td>PHY 3343</td>
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<td>POL 1133</td>
<td>Texas Politics and Society (core)</td>
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<td>College of Sciences elective 2</td>
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**Fourth Year**

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<td>Upper-division AST or PHY elective 3</td>
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Spring

<table>
<thead>
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<td>College of Sciences elective</td>
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<tr>
<td>Upper-division AST or PHY elective</td>
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<tr>
<td>Creative Arts core</td>
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</table>

Total Credit Hours: 120.0

1 These laboratory courses include 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

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 21 semester credit hours.

#### A. Required Courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>AST 3013 Fundamentals of Astronomy</td>
<td>3</td>
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<tr>
<td>AST 3023 Introduction to Astrophysics</td>
<td>3</td>
</tr>
<tr>
<td>PHY 1943 Physics for Scientists and Engineers I</td>
<td>4</td>
</tr>
<tr>
<td>&amp; PHY 1951 Physics for Scientists and Engineers I Laboratory</td>
<td>4</td>
</tr>
<tr>
<td>PHY 1963 Physics for Scientists and Engineers II</td>
<td>4</td>
</tr>
<tr>
<td>&amp; PHY 1971 Physics for Scientists and Engineers II Laboratory</td>
<td>4</td>
</tr>
<tr>
<td>PHY 2103 Modern Physics</td>
<td>4</td>
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<td>&amp; PHY 2111 Modern Physics Laboratory</td>
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#### B. Select one of the following courses: 3

<table>
<thead>
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<tbody>
<tr>
<td>AST 3033 Observational Techniques in Astronomy</td>
<td>3</td>
</tr>
<tr>
<td>AST 3043 Astrochemistry</td>
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<tr>
<td>AST 3103 Observational Astronomy Laboratory</td>
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<td>AST 3303 Introduction to Galactic and Extragalactic Astronomy</td>
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<td>AST 4203 Stellar Astrophysics</td>
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<td>AST 4303 Solar System Astrophysics</td>
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<td>PHY 3603 Cosmology</td>
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Total Credit Hours: 21
To declare a Minor in Astronomy/Astrophysics, obtain advice, or seek approval of substitutions for course requirements, students should consult the College of Sciences Undergraduate Advising Center.

**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** 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
- **PHY 2103** Modern Physics (4)
- **& PHY 2111** and Modern Physics Laboratory
- **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 the College of Sciences Undergraduate Advising Center.

**Astronomy (AST) Courses**

Department of Physics and Astronomy, College of Sciences

**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.

**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.
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.

AST 1043. Current Topics in Astronomy. (3-0) 3 Credit Hours.
Prerequisite: MAT 1023 or MAT 1073. Astronomy receives considerable attention from the media and the public in general. It allows us to ask fundamental questions about who we are, where we come from, and where we will end up as a world. This course will concentrate on the areas of astronomy that are currently most covered by the media—planet detection and interpretation, recent NASA spacecraft missions, supermassive black holes, gamma-ray bursters, dark matter and dark energy in the Universe, and other significant developments that arise during the semester. This course will cover each of these in depth, but will also concentrate on the reaction that the media has had on them. The media and public often have an uncanny ability to probe directly to the main reasons for why scientists study a particular problem. The student who completes this course will be expected to not only have a better scientific understanding of the current hot topics in astronomy, but also understand how the media can actually drive science in general.

AST 1053. Extreme Astronomy. (3-0) 3 Credit Hours.
Prerequisite: AST 1013 completed with a grade of “C-” or better. Topics include supernovae, neutron stars and pulsars; black holes, X-ray astronomy, and gamma-ray bursters; extragalactic radio sources, active galactic nuclei, and quasars.

AST 1073. Astrobiology: Search for Life in the Universe. (3-0) 3 Credit Hours.
Prerequisite: MAT 1023 or MAT 1073. The concept that life might exist elsewhere besides the Earth has intrigued humankind for centuries. Technology has now enabled this fundamental question to be pursued with substantial international scientific vigor. Within the Solar System, several Mars probes, as well probes to the moons of Jupiter (Europa) and Saturn (Titan), are being developed with specific emphasis on the development of in-situ instrumentation to detect the presence of life. Beyond the Solar System, the search for life signs has gained momentum with the rapid growth in the number of known exoplanets. While the detection of exoplanets is challenging conventional views of planet formation, it has also created opportunities for new observational methods to detect and characterize habitability and bio-signatures. The study of life on Earth has revealed surprising constraints on the limits of life with the discovery of extremophiles capable of surviving in near-freezing, near-boiling, nonaqueous, or high-radiation environments. This interdisciplinary course involves topics in astronomy, planet formation, and biology.

AST 1113. Astronomy for Educators. (3-0) 3 Credit Hours.
Prerequisite: MAT 1023 or MAT 1073. This is a one-semester introductory survey course on modern astronomy, specially designed for education majors. During the semester, students will develop course materials for classroom instruction appropriate for K-12 education. Correcting common misconceptions in astronomy and current teaching strategies will be discussed to help students master the course material and become effective teachers.

AST 3001. Undergraduate Astronomy Seminar. (1-0) 1 Credit Hour.
Prerequisite: Completion of or concurrent enrollment in AST 3003 or consent of instructor. Designed for physics and astronomy majors. Discussions about current astronomical research, with different topics
emphasized each semester. May be repeated twice for credit when the topics vary. Offered on a credit/no-credit basis only.

AST 3013. Fundamentals of Astronomy. (3-0) 3 Credit Hours.
Prerequisites: PHY 1963 (or PHY 1923) 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 3093 and AST 2063.).

AST 3023. Introduction to Astrophysics. (3-0) 3 Credit Hours.
Prerequisites: AST 3013 and PHY 2103 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.).

AST 3033. Observational Techniques in Astronomy. (3-0) 3 Credit Hours.
Prerequisite: Completion of or concurrent enrollment in AST 3023 or consent of instructor. Properties of stars and starlight; principles of radiation; interpretation of stellar spectra. Observational techniques such as photometry, spectroscopy, telescopes and detectors; variable stars; binary stars. In addition to classical visual observations, topics span the electromagnetic spectrum, including radio, infrared, X-ray, and gamma-ray measurements in astronomy.

AST 3043. Astrochemistry. (3-0) 3 Credit Hours.
Prerequisite: AST 3023 or consent of instructor. An interdisciplinary course that explores astrochemistry: the study of molecules in space. Where are they? How did they get there? What roles do they play in controlling or influencing astrophysical processes? The chemistry of interstellar molecules is one of modern astronomy’s best tools for probing the processes of star and planet formation. Organic molecules formed in space and delivered to Earth’s primordial surface may have contributed to the origin of terrestrial life. Through a combination of observational spectroscopy and imaging, theoretical modeling and controlled laboratory studies, the secrets of the cosmic chemical cauldron are beginning to be unlocked. This course involves readings in astronomy, chemistry, and biology.

AST 3103. Observational Astronomy Laboratory. (0-6) 3 Credit Hours.
Prerequisite: Completion of, with a grade of “C-” or better, or concurrent enrollment in AST 3033 or consent of instructor. An introduction to practical observational techniques in astronomy designed for physical science students. Topics include basic observational techniques and modern instrumentation in astronomy including astrophotography, photometry, and spectroscopy of solar system, stellar and deep-space objects. Under the supervision of the course instructor, the students will use the 0.4-m telescope and other instrumentation on the campus observatory.

AST 3303. Introduction to Galactic and Extragalactic Astronomy. (3-0) 3 Credit Hours.
Prerequisite: AST 3023 or consent of instructor. Topics include the Milky Way Galaxy and its constituents and the Local Group, morphology and properties of galaxies, Dark Matter, galaxy clusters, structure and evolution of galaxies including interactions and mergers, active galactic nuclei, gravitational lensing, and quasars.
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.

AST 4303. Solar System Astrophysics. (3-0) 3 Credit Hours.
Prerequisite: AST 3023 or consent of instructor. Modern studies of the solar system, including properties of the planets and smaller bodies, and the origin of planetary systems. Topics include the solar system, its formation, structure, and evolution; orbital dynamics, surfaces, interiors, atmospheres, magnetospheres, and other properties of the sun, the planets and their satellites; comets and asteroids; origin of planetary systems; extra-solar systems. (Formerly titled “The Solar System.”).

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.

Physics (PHY) Courses
Department of Physics and Astronomy, College of Sciences

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. May apply toward the Core Curriculum requirement in Life and Physical Sciences.

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. 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. Concurrent enrollment in PHY 1611 is recommended.

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.

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. 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. Concurrent enrollment in PHY 1631 is recommended.

**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.

**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. 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. Concurrent enrollment in PHY 1951 is recommended. 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 1904. Same as PHY 1903. Credit cannot be earned for more than one of the following: PHY 1903, PHY 1904, or PHY 1943.).

**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.).

**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. 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. Concurrent enrollment in PHY 1971 is recommended. 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 1924. Same as PHY 1923. Credit cannot be earned for more than one of the following: PHY 1923, PHY 1924, or PHY 1963.).

**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.).

**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.).
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.

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.).

PHY 3003. Current Research Topics in Physics. (3-0) 3 Credit Hours.
Prerequisites: PHY 1623 and PHY 1631, PHY 1923 and PHY 1931, or PHY 1963 and PHY 1971, completed with a grade or “C-” or better. This course provides students the opportunity to acquire knowledge in contemporary physics through the study and class discussions of selected topics and recent articles. Subjects may include one or more of the following: special and general relativity, elements of quantum mechanics, atomic and molecular physics, solid state, biophysics, nuclear physics, introduction to elementary particles, astrophysics and cosmology, etc. May not be applied toward the B.S. or B.A. degree in Physics without prior written approval of the department.

PHY 3143. Introduction to Computational Physics. (3-0) 3 Credit Hours.
Prerequisites: PHY 2103, PHY 2823, and PHY 3203, or consent of instructor. This course introduces the computer techniques used to solve (and improve the understanding of) physical problems that may be intractable by the standard “pencil and paper” analytical approach. Topics may include numerical solution of differential equations, numerical integration, eigenvalue problems, use of computer algebra systems such as Mathematica or Maple, Monte Carlo methods, computer visualization of physical problems, etc. Examples are taken from classical and quantum mechanics, electrodynamics, statistical mechanics, and solid state physics. May be applied toward a B.S. degree in Physics with approval of the physics advisor. (Formerly titled “Computer Visualization of Physics.”).

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.

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.

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.”).
PHY 3343. Advanced Physics 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.

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.

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.

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.

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.

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.)

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.)

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.
PHY 4203. Classical Mechanics II. (3-0) 3 Credit Hours.
Prerequisite: PHY 3203 or consent of instructor. Topics may include nonlinear oscillations and chaos, systems of particles and collisions, non-inertial frames, rigid bodies, coupled oscillations, continuous systems and waves.

PHY 4263. Quantum Mechanics I. (3-0) 3 Credit Hours.
Prerequisite: 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.

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.

PHY 4563. Biophotonics. (3-0) 3 Credit Hours.
Prerequisite: PHY 3443 or consent of instructor. Topics including basic concepts of optical radiation interacting with biological materials will be covered. Discussion of how the unique properties of photons are exploited to understand the biological structure and its function. Photon absorption and emission in biological materials will be considered to explain their applications, including optical imaging as a noninvasive diagnosis tool, photodynamic therapy (PDT), etc.

PHY 4603. Crystallography and Materials Characterization. (3-0) 3 Credit Hours.
Prerequisite: PHY 2103 or consent of instructor. This course will describe the basics of crystal description and will discuss the characterization methods such as x-ray electron and neutron diffraction.

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.

PHY 4653. Introduction to Micro and Nanotechnology. (3-0) 3 Credit Hours.
Prerequisite: PHY 3423 or consent of instructor. Survey of micro and nanofabrication techniques, scaling laws, mechanical, optical, electrical, magnetic and thermal transducers, microfluidic applications, and nanostructures. Structures produced in the laboratory include microactuators, nanoparticles and microfluidics. This course differs from PHY 4623 in that it is oriented more toward fabrication techniques, rather than fundamentals. (Credit cannot be earned for both PHY 4653 and EE 4523.).

PHY 4703. Renewable Energy: Solar Energy Convertors. (3-0) 3 Credit Hours.
Prerequisite: PHY 2103 or consent of instructor. Topics include physics of photovoltaic cells, semiconductors, solar energy convertors, thin film solar cells, nanostructures for solar energy conversion, dye-sensitized photovoltaic cells, fuels from water and sunlight, strategies for high efficiency.

PHY 4833. Molecular Biophysics. (3-0) 3 Credit Hours.
Prerequisite: PHY 2103 or consent of instructor. 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.

**PHY 4843. Condensed Matter Theory. (3-0) 3 Credit Hours.**
Prerequisites: PHY 3313 and PHY 4263, or consent of instructor. This course offers an introduction to the basic concepts of the quantum condensed matter theory, such as lattice dynamics, elementary excitations, linear response theory, symmetry breaking in Fermi and Bose systems: the physics of superconductivity and superfluidity.

**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.

**PHY 4912. Independent Study. (0-0) 2 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.

**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.

**PHY 4953. Special Studies in Physics. (3-0) 3 Credit Hours.**
Prerequisites: 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.

**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.

**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.
10. University College

The University College offers students the opportunity to realize their potential for academic success by becoming involved in the comprehensive First Year Experience Program. Additionally, the University College includes the Writing Program and the Air Force ROTC and Army ROTC programs. The University College also offers the Bachelor of Arts degree in Multidisciplinary Studies and the Bachelor of Science degree in Public Health.

All freshmen are admitted into University College and participate in a comprehensive First Year Experience Program designed to help transition from high school to college. In UTSA’s First Year Experience students will participate in a peer mentor program, have the opportunity to enroll in linked courses, and receive guidance in selecting an appropriate major. Students must meet the following criteria in order to exit University College and transition to their respective colleges of major.

1. Complete 30 UTSA semester credit hours\(^1\)
2. Have no Texas Success Initiative (TSI) deficiencies
3. Meet all requirements to declare a major
4. Earn credit for AIS 1203 Academic Inquiry and Scholarship
5. Earn credit for WRC 1013 Freshman Composition I
6. Earn credit for the Core Curriculum Mathematics requirement
7. Complete the First Year Experience Program
8. 

Students will remain in University College until all seven exiting requirements have been met. Students within the University College will register with the freshman cohort, regardless of hours earned, unless they have a designated priority registration.

Transfer students with 30 or more hours majoring in selective programs and undeclared majors will be admitted into University College and remain in the College until they have met all requirements to declare a major. At that point, such students will transition to their appropriate college of major.

\(^1\) There is a distinction for freshmen and freshmen transfers entering UTSA with 15 or more credit hours. Such individuals may satisfy this requirement by completing 30 total hours, 15 of which must be UTSA hours with a UTSA grade point average (GPA) of 2.5 or higher. Freshmen and freshmen transfers entering UTSA with 15 or more credit hours may be designated as University College Accelerated Students as soon as they meet the first six exiting requirements above. Upon completion of these first six requirements, University College Accelerated Students will be able to register with their appropriate cohort based upon hours earned (30-59 sophomore, 60-89 junior, etc.).

Bachelor of Arts Degree in Multidisciplinary Studies

The Bachelor of Arts 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 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.

Core Curriculum Requirements (42 semester credit hours)

Students seeking the Bachelor of Arts 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. For a complete listing of courses that satisfy the Core Curriculum requirements, see chapter 1 of this catalog.

Degree Requirements

All candidates for the Bachelor of Arts degree in Multidisciplinary Studies must complete the following 78 semester credit hours.

A. Multidisciplinary Studies Foundation Courses

Technology Requirement. Select one of the following:

- CS 1033 Microcomputer Applications 3
- IS 1403 Business Information Systems Fluency

Communications Requirement. Select one of the following:

- COM 1043 Introduction to Communication 3
- 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:

1. Focus Area One: 18 semester credit hours of courses within a single discipline with at least 12 hours at the upper-division level.
2. Focus Area Two: 15 semester credit hours of courses within a single discipline with at least 9 hours at the upper-division level.
3. Focus Area Three: 15 semester credit hours of courses within a single discipline with at least 9 hours at the upper-division level.

Courses selected to satisfy a focus area must be approved by the Multidisciplinary Studies Program Coordinator and Dean of University College. 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. No more than one focus area can be selected from a discipline offered by the College of Business.

C. Seminar for Multidisciplinary Studies
MDS 4983 Senior Seminar for Multidisciplinary Studies 3

D. Free Electives
All candidates for this degree must complete 21 semester hours of free electives, at least 6 of which must be at the upper-division level.

Total Credit Hours: 78

All candidates for this degree must complete 21 semester hours of free electives, at least 6 of which must be at the upper-division level.

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 advisors in the University College 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

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIS 1203</td>
<td>3</td>
</tr>
<tr>
<td>HIS 1043, 1053, or 2053</td>
<td>3</td>
</tr>
<tr>
<td>WRC 1013</td>
<td>3</td>
</tr>
<tr>
<td>Focus Area 1 lower-division course</td>
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</tr>
<tr>
<td>Mathematics core</td>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Spring</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 1033 or IS 1403</td>
<td>3</td>
</tr>
<tr>
<td>HIS 1043, 1053, or 2053</td>
<td>3</td>
</tr>
<tr>
<td>WRC 1023</td>
<td>3</td>
</tr>
<tr>
<td>Focus Area 2 lower-division course</td>
<td>3</td>
</tr>
<tr>
<td>Life &amp; Physical Sciences core</td>
<td>3</td>
</tr>
<tr>
<td>-------------------------------</td>
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</tbody>
</table>

**Second Year**

<table>
<thead>
<tr>
<th>Fall</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>COM 1043, 1053, 2113, or ENG 2413</td>
<td>Introduction to Communication</td>
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<tr>
<td>POL 1013</td>
<td>Introduction to American Politics (core)</td>
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<td>Focus Area 1 lower-division course</td>
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</tr>
<tr>
<td>Focus Area 3 lower-division course</td>
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</tr>
<tr>
<td>Life &amp; Physical Sciences core</td>
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</table>

<table>
<thead>
<tr>
<th>Spring</th>
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</thead>
<tbody>
<tr>
<td>POL 1133</td>
<td>Texas Politics and Society (core)</td>
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<td>Focus Area 2 lower-division course</td>
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<tr>
<td>Creative Arts core</td>
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</tr>
<tr>
<td>Language, Philosophy &amp; Culture core</td>
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</table>

**Third Year**

<table>
<thead>
<tr>
<th>Fall</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ECO 2003, 2013, or 2023</td>
<td>Economic Principles and Issues (core)</td>
</tr>
<tr>
<td>Focus Area 1 upper-division course</td>
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</tr>
<tr>
<td>Focus Area 2 upper-division course</td>
<td>3</td>
</tr>
<tr>
<td>Free elective</td>
<td>3</td>
</tr>
<tr>
<td>Focus Area 2 upper-division course</td>
<td>3</td>
</tr>
<tr>
<td>Component Area Option core</td>
<td>3</td>
</tr>
</tbody>
</table>

**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 |
| Free elective | 3 |

**Fourth Year**

<table>
<thead>
<tr>
<th>Fall</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Focus Area 1 upper-division course</td>
<td>3</td>
</tr>
<tr>
<td>Focus Area 2 upper-division course</td>
<td>3</td>
</tr>
<tr>
<td>Focus Area 3 upper-division course</td>
<td>3</td>
</tr>
<tr>
<td>Free elective</td>
<td>3</td>
</tr>
<tr>
<td>Free elective (upper division)</td>
<td>3</td>
</tr>
</tbody>
</table>

**Spring**

| MDS 4983 | Senior Seminar for Multidisciplinary Studies | 3 |
| Focus Area 1 upper-division course | 3 |
Bachelor of Science Degree in Public Health

The Bachelor of Science 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 elective courses allow students to concentrate in one of the areas of specialization.

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. 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 degree program is offered in two concentrations: (1) Epidemiology and Disease Control and (2) Health Promotion and Behavioral Science. The Epidemiology and Disease Control concentration is offered by the Department of Sociology of the College of Liberal and Fine Arts (COLFA) and students seeking this concentration and who are not freshmen will be advised by the COLFA Advising Center. The Health Promotion and Behavioral Science concentration is offered by the Department of Health and Kinesiology of the College of Education and Human Development (COEHD) and students seeking this concentration and who are not freshmen will be advised by the COEHD Advising Center. Bachelor of Science in Public Health majors who are freshmen will be advised by the Colleges’ Freshman Advising Center (CFAC).

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.

Core Curriculum requirements (42 semester credit hours)

Students seeking the Bachelor of Science 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. For a complete listing of courses that satisfy the Core Curriculum requirements, see chapter 1 of this catalog.

STA 1053 may be used to satisfy the core requirement in Mathematics as well as a major requirement. BIO 1404 and BIO 1413 may be used to satisfy the core requirement in Natural Sciences as well as major requirements.

Degree Requirements

All candidates for the Bachelor of Science 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 37 semester credit hours of coursework:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 1404</td>
<td>Biosciences I</td>
<td>4</td>
</tr>
<tr>
<td>BIO 1413</td>
<td>Biosciences II</td>
<td>3</td>
</tr>
<tr>
<td>HTH 3503</td>
<td>Theories of Health Behavior</td>
<td>3</td>
</tr>
<tr>
<td>HTH 4503</td>
<td>Human Disease and Epidemiology</td>
<td>3</td>
</tr>
<tr>
<td>HTH 4543</td>
<td>Environmental Health and Safety</td>
<td>3</td>
</tr>
<tr>
<td>MGT 3013</td>
<td>Introduction to Organization Theory, Behavior, and Management</td>
<td>3</td>
</tr>
<tr>
<td>PUB 1113</td>
<td>Introduction to Public Health</td>
<td>3</td>
</tr>
<tr>
<td>PUB 2113</td>
<td>Data Management in Public Health</td>
<td>3</td>
</tr>
<tr>
<td>SOC 3223</td>
<td>Population Dynamics and Demographic Techniques</td>
<td>3</td>
</tr>
<tr>
<td>SOC 4043</td>
<td>Global Health</td>
<td>3</td>
</tr>
<tr>
<td>SOC 4053</td>
<td>Health Care System</td>
<td>3</td>
</tr>
<tr>
<td>STA 1053</td>
<td>Basic Statistics</td>
<td>3</td>
</tr>
</tbody>
</table>

B. Public Health Concentrations

All candidates for the degree in Public Health must complete the requirements for one of the following concentrations.

1. Epidemiology and Disease Control Concentration

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOC 3323</td>
<td>Introduction to Social Research</td>
</tr>
<tr>
<td>SOC 4683</td>
<td>Health Disparities</td>
</tr>
</tbody>
</table>

Select at least 12 semester hours of the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANT 3523</td>
<td>Medical Anthropology</td>
</tr>
<tr>
<td>BIO 2083</td>
<td>Human Anatomy</td>
</tr>
<tr>
<td>BIO 2091</td>
<td>Human Anatomy Laboratory</td>
</tr>
<tr>
<td>BIO 2103</td>
<td>Human Physiology</td>
</tr>
<tr>
<td>BIO 2111</td>
<td>Human Physiology Laboratory</td>
</tr>
<tr>
<td>BIO 2313</td>
<td>Genetics</td>
</tr>
<tr>
<td>BIO 2322</td>
<td>Genetics Laboratory</td>
</tr>
<tr>
<td>BIO 3413</td>
<td>Advanced Physiology</td>
</tr>
<tr>
<td>BIO 3422</td>
<td>Advanced Physiology Laboratory</td>
</tr>
<tr>
<td>BIO 3433</td>
<td>Neurobiology</td>
</tr>
<tr>
<td>BIO 3613</td>
<td>The Biology of Aging</td>
</tr>
<tr>
<td>BIO 3713</td>
<td>Microbiology</td>
</tr>
<tr>
<td>BIO 3722</td>
<td>Microbiology Laboratory</td>
</tr>
<tr>
<td>GRG 3443</td>
<td>Medical Geography</td>
</tr>
<tr>
<td>PUB 3413</td>
<td>Behavioral Epidemiology</td>
</tr>
<tr>
<td>PUB 3613</td>
<td>Etiology 1: Epidemiologic Methods to Investigate Outbreaks and New Epidemics</td>
</tr>
</tbody>
</table>
(Investigate Outbreaks and New Epidemics)
PUB 4613  Etiology 2: Epidemiologic Methods to Investigate Chronic Disease, Exposure, and Risk
(Investigate Chronic Disease, Exposure, and Risk)
SOC 3213  Medical Sociology
SOC 4073  Social and Behavioral Theories in Public Health

2. Health Promotion and Behavioral Science Concentration

Select at least 18 semester credit hours from the following list of courses:

ANT 3523  Medical Anthropology
BIO 2003  Biology of Human Reproduction
BIO 2043  Nutrition
BIO 3613  The Biology of Aging
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

D. Foreign Language

All candidates for this degree must complete 6 hours of course-work in a single foreign language.  6

E. Free Electives

All candidates for this degree must complete up to 20 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: 87
All candidates for this degree must complete up to 20 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.

Course Sequence Guide for B.S. Degree in Public Health

This course sequence guide is designed to assist students in completing their UTSA undergraduate Public Health degree requirements. This is merely a guide and students must satisfy other requirements of this catalog and meet with advisors in the College of Liberal and Fine Arts Undergraduate Advising Center (for Epidemiology and Disease Control Concentration) or the College of Education and Human Development Advising and Certification Center (for Health Promotion and Behavioral Science Concentration) 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 Public Health, Epidemiology and Disease Control Concentration – Four-Year Academic Plan

**First Year**

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIS 1203</td>
<td>Academic Inquiry and Scholarship (core)</td>
</tr>
<tr>
<td>PUB 1113</td>
<td>Introduction to Public Health</td>
</tr>
<tr>
<td>SOC 1013</td>
<td>Introduction to Sociology (core)</td>
</tr>
<tr>
<td>STA 1053</td>
<td>Basic Statistics (core and major)</td>
</tr>
<tr>
<td>WRC 1013</td>
<td>Freshman Composition I (core)</td>
</tr>
</tbody>
</table>

**Spring**

| BIO 1404              | Biosciences I (core and major) | 4 |
| HIS 1043, 1053, or 2053 | United States History: Pre-Columbus to Civil War Era (core) | 3 |
| WRC 1023              | Freshman Composition II (core) | 3 |
| Free elective         |                           | 3 |
| Language, Philosophy & Culture core | | 3 |

**Second Year**

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIS 1043, 1053, or 2053</td>
<td>United States History: Pre-Columbus to Civil War Era (core)</td>
</tr>
<tr>
<td>HTH 4503</td>
<td>Human Disease and Epidemiology</td>
</tr>
<tr>
<td>Free elective</td>
<td></td>
</tr>
<tr>
<td>Free elective</td>
<td></td>
</tr>
<tr>
<td>Free elective</td>
<td></td>
</tr>
</tbody>
</table>

**Spring**

| BIO 1413              | Biosciences II (core and major) | 3 |
| ECO 2003, 2013, or 2023 | Economic Principles and Issues (core) | 3 |
| SOC 3223              | Population Dynamics and Demographic Techniques | 3 |
| PUB 2113              | Data Management in Public Health | 3 |
Creative Arts core 3

**Third Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Fall</strong></td>
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</tr>
<tr>
<td>MGT 3013</td>
<td>Introduction to Organization Theory, Behavior, and Management</td>
<td>3</td>
</tr>
<tr>
<td>POL 1013</td>
<td>Introduction to American Politics (core)</td>
<td>3</td>
</tr>
<tr>
<td>SOC 4043</td>
<td>Global Health</td>
<td>3</td>
</tr>
<tr>
<td>Free elective (upper-division)</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Foreign language (semester I)</td>
<td></td>
<td>3-4</td>
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<td><strong>Spring</strong></td>
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</tr>
<tr>
<td>HTH 4543</td>
<td>Environmental Health and Safety</td>
<td>3</td>
</tr>
<tr>
<td>POL 1133</td>
<td>Texas Politics and Society (core)</td>
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</tr>
<tr>
<td>SOC 3323</td>
<td>Introduction to Social Research</td>
<td>3</td>
</tr>
<tr>
<td>SOC 4053</td>
<td>Health Care System</td>
<td>3</td>
</tr>
<tr>
<td>Foreign language (semester II)</td>
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</table>

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td></td>
<td><strong>Fourth Year</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Fall</strong></td>
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<tr>
<td>HTH 3503</td>
<td>Theories of Health Behavior</td>
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</tr>
<tr>
<td>PUB 4933</td>
<td>Public Health Internship (repeated)</td>
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<tr>
<td>Concentration course (upper-division)</td>
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<td>3</td>
</tr>
<tr>
<td></td>
<td><strong>Spring</strong></td>
<td></td>
</tr>
<tr>
<td>SOC 4683</td>
<td>Health Disparities</td>
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<td>Concentration course (upper-division)</td>
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<tr>
<td>Concentration course (upper-division)</td>
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<tr>
<td>Free elective (upper-division)</td>
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<tr>
<td>Free elective (to meet 120 hour minimum)</td>
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</tbody>
</table>

Total Credit Hours: 120.0

1 May be repeated in a different semester.

**B.S. in Public Health, Health Promotion and Behavioral Science Concentration – Four-Year Academic Plan**

**First Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIS 1203</td>
<td>Academic Inquiry and Scholarship (core)</td>
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<tr>
<td>PUB 1113</td>
<td>Introduction to Public Health</td>
<td>3</td>
</tr>
<tr>
<td>SOC 1013</td>
<td>Introduction to Sociology (core)</td>
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<tr>
<td>Semester</td>
<td>Course</td>
<td>Title</td>
</tr>
<tr>
<td>----------</td>
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</tr>
<tr>
<td></td>
<td>STA 1053</td>
<td>Basic Statistics (core and major)</td>
</tr>
<tr>
<td></td>
<td>WRC 1013</td>
<td>Freshman Composition I (core)</td>
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<tr>
<td>Spring</td>
<td>BIO 1404</td>
<td>Biosciences I (core and major)</td>
</tr>
<tr>
<td></td>
<td>HIS 1043, 1053, or 2053</td>
<td>United States History: Pre-Columbus to Civil War Era (core)</td>
</tr>
<tr>
<td></td>
<td>POL 1013</td>
<td>Introduction to American Politics (core)</td>
</tr>
<tr>
<td></td>
<td>WRC 1023</td>
<td>Freshman Composition II (core)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Language, Philosophy &amp; Culture core</td>
</tr>
<tr>
<td>Second Year</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fall</td>
<td>BIO 1413</td>
<td>Biosciences II (core and major)</td>
</tr>
<tr>
<td></td>
<td>HIS 1043, 1053, or 2053</td>
<td>United States History: Pre-Columbus to Civil War Era (core)</td>
</tr>
<tr>
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<td>HTH 3503</td>
<td>Theories of Health Behavior</td>
</tr>
<tr>
<td></td>
<td>POL 1133</td>
<td>Texas Politics and Society (core)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Visual &amp; Performing Arts core</td>
</tr>
<tr>
<td>Spring</td>
<td>ECO 2003, 2013, or 2023</td>
<td>Economic Principles and Issues (core)</td>
</tr>
<tr>
<td></td>
<td>PUB 2113</td>
<td>Data Management in Public Health</td>
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<tr>
<td></td>
<td>SOC 3223</td>
<td>Population Dynamics and Demographic Techniques</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Free elective</td>
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<tr>
<td></td>
<td></td>
<td>Free elective</td>
</tr>
<tr>
<td>Third Year</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fall</td>
<td>MGT 3013</td>
<td>Introduction to Organization Theory, Behavior, and Management</td>
</tr>
<tr>
<td></td>
<td>SOC 4043</td>
<td>Global Health</td>
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<td></td>
<td>Free elective</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Foreign language (semester I)</td>
</tr>
<tr>
<td>Spring</td>
<td>HTH 4503</td>
<td>Human Disease and Epidemiology</td>
</tr>
<tr>
<td></td>
<td>HTH 4543</td>
<td>Environmental Health and Safety</td>
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<tr>
<td></td>
<td>SOC 4053</td>
<td>Health Care System</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Concentration course</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Foreign language (semester II)</td>
</tr>
<tr>
<td>Fourth Year</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fall</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Concentration course</td>
</tr>
<tr>
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<td>Concentration course</td>
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Concentration course 3
Free elective (upper-division) 3
Free elective (upper-division) 3

Spring
PUB 4933 Public Health Internship (repeated) 6
Concentration course (upper-division) 3
Concentration course (upper-division) 3
Free elective (to meet 120 hour minimum) 2-0

Total Credit Hours: 120.0

Multidisciplinary Studies (MDS) Courses
University College

MDS 4983. Senior Seminar for Multidisciplinary Studies. (3-0) 3 Credit Hours.
Prerequisites: Declared major in Multidisciplinary Studies in semester of graduation and permission of the Multidisciplinary Studies Program Coordinator. 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.

Public Health (PUB) Courses
University College

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.).

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.).
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.).

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.

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.

PUB 4933. Public Health Internship. (0-0) 3 Credit Hours.
Prerequisites: Senior standing and completed coursework requirements in Public Health Foundation. 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.
AIR FORCE RESERVE OFFICER TRAINING CORPS PROGRAM

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) 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, 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 The University of Texas Health Science Center 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 at NPB 1.220.

Credit for aerospace studies courses may be applied toward a baccalaureate degree, but are generally classified as free electives. There is a 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 accredited 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 four-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 NPB 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
GRG 1023 World Regional Geography
GRG 3314 Introduction to Geographic Information Systems
GRG 3643 Political Geography
HIS 3543 History of Modern Warfare
HIS 3823 History of American Foreign Relations
POL 1213 Studies in Texas and American Politics
POL 2603 International 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 Third 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 University College in conjunction with an advisor in the office of Undergraduate Studies Support and Technology Services.

**Aerospace Studies (ASC) Courses**  
University College

**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.

**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.

**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.

**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.

**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.

**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.

**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.

**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.
ARMY RESERVE OFFICER TRAINING CORPS PROGRAM

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.

Credit for military science courses may be applied toward a baccalaureate degree, but mainly as free electives. Each major stipulates a maximum number of hours of military science that may be applied toward the degree requirements. Credit for military science courses awarded by another accredited 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 28 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 1001, MSC 1122/MSC 1101, MSC 2012/MSC 2011, and MSC 2022/MSC 2021, 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 4013, and MSC 4023 and their associated laboratory courses. 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 MSC 3013/MSC 3011, MSC 3023/MSC 3021, MSC 4013/MSC 4011, and MSC 4023/MSC 4021 and the 31-day paid leadership developmental advanced course 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.

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.
The program requirements for the Basic and Advanced courses are as follows:

MSC 1001  Introduction to Army ROTC Laboratory  1
MSC 1012  Introduction to Army ROTC  2
MSC 1101  Introduction to Tactical Leadership Laboratory  1
MSC 1122  Introduction to Tactical Leadership  2
MSC 2011  Foundations of Leadership Laboratory  1
MSC 2012  Foundations of Leadership  2
MSC 2021  Foundations of Tactical Leadership Laboratory  1
MSC 2022  Foundations of Tactical Leadership  2
MSC 3011  Leading Small Organizations I Laboratory  1
MSC 3013  Leading Small Organizations I  3
MSC 3021  Leading Small Organizations II Laboratory  1
MSC 3023  Leading Small Organizations II  3
MSC 4011  Adaptive Leadership Laboratory  1
MSC 4013  Adaptive Leadership  3
MSC 4021  Leadership in a Complex World Laboratory  1
MSC 4023  Leadership in a Complex World  3

Total Credit Hours: 28

**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. Core Military Science and Leadership coursework

MSC 3013  Leading Small Organizations I  3
MSC 3023  Leading Small Organizations II  3
MSC 4013  Adaptive Leadership  3
MSC 4023  Leadership in a Complex World  3

B. Select 3 of the following:  9

GLA 3013  Introduction to Global Analysis
GLA 4013  The Intelligence Community and World Affairs
GRG 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 Third 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 University College in conjunction with an advisor in the office of Undergraduate Studies Support and Technology Services.

Military Science (MSC) Courses  
University College  

MSC 1001. Introduction to Army ROTC Laboratory. (0-2) 1 Credit Hour.  
   Corequisite: Concurrent enrollment in MSC 1012. This two hour mandatory laboratory applies and reinforces classroom instruction with outdoor, hands-on training on campus. In addition, it provides an opportunity to experience unique training opportunities unavailable to the general public at nearby Camp Bullis.

MSC 1101. Introduction to Tactical Leadership Laboratory. (0-2) 1 Credit Hour.  
   Corequisite: Concurrent enrollment in MSC 1122. This two hour mandatory laboratory applies and reinforces classroom instruction with outdoor, hands-on training on campus. In addition, it provides an opportunity to experience unique training opportunities unavailable to the general public at nearby Camp Bullis.

MSC 1122. Introduction to Tactical Leadership. (2-0) 2 Credit Hours.  
   Overviews leadership fundamentals such as setting direction, problem solving, listening, presenting briefs, providing feedback, and using effective writing skills. Students will explore dimensions of leadership attributes and core leader competencies in the context of practical, hands-on, and interactive exercises and will learn and apply principles of effective leading. Reinforce self-confidence through participation in physically and mentally challenging exercises with upper-division ROTC students. Develop communication
skills to improve individual performance and group interaction. Relate organizational ethical values to leadership effectiveness. Students attend two hours of lecture, a required two hours of leadership laboratory (MSC 1101) plus 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.)

MSC 2011. Foundations of Leadership Laboratory. (0-2) 1 Credit Hour.
Corequisite: Concurrent enrollment in MSC 2012. This two hour mandatory laboratory applies and reinforces classroom instruction with outdoor, hands-on training on campus. In addition, it provides an opportunity to experience unique training opportunities unavailable to the general public at nearby Camp Bullis.

MSC 2012. Foundations of Leadership. (2-0) 2 Credit Hours.
Explores the dimensions of creative and innovative tactical leadership strategies and styles by examining team dynamics and two historical leadership theories that form the basis of the Army leadership framework (trait and behavior theories). Students practice aspects of personal motivation and team building in the context of planning, executing, and assessing team exercises and participating in leadership labs. Focus is on continued development of the knowledge of leadership attributes and core leader competencies through an understanding of Army rank, structure, duties and basic aspects of oral presentations, concise writing, advanced first aid, land navigation, basic rifle marksmanship and basic military squad tactics. Students attend lecture and a required leadership laboratory (MSC 2011) plus 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.

MSC 2021. Foundations of Tactical Leadership Laboratory. (0-2) 1 Credit Hour.
Corequisite: Concurrent enrollment in MSC 2022. This two hour mandatory laboratory applies and reinforces classroom instruction with outdoor, hands-on training on campus. In addition, it provides an opportunity to experience unique training opportunities unavailable to the general public at nearby Camp Bullis.

MSC 2022. Foundations of Tactical Leadership. (2-0) 2 Credit Hours.
Examines the challenges of leading tactical teams in the complex Contemporary Operating Environment (COE). 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. MSC 2022 provides a smooth transition into MSC 3013. Students have an opportunity to develop greater self-awareness as they assess their own leadership styles and practice communication and team-building skills. COE case studies give insight into the importance and practice of teamwork and tactics in real-world scenarios. Students attend lecture and a required leadership laboratory (MSC 2021) plus 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.

MSC 3011. Leading Small Organizations I Laboratory. (0-2) 1 Credit Hour.
Corequisite: Concurrent enrollment in MSC 3013. This two hour mandatory laboratory applies and reinforces classroom instruction with outdoor, hands-on training on campus. In addition, it provides an opportunity to experience unique training opportunities unavailable to the general public at nearby Camp Bullis.
MSC 3013. Leading Small Organizations I. (3-0) 3 Credit Hours.
Prerequisites: MSC 1012, MSC 1122, MSC 2012, and MSC 2022, or consent of instructor. Series of practical opportunities to lead small groups, receive personal assessments and encouragement, and lead in increasingly complex situations. Uses small unit tactics and opportunities to plan and conduct training for lower-division students both to develop such skills and as vehicles for practicing leading. Students attend three hours of lecture, two hours of leadership laboratory (MSC 3011) and organized physical fitness training weekly. 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.

MSC 3021. Leading Small Organizations II Laboratory. (0-2) 1 Credit Hour.
Corequisite: Concurrent enrollment in MSC 3023. This two hour mandatory laboratory applies and reinforces classroom instruction with outdoor, hands-on training on campus. In addition, it provides an opportunity to experience unique training opportunities unavailable to the general public at nearby Camp Bullis.

MSC 3023. Leading Small Organizations II. (3-0) 3 Credit Hours.
Prerequisite: MSC 3013 or consent of instructor. Continues methodology of MSC 3013. Students will analyze tasks and prepare written or oral guidance for team members to accomplish tasks. Students will also delegate tasks and supervise; plan for and adapt to the unexpected in organizations under stress; examine and apply lessons from leadership case studies; and examine the importance of ethical decision making in setting a positive climate that enhances team performance. Students attend three hours of lecture, two hours of leadership laboratory (MSC 3021) and organized physical fitness training weekly. 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.

MSC 3033. American Military History. (3-0) 3 Credit Hours.
Prerequisites: MSC 1012, MSC 1122, MSC 2012, and MSC 2022, or consent of instructor. 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 4011. Adaptive Leadership Laboratory. (0-2) 1 Credit Hour.
Corequisite: Concurrent enrollment in MSC 4013. This two hour mandatory laboratory applies and reinforces classroom instruction with outdoor, hands-on training on campus. In addition, it provides an opportunity to experience unique training opportunities unavailable to the general public at nearby Camp Bullis.

MSC 4013. Adaptive Leadership. (3-0) 3 Credit Hours.
Prerequisite: MSC 3023 or consent of instructor. Students will plan, conduct, and evaluate activities of the ROTC cadet organization; articulate goals and put plans into action; assess organizational cohesion and develop strategies to improve it; develop confidence in leadership skills and resource management; learn and apply various Army policies and programs. Students will study how Army values and leader ethics are applied in the Contemporary Operating Environment and how these values and ethics are relevant to everyday life. Students will study the Army officer’s role in the Uniform Code of Military Justice, the counseling of subordinates, administrative actions and the management of an Army officer’s career. Students
attend three hours of lecture, two hours of leadership laboratory (MSC 4011) and organized physical fitness training weekly. 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.

MSC 4021. Leadership in a Complex World Laboratory. (0-2) 1 Credit Hour.
Corequisite: Concurrent enrollment in MSC 4023. This two hour mandatory laboratory applies and reinforces classroom instruction with outdoor, hands-on training on campus. In addition, it provides an opportunity to experience unique training opportunities unavailable to the general public at nearby Camp Bullis.

MSC 4023. Leadership in a Complex World. (3-0) 3 Credit Hours.
Prerequisite: MSC 4013 or consent of instructor. Continues the methodology from MSC 4013. Students will identify and resolve ethical dilemmas; refine counseling and motivating techniques; examine tradition and law as related to leadership as an Army officer; prepare for a future as a successful Army lieutenant. Students attend three hours of lecture, two hours of leadership laboratory (MSC 4021) and organized physical fitness training weekly. 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.

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.
FIRST YEAR EXPERIENCE PROGRAM

The First Year Experience Program 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.

Academic Inquiry and Scholarship (AIS) Courses
University College

AIS 1203. Academic Inquiry and Scholarship. (3-0) 3 Credit Hours.
A general survey of scholarship practiced within three broad cultures of inquiry: the Humanities, Social Sciences and Natural Sciences. Through a cross-disciplinary framework, this course explores the diverse ideas, values, and practices used by various disciplines to investigate and organize their subject matter and create knowledge. Students will consider and compare the assumptions, methods, ethics, and impact of inquiry and scholarship within these three broad cultures of inquiry. Students will examine, compare, and contrast the intellectual endeavors that influence society and human experience. This course is required to fulfill the Core Curriculum requirement in Language, Philosophy and Culture.

College Success Seminar (CSS) Courses
University College

CSS 1201. College Success Seminar. (1-0) 1 hour credit.
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.

University Peer Mentorship (UPM) Courses
University College

UPM 1000. University Peer Mentorship. (0-0) 0 Credit Hours.
This course 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 course is limited to first- and second-semester freshmen and freshmen transfer students. The course is completed during the semester immediately following or prior to completion of AIS 1203.
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. 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.

Writing Program (WRC) Courses
University College

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.

WRC 1013. Freshman Composition I. (3-0) 3 Credit Hours. (TCCN = ENGL 1301)
Freshman Composition I focuses on developing and expressing ideas clearly and effectively to communicate with various audiences for various purposes and occasions, through written, oral, aural, and visual venues by means of individual and team projects. Students review principles of the writing process, including planning; logical, organizational, and developmental strategies; revision and editing. They are also introduced to rhetorical techniques (persuasion). The course develops students’ critical thinking skills through practice with summary and paraphrase, analysis, evaluation, and synthesis of multiple sources drawn from a variety of cultural and intellectual contexts. Students engage in extensive library research. Students also practice ethical decision-making through responsible selection, use, and documentation of sources.

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. The course provides intensive writing practice in the use of logical organization and development to help students express ideas clearly and effectively, orally, aurally, visually, and in writing. Students also address varied audiences for different purposes and use different genres (e.g., essay, editorial, proposal). Freshman Composition II continues to promote ethical decision-making through responsible methods of data gathering and analysis to produce valid arguments based on factual information and effective use of sources for support. Students may enroll in a discipline-
specific section of the course, such as anthropology, architecture, business, communication (documentaries or media), environmental science, quantitative literacy, or science.

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.

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.).
11. Honors College

The mission of the Honors College is to provide enhanced educational opportunities for selected, motivated, enthusiastic, diverse, and inquisitive students and to foster the pursuit of excellence in undergraduate higher education. The underlying philosophy of the program is that well-educated individuals should understand broad, interdisciplinary perspectives while demonstrating expertise in their chosen field.

The Honors College is open to students from all academic disciplines. The Honors College has different options for students interested in pursuing either a specific field of study with Honors distinction(s) or a Bachelor of Arts (B.A.) in Honors Studies. Regardless of the track chosen, members of the Honors College pursue a rigorous academic program which satisfies all requirements of their academic departments and colleges and goes beyond those requirements to enhance achievement. The Honors College offers small classes with greater opportunities for student participation, increased student-faculty contact, more individual attention, lively discussions of important issues, special interdisciplinary seminars, opportunities for study abroad, community service and internships, and supervised capstone experiences, all designed to challenge talented students.

Throughout a student’s program of study, the Honors College emphasizes breadth of academic experience. In the junior and senior years, Honors students are encouraged to gain expertise in their academic field through Honors work in the major and an Honors capstone experience. Students who pursue the B.A. in Honors Studies or Highest Honors produce an honors capstone project under the direction of a faculty member from the student’s major department.

Participation in the Honors College supplements, but does not replace, work in a major field. Credits earned in Honors College courses, however, may also be used to satisfy Core Curriculum requirements or other degree requirements. The Honors College Advising Center assists in assuring that students meet all requirements for their degree plans.

Admission and Retention

Admission

Students must make special application to be considered for admission to the Honors College either as an entering freshman or as a continuing UTSA or transfer student. In general, threshold application requirements for incoming freshmen are a composite SAT (critical reading and math only) of 1200 or above, a composite ACT score of 27 or above, and/or graduation in the top 10 percent of the high school class. However, the Honors College applies a holistic review approach to student admission by considering such factors as writing skills, student leadership, special skills and abilities, and special circumstances. Therefore, students whose SAT, ACT, or class rank do not meet the threshold requirement may still gain admission if they offer a compelling reason why they should be part of the program, just as students who meet those requirements are not guaranteed admission. For continuing UTSA students and transfer students, eligibility to apply is based on a college grade point average (GPA) of 3.4 or better on a minimum of 15 hours of college coursework (excluding dual credit). Admission is competitive and contingent upon the pool of applicants for any given year. Admission information is posted online at http://utsa.edu/honors/.

Retention in the Honors College

After being accepted into the Honors College, a student must maintain a minimum UTSA GPA of 3.25 and demonstrate adequate progress toward completion of the Honors degree requirements. A student is considered to be in good standing if he or she maintains a minimum UTSA grade point average of 3.25. Only students in good standing qualify for Honors graduation.
Students whose UTSA grade point average falls below 2.75 will automatically be declared academically ineligible for Honors College membership. Students whose UTSA grade point average falls below 3.25 but is above 2.75 are placed on Honors probation, and they will be allowed to retain membership in the Honors College until their UTSA grade point average reaches 3.25, as long as their grade point average in each subsequent term is 3.25 or above. If a student on probation earns a term GPA of less than 3.25, he or she will be declared academically ineligible for Honors College membership.

Students who have been declared academically ineligible for Honors College membership may apply for readmission if they have attained a minimum UTSA grade point average of 3.25.

**Dual College Membership**

All Honors College students, except those pursuing the B.A. degree in Honors Studies, are also members of a degree-granting college. Admission to the Honors College is independent of admission to any other academic unit.

**Facilities and Services**

The UTSA Honors College provides the following opportunities to members of the College:

**Advising and Priority Registration**

The Honors College Advising Center provides academic advising for all honors students. Honors College students are given priority registration if they register for the following semester through the Honors College and have completed at least one Honors course in the past year or include an Honors course in their schedule.

**Honors Scholarships**

The Honors College, in conjunction with the UTSA Scholarship Office, annually awards numerous Honors scholarships. The majority of Honors scholarships are renewable for up to three years for students who maintain the requisite 3.25 grade point average and complete an Honors course each semester. More information on scholarships is available in the Office of the Dean of the Honors College.

**Honors Undergraduate Research Programs**

The Honors Undergraduate Research Program assists students in finding research assistantships in their academic disciplines. In addition, the Honors College Research and Travel Grant Program provides students working on an Honors capstone project with financial assistance for their projects.

**Honors Study Abroad**

The Honors Study Abroad Program works with the 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. Scholarships are available through the International Education Fund.

**Honors Internships**

Honors students are encouraged to work in their fields prior to graduation. Internships may be assigned locally, nationally, and internationally. Students may earn credit for Honors internship experiences.

**Undergraduate and Graduate Fellowships**

The Honors College coordinates on-campus efforts to assist graduating students interested in applying for graduate awards such as Rhodes Scholarships, Marshall Scholarships, Mitchell Scholarships, Fulbright Scholarships, National Science Foundation (NSF) Fellowships, and Ford Foundation Diversity Fellowships. Additionally, the Honors College staff identifies and assists students interested in undergraduate awards such as Harry S. Truman Scholarships and Goldwater Scholarships.
Participation in Honors Councils

The UTSA Honors College is an institutional member of the National Collegiate Honors Council (NCHC), the Great Plains Honors Council (GPHC), and the Council of Honors Administrators in Texas (CHAT). These organizations support honors education in the United States and address issues that face higher education and honors programs across the country. Honors students are encouraged to participate in these organizations and are, thus, able to meet and interact with honors students from across the region and nation.

Recognition for Honors Graduation

Members of the Honors College who complete the requirements for any form of College Honors qualify to graduate with an Honors College diploma and to participate in a special Honors College graduation ceremony where they receive an Honors stole to wear with their academic regalia. Recognition for Honors graduation includes a notation on the transcript and diploma and mention in the commencement bulletin.

Honors College Requirements

To graduate with an Honors College diploma, a student must be enrolled in the Honors College and must have a minimum UTSA grade point average of 3.25 at the time of graduation.

Business Honors

Bachelor of Business Administration (B.B.A.) majors who have been admitted to the Honors College may earn Business Honors if they maintain a minimum UTSA grade point average of 3.25 and complete an Honors section of five of the Common Body of Knowledge (CBK) courses. Business Honors classes emphasize class discussion, presentations, and business research.

General Honors

General Honors is designed to provide students with a broad, interdisciplinary Honors experience, primarily through Honors core curriculum coursework. Because the General Honors experience is targeted primarily at lower-division Honors coursework, students are only eligible to earn General Honors if they enter the Honors College with fewer than 30 hours (not including AP, CLEP, or dual credit hours).

General Honors Requirements

Honors Coursework

1. Required coursework 3
AIS 1203 Academic Inquiry and Scholarship (must be taken in an Honors section)

2. Select one of the following: 3
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

3. Five additional Honors elective courses, including no more than two courses of Honors contract coursework 15

Total Credit Hours: 21
Leadership Honors

Leadership Honors is designed to provide students with the opportunity to expand their leadership capabilities and to explore possibilities for enhancing learning capacities and strategic thinking. Students who pursue Leadership Honors have the opportunity to explore a new model of leadership that makes sense in the emerging competitive environment in which humans work and live. Students are asked to enhance their understanding of leadership and hone their personal leadership skills through coursework and action. Students who select to follow Leadership Honors may select from two different options, one that involves students in the College of Business’s Leadership Challenge program and one that involves students in the University of Texas System’s Archer Fellows Program.

Leadership Honors Requirements

Leadership Honors Coursework
1. Required coursework 3
   AIS 1203 Academic Inquiry and Scholarship (must be taken in an Honors section)

2. Required Honors coursework. Select one of the following options: 18
   Option 1
   MGT 4953 Special Studies in Management
   HON 4933 Honors Internship (or an internship in the major)
   12 hours of elective Honors coursework, including no more than 6 hours of Honors contract work
   
   Option 2
   HON 3513 Policy-Making Process
   HON 3523 Beyond Congress and the White House
   HON 3533 Advocacy in Applied Settings
   HON 4936 Honors Internship
   3 hours of elective Honors coursework

Total Credit Hours: 21

Highest Honors

Highest Honors is the most rigorous and most prestigious Honors degree program available through the Honors College. What distinguishes Highest Honors from the other Honors options is the opportunity to pursue greater depth in one’s academic field. To earn Highest Honors, students must complete an Honors capstone project under the supervision of a capstone advisor. The Honors capstone project must be signed by a three-member committee approved by the Assistant Director for Undergraduate Research.

Highest Honors Requirements

Honors Coursework 1
1. Required coursework 3
   AIS 1203 Academic Inquiry and Scholarship (must be taken in an Honors section) 2
2. Select two of the following: 6
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
HON 3513  Policy-Making Process
HON 3523  Beyond Congress and the White House
HON 3533  Advocacy in Applied Settings

3. Select 21 semester credit hours of Honors elective coursework, including no more than 9 semester credit hours of Honors contract coursework. (It is highly recommended that students complete 6 hours of Honors Capstone Project to count toward their 21 hours of Honors elective coursework.) 21

4. Completion of an Honors capstone project
Total Credit Hours: 30

1 Students who enter with 45+ hours may be granted a waiver of 6 hours of Honors coursework to reduce the required number of Honors hours from 30 to 24 hours. This reduction of hours will be reflected in section 3 of the Highest Honors requirements, reducing the number of hours from 21 to 15.

2 Students who enter with 45+ hours may petition to substitute an additional Honors Seminar to replace AIS 1203 if they have already taken AIS 1203 or enter the College with core curriculum requirements complete.

**International Distinction**

Students who have been admitted to the Honors College and pursue any of the Honors distinctions may also qualify for graduation with international distinction. Students qualify for graduation with international distinction if they: (1) complete all the requirements for Business Honors, General Honors, Leadership Honors, or Highest Honors; and (2) either master a foreign language at the 2023 level or above or participate in a study-abroad experience for at least one Spring or Fall semester.
Honors (HON) Courses

Honors College

HON 2201. Honors Community Service. (0-0) 1 Credit Hour.
Prerequisite: Enrollment in the Honors College or consent of instructor. Supervised community service experience relevant to an Honors education. May be repeated for credit, but not more than 3 semester credit hours will apply to a bachelor’s degree.

HON 3021. Honors Essay Writing. (0-0) 1 Credit Hour.
Prerequisites: WRC 1013 and WRC 1023, enrollment 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.

HON 3223. Honors Seminar in Social & Behavioral Sciences. (3-0) 3 Credit Hours.
Prerequisite: Enrollment 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.

HON 3233. Honors Seminar in Arts & Humanities. (3-0) 3 Credit Hours.
Prerequisite: Enrollment 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.

HON 3243. Honors Seminar in Business & the Professions. (3-0) 3 Credit Hours.
Prerequisite: Enrollment 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.

HON 3253. Honors Seminar in the Sciences. (3-0) 3 Credit Hours.
Prerequisite: Enrollment 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.

HON 3301. Graduate School Workshop. (1-0) 1 Credit Hour.
Prerequisite: Enrollment in the UT System Archer Fellows Program. 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 3501. Honors Capstone Exploration. (1-0) 1 Credit Hour.
Prerequisite: Enrollment in the Honors College or consent of instructor. Course designed to help students develop an understanding of what a thesis project is, what resources are necessary to complete the project, and identify a topic and a faculty thesis advisor. Students are encouraged to take this course in the first semester of their junior year. (Formerly titled "Honors Thesis Exploration Seminar.").

HON 3513. 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.

HON 3523. Beyond Congress and the White House. (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.
HON 3533. Advocacy in Applied Settings. (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.

HON 4913. Honors Independent Study. (0-0) 3 Credit Hours.
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.

HON 4933. Honors Internship. (0-0) 3 Credit Hours.
Prerequisite: Enrollment 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.

HON 4936. Honors Internship. (0-0) 6 Credit Hours.
Prerequisite: Enrollment 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.

HON 4941. Honors Leadership. (0-0) 1 Credit Hour.
Prerequisite: Enrollment in the College of Business Leadership Challenge program. Supervised leadership experience relevant to an Honors education. Usually involves planning and designing experiences for new Honors students.

HON 4993. Honors Capstone Project. (0-0) 3 Credit Hours.
Prerequisite: Enrollment in the Honors College or consent of instructor. Supervised research and preparation of an Honors Capstone project for the purpose of earning Highest Honors. May be repeated once for credit. (Formerly titled “Honors Thesis.”).
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.

Core curriculum courses that do not have a Texas Common Course Number (TCCN) have been assigned an “acceptable substitute” TCCN. If a student completes a course bearing this number, it will be accepted as meeting the applicable core curriculum requirement. Courses with “acceptable substitute” numbers are indicated in italics in this table.

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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 the College Level Examination Program (CLEP), Advanced Placement (AP) program, Dantes (DSST), and International Baccalaureate (IB) examinations. 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, 2014. These scores and course credits are subject to change. For more information regarding credit by Examination, please review the AP, CLEP, DSST, and IB information on the Testing Services Web site: http://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.

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*All credit shown in this table as elective credit is lower division unless otherwise indicated.
** Credit will be given for either HIS 2123, HIS 2133, IDS 2203, or IDS 2213, but not for all.
*** Credit will be given for either STA 1043 or STA 1053, but not for both.
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### DANTES SUBJECT STANDARDIZED TEST (DSST)

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<tr>
<th>Subject</th>
<th>Test Used</th>
<th>Minimum Score Required for UTSA Credit</th>
<th>UTSA Credit Awarded*</th>
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<tr>
<td>ANTHROPOLOGY</td>
<td>General Anthropology</td>
<td>47</td>
<td>ANT 1013</td>
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<tr>
<td>ASTRONOMY</td>
<td>Astronomy</td>
<td>52</td>
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<td>BUSINESS</td>
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<td>Business Mathematics</td>
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<td>Human Resource Management</td>
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<td>Organizational Behavior</td>
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<td>Principles of Finance</td>
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<td>Principles of Financial Accounting</td>
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<td>CRIMINAL JUSTICE</td>
<td>Criminal Justice</td>
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<td>Introduction to Law Enforcement</td>
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<td>CRJ 2213</td>
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<td>ENGLISH</td>
<td>Technical Writing</td>
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<td>GEOLOGY</td>
<td>Physical Geology</td>
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<td>Environment &amp; Humanity: The Race to Save the Planet</td>
<td>400</td>
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<td>HUMANITIES</td>
<td>Introduction to World Religions</td>
<td>410</td>
<td>HUM 2093</td>
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<td>MATHEMATICS</td>
<td>Fundamentals of College Algebra</td>
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<td>PSYCHOLOGY</td>
<td>Lifespan Developmental Psychology</td>
<td>50</td>
<td>PSY 2503</td>
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*All credit shown in this table as elective credit is lower division unless otherwise indicated.

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 IB examinations is available on the Testing Services Web site at http://utsa.edu/testing/.
International Baccalaureate Certificate students can currently receive the following course credit for the Higher Level IB exams if they meet the score criteria listed in the following table.

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<tr>
<th>Examination</th>
<th>UTSA Course</th>
<th>Minimum Score Required</th>
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<td>Business/Management HL</td>
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<td>Economics HL</td>
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<tr>
<td><strong>COLLEGE OF EDUCATION &amp; HUMAN DEVELOPMENT</strong></td>
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<tr>
<td>Sports, Exercise &amp; Health Science HL</td>
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<tr>
<td><strong>COLLEGE OF LIBERAL AND FINE ARTS</strong></td>
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<tr>
<td>Social &amp; Cultural Anthropology HL</td>
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<tr>
<td>Arabic Language B HL</td>
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<td>Chinese Language A1 or A2 HL</td>
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<td>Islamic History HL</td>
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<td><strong>Psychology HL</strong></td>
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<td>CHE 1103, 1121 (lab) 1113, 1131 (lab)</td>
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<td><strong>Environmental Science HL</strong></td>
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<td><strong>Mathematics HL</strong></td>
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<tr>
<td><strong>Physics HL</strong></td>
<td>PHY 1013</td>
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</table>

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Mark Lengnick-Hall, B.B.A., M.B.A., The University of Texas at Austin; Ph.D., Purdue University
Dianna L. Stone, B.A., Ph.D., Purdue University
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