# UNDERGRADUATE CATALOG 1978-80 

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The policies, regulations, and procedures stated in this catalog are subject to change without prior notice, if necessary, so that University policies are consistent with the policies of 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 indicated in this catalog. Failure to read and comply with policies, regulations, and procedures will not exempt a student from whatever penalties he or she may incur.
No person shall, on the basis of race, color, national origin, religion, or sex be excluded from participation in, be 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.

## I. CALENDAR

## Fall Semester, 1978

August 23-24 Wednesday-Thursday. Registration, Orientation, Advisement. ${ }^{1}$

## August 28 September 1

Monday. Classes begin.
Friday. Last day to add a class without special permission. Last day to choose Credit-No Credit grading option. Last day of late registration. Last day to drop a course or withdraw without a record of the enrollment. Deadline for Fall, 1978, graduates to apply for graduation. Last day to withdraw and receive an $80 \%$ refund of tuition and fees.

## September 4

 Monday. Holiday.September 11 Monday. Last day to withdraw and receive a $70 \%$ refund of tuition and fees.
September 13 Wednesday. Last day to add a class. Census date.
September 18 Monday. Last day to withdraw and receive a $50 \%$ refund of tuition and fees.
September 25 Monday. Last day to withdraw and receive a $25 \%$ refund of tuition and fees.
October 27 Friday. Last day to drop a course with an automatic grade of "W".
November 23-25 Thursday-Saturday. Thanksgiving Holidays.
October 30 Monday. Last day to drop a course or withdraw.
December 11-16 Monday-Saturday. Final Examinations. December 16 Saturday. Semester closes.

## Spring Semester, 1979

January 8-10 Monday-Wednesday. Registration, Orientation, Advisement.'
January 15 Monday. Classes begin.
January 19 Friday. Last day to add a class without special permission. Last day to choose Credit-No Credit grading option. Last day of late registration. Last day to drop a course or withdraw without a record of the enrollment. Deadline for Spring, 1979, graduates to apply for graduation. Last day to withdraw and receive an $80 \%$ refund of tuition and fees.
January 26 Friday. Last day to withdraw and receive a 70\% refund of tuition and fees.
January $30 \quad$ Tuesday. Last day to add a class. Census date.
February 2
February $9 \quad$ Friday. Last day to withdraw and receive a $25 \%$ refund of tuition and fees.
March 16 Friday. Last day to drop a course with an automatic grade of "W".
March 19-24 Monday-Saturday. Spring vacation.

[^0]May 31-June 1 Thursday-Friday. Registration, Orientation, Advisement. ${ }^{2}$
June 4
June 6
June 11

August 20-22
August 27
August 31

## September 3 <br> September 10

September 12
September 17
September 24 Monday. Last day to withdraw and receive a $25 \%$ refund of tuition and fees.
October 26 Friday. Last day to drop a course with an automatic grade of "W'.
Monday. Last day to drop a course or withdraw.
November 22-24 Thursday-Saturday. Thanksgiving Holidays.
December 10-15 Monday-Saturday. Final Examinations.
December 15 Saturday. Semester closes.

## Spring Semester, 1980

January 7-9 Monday-Wednesday. Registration, Orientation, Advisement. ${ }^{2}$
January 14 Monday. Classes begin.
January 18 Friday. Last day to add a class without special permission. Last day to choose Credit-No Credit grading

[^1]option. Last day of late registration. Last day to drop a course or withdraw without a record of the enrollment. Deadline for Spring, 1980, graduates to apply for graduation. Last day to withdraw and receive an $80 \%$ refund of tuition and fees.
January 29
Feburary 1
February $8 \quad$ Friday. Last day for students to withdraw and receive a partial refund of tuition and fees.
March 21 Friday. Last day to drop a course with an automatic grade of 'W'".
March 10-15 Monday-Saturday. Spring vacation.
March 24
May 5-10
May 10
Monday. Last day to drop a course or withdraw. Monday-Saturday. Final Examinations.
Saturday. Semester closes.
May 11 Sunday. Commencement.

## Summer Session, 1980

May 29-30 Thursday-Friday. Registration, Orientation, Advisement. ${ }^{3}$
June 2 Monday. Classes begin.
June 4 Wednesday. Last day to withdraw and receive an $80 \%$ refund of tuition and fees.
June 9 Monday. Last day to withdraw and receive a $50 \%$ refund of tuition and fees.

[^2]
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Robert E. Lindberg, Assistant Professor, B.A., University of Minnesota; M.Ed., University of Missouri; Ph.D., Arizona State University
Eileen T. Lundy, Assistant Professor, B.S., College of St. Teresa; Ph.D., University of Texas at Austin
Jane B. Markowitz, Assistant Professor, B.A., Brooklyn College; M.S., Syracuse University; Ph.D., Indiana University
Robert E. Roemer, Assistant Professor, B.A., M.A., St. Louis University; Ph.D., Syracuse University
James E. Schnitz, Assistant Professor, B.A., M.A.T., Ph.D., Northwestern University
Gloria Zamora, Assistant Professor, B.S., Incarnate Word College; M.Ed., Our Lady of the Lake College; Ph.D., University of Texas at Austin
Jesse T. Zapata, Assistant Professor, A.A., San Antonio Jr. College; B.A., University of Texas at Austin; M.Ed., Texas Tech University; Ph.D., Arizona State University

## Division of Environmental Studies

J. Leland Hepworth, Professor, B.S., Utah State University; M.S., University of Idaho; Ph.D., Oklahoma State University
Richard S. Howe, Professor, B.S., University of Kentucky; S.M., Massachusetts Institute of Technology; M.S., Ph.D., University of Wisconsin

Chia Shun Shih, Professor, B.S., Taiwan, C.K. University; M.S., Ph.D., University of Texas at Austin
John W. Adams, Associate Professor, B.S., M.S., Utah State University; Ph.D., Washington State University
Richard R. Tangum, Associate Professor, B.Arch., Texas Tech University; M.Arch., Virginia Polytechnic Institute; D.E.D., Texas A\&M University
Henry G. Cisneros, Assistant Professor, B.A., M.U.R.P., Texas A\&M University; M.P.A., Harvard University; D.P.A., George Washington University

Daniel O. Hogenauer, Assistant Professor, B.S., Haverford College; Ph.D., Johns Hopkins University
Louise B. Wolitz, Assistant Professor, B.S., Cornell University; Ph.D., University of California, Berkeley

## Division of Special Programs

Ronald H. Rogers, Associate Professor, B.S., Florida State University; M.S., Michigan State University; M.P.A., University of Southern California; Ph.D., Claremont Graduate School
Wallace T. Ferguson, Assistant Professor, B.S., University of Texas at Austin; J.D., University of Texas Law School at Austin
Norman R. Cox, Jr., Instructor, B.A., Virginia Polytechnic Institute; M.S., Auburn University at Montgomery

## COLLEGE OF SCIENCES AND MATHEMATICS

## Division of Allied Health and Life Sciences

Wayne E. Magee, Professor, B.A., Kalamazoo College, M.S., Ph.D., University of Wisconsin at Madison
Bernard P. Sagik, Professor, B.S., College of City of New York; M.S., Ph.D., University of Illinois
F. Genevieve Antonson, Associate Professor, B.S., Mansfield State College; M.S., Ph.D., Florida State University
June E. Ayling, Associate Professor, B.S., Ph.D., University of California
M. Neal Guentzel, Associate Professor, B.A., M.A., Ph.D., University of Texas at Austin
Helen V. Oujesky, Associate Professor, B.A., B.S., Texas Woman's University; M.A., Texas Christian University; Ph.D., Texas Woman's University
Ray M. Patterson, Associate Professor, B.S., M.Ed., University of Southern Mississippi
Jerry L. Phillips, Associate Professor, B.A., University of Colorado; Ph.D., Colorado State University
Paul H. Rodriguez, Associate Professor, B.S., Creighton University; M.S., University of New Mexico; Ph.D., University of Rhode Island
Oscar W. Van Auken, Associate Professor, B.S., High Point College; M.S., Ph.D., University of Utah
James A. DeBoer, Assistant Professor, B.A., University of South Florida; Ph.D., Oregon State University
Helen J. Cronenberger, Assistant Professor, B.A., B.S., University of Texas at Austin; Ph.D., University of Houston; MT (ASCP) Methodist Hospital, Houston, Texas
Arnold H. Hassen, Assistant Professor, B.S., Brooklyn College; Ph.D., Indiana University
Martin A. Kramen, Assistant Professor, B.S., M.S., University of Illinois; Ph.D., University of Kansas
Marilyn A. Ludueña, Assistant Professor, B.A., Western Reserve University; Ph.D., Stanford University
Samuel A. Ramirez, Assistant Professor, B.A., University of Texas at El Paso; M.S., Texas Tech University; Ph.D., Indiana University
James T. Rutledge, Assistant Professor, A.B., University of California, Berkeley; Ph.D., University of California, Davis

## Division of Earth and Physical Sciences

Charles Howard, Professor, B.S., Ph.D., University of Wisconsin at Madison
Richard V. McGehee, Professor, B.S., University of Texas at Austin; M.S., Yale University; Ph.D., University of Texas at Austin
B. S. Thyagarajan, Professor, B.S., Loyola College, India; M.S., Ph.D., Presidency College, India
Marvin L. Chatkoff, Associate Professor, B.A., University of Oklahoma; M.S., University of Southern California; Ph.D., University of New Mexico
Petr Hochmann, Associate Professor, M.S., Charles' University, Prague; Ph.D., Czechoslovak Academy of Science, Prague
Herbert B. Silber, Associate Professor, B.S., M.S., Lehigh University; Ph.D., University of California
Charles A. Sorber, Associate Professor, B.S., M.S., PennsyIvania State University; Ph.D., University of Texas at Austin
Philip L. Stotter, Associate Professor, A.B., Harvard College; A.M., Ph.D., Columbia University
Miroslav Synek, Associate Professor, B.S., M.S., Charles' University, Prague; Ph.D., University of Chicago
Mark K. Debe, Assistant Professor, B.A., University of Minnesota, Duluth; M.S., Ph.D., University of Wisconsin, Milwaukee
Raymond Kellman, Assistant Professor, B.S., St. Peter's College; Ph.D., University of Colorado
Robert D. Renthal, Assistant Professor, B.A., Princeton University; Ph.D., Columbia University
Robert F. Williams, Assistant Professor, B.A., Gettysburg College; Ph.D., Emory University

Division of Mathematics, Computer Science, and Systems Design
Manuel P. Berriozabal, Professor, B.S., Rockhurst College; M.S., Notre Dame University; Ph.D., University of California at Los Angeles
Lucio Tavernini, Professor, B.S., Heald Engineering College; M.S., University of Colorado; M.S., Ph.D., University of Wisconsin at Madison
Joseph E. Valentine, Professor, B.S., Southwest Missouri State; M.S., University of Illinois; Ph.D., University of Missouri
Stanley G. Wayment, Professor, B.S., Brigham Young University; M.S., University of Utah; M.S., Stanford University; Ph.D., University of Utah
William B. Gearhart, Associate Professor, B.S., M.S., Ph.D., Cornell University
Mario J. González, Jr., Associate Professor, B.S.E.E., M.S.E.E., Ph.D., The University of Texas at Austin
Hugh B. Maynard, Associate Professor, B.S., California Institute of Technology; M.S., Ph.D., University of Colorado

Joseph F. Dreussi, Assistant Professor, B.S., M.S., University of Houston
Scott R. Cannon, Assistant Professor, B.A., University of Utah; Ph.D., University of Utah Medical School
Robert G. Ducharme, Assistant Professor, B.S., University of Massachusetts; A.S., Holyoke Community College; M.S., Lowell Technological Institute; Ph.D., Florida State University
Clinton J. Kolaski, Assistant Professor, B.S., M.S., Ph.D., University of Wisconsin at Madison
George T. Ligler, Assistant Professor, B.S., Furman University; M.S., Ph.D., Oxford University
Wu-Hsiung Lu, Assistant Professor, B.S.E.E., National Taiwan University; D.Sc., State University of New York at Buffalo
Kenneth J. Prevot, Assistant Professor, B.A., Rice University; Ph.D., Massachusetts institute of Technology
Kay A. Robbins, Assistant Professor, S.B., Ph.D., Massachusetts Institute of Technology
Steven Robbins, Assistant Professor, S.B., S.M., Ph.D., Massachusetts Institute of Technology

David G. Tabor, Assistant Professor, B.S., University of Texas at Arlington; M.S., Ph.D., New Mexico State University
James D. Thomas, Assistant Professor, B.S., M.S., Saint Louis University; M.A., Yeshiva University; Ph.D., Pennsylvania State University
Ram C. Tripathi, Assistant Professor, B.A., M.A., Banaras Hindu University, India; M.S., Ph.D., University of Wisconsin at Madison

## HISTORY

On June 5, 1969, the legislative act creating The University of Texas at San Antonio as a component institution of The University of Texas System was signed into law by the Governor. By this legislation directing that The University of Texas at San Antonio offer "courses leading to such customary degrees as are offered at leading American universities," the Legislature of the State of Texas established a new public institution of higher learning that would serve both undergraduate (lower and upper division) and graduate students. The legislation further stipulated that The University be "one of the first class."
In May, 1970, the Board of Regents of The University of Texas System accepted a gift of approximately 600 acres of wooded land located sixteen miles northwest of the center of San Antonio to serve as the permanent campus for The University of Texas at San Antonio. Shortly thereafter administrative and planning offices were established in the former Maison Blanche building on the grounds of HemisFair Plaza.
By the end of 1970, a master conceptual plan for the permanent campus was approved by the Board of Regents, and by June, 1971, final plans and specifications for the first seven permanent buildings of the campus were completed. After completion of the site improvement work, construction contracts were awarded in May, 1972, calling for a completion date of May, 1974, subsequently revised because of construction delays.
In January, 1972, temporary classrooms and offices were acquired in northwest San Antonio in the Koger Executive Center at the intersection of Loop 410 and Babcock Road. Graduate students enrolled for the first time at the Koger site in June, 1973. These facilities were occupied by The University until buildings on the new campus became available. Upper-division junior and senior students were accepted on the permanent campus in September, 1975; and lowerdivision students were registered in June, 1976.
In the Spring of 1972 the Board of Regents of The University of Texas System and the Coordinating Board, Texas College and University System approved the academic organization and degree programs recommended for the new university. These degree programs, additional degree programs subsequently approved, as well as additional changes in UT San Antonio's organizational structure are described in the institutional catalogs.
UTSA grew rapidly in its early years from 671 graduate students in June of 1973 to 7849 undergraduate and graduate students in September, 1977. The University had awarded 1733 degrees at the end of August, 1977.
The second phase of campus construction was initiated in Summer 1977. This phase consisted of a classroom and office building; an addition to the Arts Building, including a sculpture and ceramics studio building; ten outdoor championship tennis courts; and an outdoor multi-purpose playing field with 400-meter running track.
The Student Representative Assembly had its constitution approved by the Board of Regents on October 1, 1976, and the first slate of officers was elected on November 22, 1976.
The Alumni Association was chartered in Fall 1977.

## PURPOSE AND PHILOSOPHY

The major purpose of The University of Texas at San Antonio is to respond, in a climate of intellectual freedom and with academic programs of the highest quality, to the educational needs of the multicultural community of metropolitan San

Antonio and the South Texas region, the State of Texas, the nation, and the international community. The University is committed to excellence in teaching and scholarship and to flexibility in academic programs and instructional approaches, as it seeks to guide individual students toward achievement of their maximum potential.
Through programs of a multidisciplinary character, UT San Antonio strives to eliminate the isolation of disciplines and to reflect the integrated nature of societal issues and problems. The University is committed to cooperation with all institutions of higher education in San Antonio and the surrounding region and is a member of the Higher Education Council of San Antonio. UT San Antonio also cooperates with the San Antonio community to improve accessibility to library resources; to provide internships with local professions and businesses; to offer continuing education institutes, seminars, and special activities; and to utilize local, non-university personnel with special talents and abilities to enrich classroom instruction. To serve the metropolitan area of Bexar County, The University offers courses and programs on off-campus locations in the urban area where a need is demonstrated, provided their academic quality can be maintained in the off-campus location.
The mission of The University of Texas at San Antonio is to provide intellectual, cultural, and economic opportunities to its multiple constituencies.

## ORGANIZATION

The University of Texas at San Antonio is a component institution of The University of Texas System. Governance of The University is vested in the ninemember Board of Regents of The University of Texas System whose members are appointed biennially by the Governor, with the advice and consent of the Senate, for six-year staggered terms.
The Board of Regents delegates administrative authority to the President of The University of Texas System. The administrative authority of each component institution, such as The University of Texas at San Antonio, is in turn delegated to the President of that component.
The President at UT San Antonio is assisted by a staff including a Vice President for Academic Affairs, a Vice President for Administration, and a Vice President for Business Affairs. The Vice President for Academic Affairs provides the President with advice and counsel on academic matters and acts as liaison between the President's Office and the several Deans as well as with faculty committees concerned with academic affairs. With approval of the Board of Regents of a non-traditional administrative structure for graduate education at UT San Antonio, the administrative functions that ordinarily are the responsibility of a Graduate Dean are carried out by the Vice President for Academic Affairs. As the administrative officer responsible for graduate education, this officer chairs the Council on Graduate Education. The Vice President for Administration is responsible for assisting the President in handling internal and external administrative matters and in discharging special assignments as requested by the President. The Vice President for Business Affairs provides the President with advice and counsel on fiscal affairs and has direct responsibility for the business operation of The University including operation of the physical plant. This officer is responsible for budget preparation and analysis.
Operational administration of the graduate and undergraduate programs of The University is the responsibility of the Deans of the five Colleges. The Deans report directly to the President. They provide leadership in program, faculty, and staff development.

Instructional programs within the Colleges are organized by Divisions, headed by Division Directors, who have responsibility under the Dean for the operation of their Divisions. Division Directors also are expected to provide leadership in faculty and staff development and in academic program development.
Continuing Education activities of The University are located in the Division of Continuing Education. The Division is administered by a Dean who reports directly to the President and who is responsible for developing and operating all continuing education activities. The Division develops, promotes, coordinates, evaluates, and provides financial and logistical support for conferences, institutes, short courses, workshops, seminars, and special training programs. The Division has no permanently assigned faculty. Instructors for the various activities are selected from one or more of the five Colleges within The University of Texas at San Antonio, or from institutions or organizations outside The University.

## ACCREDITATION

The University of Texas at San Antonio was granted full accreditation at the graduate level by the Southern Association of Colleges and Schools in December 1974 and full accreditation at the undergraduate level in December 1976. Because accreditation applies retroactively within the year awarded, all UT San Antonio degrees have been awarded by an accredited institution.

## THE JOHN PEACE LIBRARY

The John Peace Library of The University of Texas at San Antonio, named in 1974 in honor of the late former Chairman of The University of Texas System Board of Regents, has undergone rapid development and expansion since 1972, when work began on the development of collections. As of Fall 1977 the available collections of the library numbered 203,000 processed volumes; 56,350 volumes in microform; 40,900 federal, state and local documents; and 425,548 pieces of microforms. The library subscribes to approximately 2,741 periodicals and receives as a designated depository a wide variety of federal, state, and local documents. In addition, the library has extensive holdings in microform of government documents, research reports, and newspapers. All materials have been selected to support the teaching and research needs of UT San Antonio.
The UT San Antonio special collections and rare books focus on Western Americana and on Texana. A truly distinguished collection of books and documents for research in the period of the Texas Republic has been made available through the generosity of the late John Peace. The Ewing Halsell Foundation provided funds for purchase of the Morris Cook J. Frank Dobie Collection. The library has also acquired a large collection of Western Americana from R. W. Warden of Montana. In addition, the library holds the architecture collection of Ralph H. Cameron and the Bible collection of Harry and Alma Dietert. The Piper Foundation assisted The University in the purchase of The San Antonio Collection, an extensive collection of materials on the history of San Antonio, from Ray Walton.
UT San Antonio is a participant in the Regional Historical Depository Program sponsored by the Texas State Library. This archive preserves and makes available to researchers a wide variety of public and private documents from a 22 -county region surrounding San Antonio. The archive is housed at the Institute of Texan Cultures.
The library building is designed to offer full services and convenience to students and faculty. The majority of books and periodicals are on open shelves for browsing and ease of access. In addition to the traditional library facilities, the

John Peace Library also has full audio-visual capability and music listening facilities. Carrels, group study rooms, lounges, and faculty studies are conveniently located throughout the building to provide ideal study conditions. A required lower-division course orients students in the use of libraries in general and the John Peace Library in particular. A staff of highly qualified subject-specialist librarians is available for consultation and assistance. ${ }^{1}$

## THE COMPUTER CENTER

The Computer Center provides modern computational facilities for research and academic programs. An intermediate scale computer is available for student and faculty use. An IBM 370 model 148 is being utilized to support the academic computing requirements.

## THE LUTCHER CENTER

The Lutcher Center is a conference facility of The University of Texas System. Responsibility for administration and supervision of the Lutcher Center is assigned to the President of The University of Texas at San Antonio.
The Lutcher Center supports the administrative and developmental programs of The University of Texas System and its component institutions. It also provides space, facilities, and services for educational and public service programs of component units of The University of Texas System. The Center may also be used by other public and private educational institutions and by groups engaged in public service.

## THE INSTITUTE OF TEXAN CULTURES

The Institute, located on HemisFair Plaza in downtown San Antonio, is a statewide educational research and dissemination center focusing on Texas history and culture. This center is concerned principally with collecting, organizing, and interpreting information on Texas subjects and with producing films, filmstrips, slides, tapes, publications, and exhibits on these subjects for statewide use on television, in classrooms, in museums, and at public gatherings for the benefit of the people of Texas.

## THE CENTER FOR STUDIES IN BUSINESS, ECONOMICS, AND HUMAN RESOURCES

The Center for Studies in Business, Economics, and Human Resources is the research center of the College of Business. The major objective of the Center is to provide students and faculty of The University with an adequate environment for problem solving and community-related research. While the Center is an integral part of the College of Business, it interacts with the faculty of the other Colleges to provide an interdisciplinary approach to research and business education.
The focus of activity at the Center is on application of theories and research techniques to produce useful information for public and private decision making. Specialized data files are maintained on a continuing basis, while a research library and information systems guide interested users to sources of information. The knowledge and experience of The University's faculty are utilized to solve specific problems in the broad categories of management, finance, administration, planning, economic feasibility, production, economic impact, anti-

[^3]trust laws and procedures, international trade, environmental protection, and manpower utilization. Graduate students have the opportunity of applying research methods through research assistantships. Discourse between academicians, specialists, community leaders, and students is encouraged through conferences and seminars which bring well-known scholars and professionals to San Antonio.

## THE CENTER FOR ARCHAEOLOGICAL RESEARCH

The Center for Archaeological Research (in the Division of Social Sciences, College of Humanities and Social Sciences) was established in September, 1974. Among its objectives are: (1) the training of students in archaeology; (2) the promotion of archaeological research in the South and South Central Texas region; (3) carrying out archaeological surveys and assignments for federal and state agencies as required by legislation and executive orders; (4) aiding local agencies and citizens who need the services of trained archaeologists.
The Center's staff includes a number of graduate and undergraduate students. They, along with other Center personnel, have conducted archaeological investigations in various parts of Texas, particularly in the South, Southwest, and Central sections of the state. Results of these investigations are published in the Center's three publication series: Archaeological Survey Reports, Regional Studies, and Special Reports.
The Center has administered more than 50 contracts and grants to date, among which was a two-year study of the archaeology and ethnohistory of the Spanish mission complex at Guerrero, Mexico. The Center has also helped to organize and support regional archaeological surveys and excavations and has participated in local, state, and international archaeological conferences.

## CENTER FOR APPLIED RESEARCH AND TECHNOLOGY

The Center for Applied Research and Technology (CART) is the research center of the College of Sciences and Mathematics. The major goals of CART are to provide for expanded research opportunities in the applied sciences for faculty and graduate students, to provide an educational opportunity whereby individual skills can be developed to fill employers' needs for applied scientists, and to provide research-related services for the community at large. Although CART is a part of the College of Sciences and Mathematics, it interacts with the faculty of other Colleges and with the local research community through the Southwest Research Consortium.
CART serves as a focal point for applied science research activities at The University by providing guidance and programs for contract and grant management and by furnishing analytical services and research support for faculty and students. Exceptional students have an opportunity to gain valuable work experience through CART's technical services and research programs.
The CART staff includes faculty, research associates, students, and other technical and support personnel. Emphasis is on interdisciplinary research in the earth, life, and physical sciences. Efforts have been concentrated in chemical, environmental, energy, and health-related studies.
Specifically, research teams have been formed recently to conduct investigations in such diverse areas as "Histological-Histopathological Survey of Macroepifauna and Demersal Fishes," "Health Implications of Sewage Treatment Plants," "Health Effects Associated with the Application of Wastewater to Land," and "Quinuclidine Compounds. Efficient New Syntheses of Hypotensives, Antimalarials, and Antiarrhythmics."

## CENTER FOR LEARNING AND DEVELOPMENT RESEARCH IN EDUCATION

The Center for Learning and Development Research in Education, located in the College of Multidisciplinary Studies, is designed to stimulate basic and applied research in learning and development, particularly as it refers to the educational process. Faculty and students from this College, as well as faculty and students from other Colleges of The University, are encouraged to study problems appropriate to this area. The objectives of the Center include: promotion of research in learning and development in education; development of cooperative facultystudent research; cooperation with school districts, social service agencies, and community agencies on problems of mutual interest; and solicitation of funds for appropriate activities.
The Center's role consists of identifying and coordinating faculty, student, and community interests, needs, and resources. Faculty members from the College and The University, with interest and training in learning and development in education, participate in projects related to the Center's activity.

## RESEARCH CENTER FOR THE ARTS

The Research Center for the Arts was established in the College of Fine and Applied Arts on September 1, 1977. The Center's activities encompass the visual and performing arts (studio art, architecture and music), art and architectural history, and art criticism. A primary focus of the Center is on the latter disciplines with special reference to the study of Iberian and Interamerican arts. These disciplines by their scholarly nature form the nucleus of the Center's activities. Among the goals of the Center are to provide assistance to faculty, students and other persons interested in pursuing research and further studies, and to make available general information on the arts of Spain, Portugal, and the Americas. The Center by so doing takes advantage of the strengths of the courses and programs of the College and University.
The Center fosters professional research in the visual and performing arts (studio art, architecture and music) in general and in Iberian and Interamerican art historical research in particular. It provides the opportunities for faculty and students in the College to continue their own research and to serve the community of scholars within and outside The University.

## THE UNIVERSITY BOOKSTORE

The University Bookstore, owned and operated by UT San Antonio, is located on the first level of the Science-Education Building adjacent to the Student Lounge. The Bookstore provides a complete stock of all required and recommended books for UT San Antonio courses. In addition, the University Bookstore carries a complete line of general school supplies, writing instruments, art materials, soft goods, decals, greeting cards, and a variety of gift items.

## THE UNIVERSITY CAFETERIA

The University Cafeteria, located in the heart of the campus on the first level of the John Peace Library, provides meals and fountain service to the university community. Owned and operated by UT San Antonio, the Cafeteria serves breakfast, hot lunches, and features short orders, soft drinks, and fountain items. Catering for both large and small groups is available. Further information may be obtained from the Cafeteria.

# III. TUITION, FEES, CHARGES, PENALTIES AND DEPOSITS 

## PAYMENT

Students are entitled to enter class or laboratory only after their tuition, fees, and deposits have been paid. ${ }^{1}$ Payment may be made by personal check for the exact amount due, provided the bank transit number is encoded thereon in compliance with revised Federal Reserve Bank regulations. Checks for larger amounts, if the difference is to be paid in cash to the students, cannot be accepted. In paying by check, students should exercise care. A bad check, whether given by mistake or otherwise, unless it is the admitted error of the bank concerned, is likely to delay actual payment and thus result in a penalty as outlined in the section on Bad Check Charges.
Personal checks may be cashed in the University Bookstore for an amount up to $\$ 20.00$. It is recommended that students establish checking accounts in local San Antonio banks before enrolling in order that they can easily cash checks in the city. Many local merchants will not cash out-of-town checks.

## TUITION

Pursuant to Subchapter B, Chapter 54, Texas Education Code, each student who registers at UT San Antonio is required to pay tuition ${ }^{2}$ according to the number of semester credit hours for which registration is completed and according to his/her residence classification, as set forth in the tables on the following pages:

## TUITION EACH SEMESTER

## RESIDENTS OF TEXAS

## NONRESIDENTS

Number
of Hours
Taken

Foreign Students ${ }^{4}$

1
2
3
4
5
6
7
8
9
10
11
12
50.00
50.00
50.00
50.00
50.00
50.00
50.00
50.00
50.00
50.00
50.00
50.00
U.S.
Citizens
40.00
80.00
120.00
160.00
200.00
240.00
280.00
320.00
360.00
400.00
440.00
480.00
200.00
200.00
200.00
200.00
200.00
200.00
200.00
200.00
200.00
200.00
200.00
200.00

[^4]| 13 | 52.00 | 520.00 | 200.00 |
| :---: | ---: | ---: | :---: |
| 14 | 56.00 | 560.00 | 200.00 |
| 15 | 60.00 | 600.00 | 210.00 |
| 16 | 64.00 | 640.00 | 224.00 |
| 17 | 68.00 | 680.00 | 238.00 |
| 18 | 72.00 | 720.00 | 252.00 |
| 19 | 76.00 | 760.00 | 266.00 |
| 20 | 80.00 | 800.00 | 280.00 |
| 21 | 84.00 | 840.00 | 294.00 |
| Each Addi- | 4.00 | 40.00 | 14.00 |

## TUITION SUMMER SESSION

## RESIDENTS OF TEXAS

| Number <br> of Hours <br> Taken | Each <br> Summer <br> Term | Entire <br> Summer <br> Session |
| :---: | :---: | :---: |
| 1 | 25.00 | 50.00 |
| 2 | 25.00 | 50.00 |
| 3 | 25.00 | 50.00 |
| 4 | 25.00 | 50.00 |
| 5 | 25.00 | 50.00 |
| 6 | 25.00 | 50.00 |
| 7 | 28.00 | 50.00 |
| 8 | 32.00 | 50.00 |
| 9 | 36.00 | 50.00 |
| 10 | 40.00 | 50.00 |
| 11 | 44.00 | 50.00 |
| 12 | 48.00 | 50.00 |
| 13 | 52.00 | 52.00 |
| 14 | 56.00 | 56.00 |
| Each Addi- | 4.00 | 4.00 |
| tional Hour | 4.00 |  |


| U.S. Citizens | Foreign Students ${ }^{\text {c }}$ |  |
| :---: | :---: | :---: |
|  | Each | Entire |
|  | Summer | Summer |
|  | Term | Session |
| 40.00 | 100.00 | 200.00 |
| 80.00 | 100.00 | 200.00 |
| 120.00 | 100.00 | 200.00 |
| 160.00 | 100.00 | 200.00 |
| 200.00 | 100.00 | 200.00 |
| 240.00 | 100.00 | 200.00 |
| 280.00 | 100.00 | 200.00 |
| 320.00 | 112.00 | 200.00 |
| 360.00 | 126.00 | 200.00 |
| 400.00 | 140.00 | 200.00 |
| 440.00 | 154.00 | 200.00 |
| 480.00 | 168.00 | 200.00 |
| 520.00 | 182.00 | 200.00 |
| 560.00 | 196.00 | 200.00 |
| 40.00 | 14.00 | 14.00 |

## CONCURRENT TUITION

Students who register at more than one public institution of higher education in Texas concurrently may receive the benefits of a lower tuition rate. If at the time of registration, a student can produce evidence of having already paid his or her tuition at another public institution of higher education in Texas, the student should present such evidence at the Fee Assessment station during registration.

[^5]
## RESIDENCE REGULATIONS

A student entering or re-entering The University of Texas at San Antonio may be required to file a residence questionnaire. The student's status as a resident or nonresident will be made in accordance with the Texas Education Code. ${ }^{7}$ If the applicant has any doubt about his/her status, he/she should consult the Director of Admissions and Registrar prior to registration. There can be no change in residence classification except under the express authorization of the Registrar.

## PENALTY FOR PAYMENT OF TUITION UNDER INCORRECT RESIDENCE CLASSIFICATION

Responsibility for registering under the proper residence classification rests with the student. A student who wrongly pays the Texas, rather than the nonresident, tuition is subject to a penalty of $\$ 10.00$ for each registration under incorrect residence classification. In addition, if a student has obtained residence classification by virtue of deliberate concealment or misrepresentation of facts, he/she may be subject to disciplinary action.

## GENERAL FEE AND STUDENT SERVICES FEE

Each student who registers at UT San Antonio is required to pay general fees and services fees ${ }^{8}$ according to the number of semester credit hours for which registration is completed, as set forth in the table below:

| SEMESTER <br> HOURS | GENERAL <br> FEE | STUDENT <br> SERVICE |
| :---: | :---: | :---: |
| 1 | 6.00 | FEE |
| 2 | 12.00 | 2.50 |
| 3 | 18.00 | 5.00 |
| 4 | 24.00 | 7.50 |
| 5 | 30.00 | 10.00 |
| 6 | 36.00 | 12.50 |
| 7 | 42.00 | 15.00 |
| 8 | 48.00 | 17.50 |
| 9 | 54.00 | 20.00 |
| 10 | 60.00 | 22.50 |
| 11 | 66.00 | 25.00 |
| 12 | 72.00 | 27.50 |
| 13 | 78.00 | 30.00 |
| 14 | 94.00 | 30.00 |
| 15 |  | 30.00 |
| Each Additional |  | 30.00 |
| Hour |  |  |

## DEGREE APPLICATION FEE

An $\$ 8.00$ application fee is required of candidates for a degree. Application for a degree must be made at the Registrar's Office and the fee paid no later than the end of the add/drop period of the term (Fall, Spring, or Summer Session) in which the student plans to graduate. This fee is not refundable and must be paid

[^6]each time an application for a degree is filed. Cap and gown rental is not provided as part of the degree application fee.

Veterans attending The University under an exemption ${ }^{10}$ are not exempt from payment of this fee.

## LATE REGISTRATION FEE

A late registration fee of $\$ 5.00$ is charged for the first day of the late registration, and an additional $\$ 2.50$ per day is assessed thereafter. The maximum late registration fee for any one term is $\$ 15.00$. This fee may be waived only in extenuating circumstances by the President or his delegate. The late registration fee is not refundable.

## LIBRARY FEE FOR LIMITED BORROWER'S CARD

By paying $\$ 15.00$, a Texas resident may obtain a Limited Borrower's Card for borrowing unrestricted materials in person; this fee is also required of nonstudents who are auditing UT San Antonio courses and who wish library privileges. Persons holding a Limited Borrower's Card are charged a fee of $\$ 2.00$ (plus copying costs, if any) for each interlibrary loan request.

## LIBRARY FINES FOR OVERDUE MATERIALS AND FOR LOST OR DAMAGED ITEMS

Fines are charged for overdue library materials and for library items that are lost or damaged. ${ }^{11}$

## CHALLENGING UNDERGRADUATE COURSES BY EXAMINATION FEE

A fee of $\$ 15.00$ per examination is required of students who challenge UT San Antonio undergraduate courses. Procedures for challenging undergraduate courses by examination are set forth under Bachelor's Degree Regulations in this catalog.

## BAD CHECK CHARGE

A charge of $\$ 5.00$ is assessed for each returned check to offset the cost of handling dishonored checks. The University will not accept a check from a student who wittingly or unwittingly has previously given two bad checks.

## REPLACEMENT OF STUDENT IDENTIFICATION CARD CHARGE

A charge of $\$ 2.00$ is assessed for the issuance of a duplicate student identification card. This charge must be paid at the time the application for the duplicate is made.

## TRANSCRIPT CHARGE

A charge of $\$ 1.00$ is made for each UT San Antonio transcript. This fee must be paid before a transcript will be issued.

[^7]
## LABORATORY FEE

In certain courses a laboratory fee, not to exceed the actual cost of materials and supplies and not less than $\$ 2.00$ nor more than $\$ 8.00$, may be charged. When a laboratory fee is charged, the schedule of classes indicates the associated fee. For each course which involves the use of computers in instruction, a laboratory fee of $\$ 8.00$ is charged.

## SUPPLEMENTARY AND SPECIAL FEES

Certain art, music and other courses may require supplementary or special fees. When such fees are charged, the schedule of classes indicates the associated fee.

## AUDITING FEE

All auditors of courses must submit an approved Request for Audit Form to the Registrar.
Students registered at UT San Antonio may, with the approval of the instructor and Dean of the College in which the course is offered, audit courses by paying an auditing fee of $\$ 5.00$ per course. The audit fee is not refundable.
Upon approval of a Request for Audit Form, a non-student auditor must pay an auditing fee of $\$ 25.00$ per course. The fee is not refundable. Non-students over 65 are permitted to audit without paying a fee, provided space is available and a Request for Audit Form is approved. Non-student auditors who wish library privileges may receive them by paying a non-student library deposit (Limited Borrower's Deposit) of $\$ 15.00$ at the John Peace Library.
Permission to audit may be obtained and fees paid only during the late registration period.

## PARKING FEES

Parking fees for students are as follows:
Class B $\quad \$ 12.00$ Student parking permit
8.00 if purchased during the spring semester 4.00 if purchased during summer session

Class D 6.00 Motorcycles, motor scooters, motor bicycles
4.00 if purchased during the spring semester
2.00 if purchased during summer session

Class M 1.00 Bicycles
.50 for less than twelve months
Student vehicles bearing valid State of Texas Disabled Veteran's license plates are exempt from the payment of parking fees. A partial refund is made for any remaining term(s) in which the student does not enroll. Applications for such refunds may be obtained from the Bursar's Office.

## FIELD TRIP FEE

A supplementary fee is assessed students in certain courses to pay for the expenses of field trips.

## PHYSICAL INSTRUCTION LABORATORY FEE

A fee of $\$ 4.00$ for a semester or a summer term is required of every student registering for physical instruction. Lockers, towels, and locks are provided.

## STUDENT GYMNASIUM AND FACILITY USE FEE

Students not registered for physical education activity class who desire to use a locker and a lock may obtain it by paying a fee of $\$ 2.00$ for a semester or summer session or any part thereof. Towels are not provided.

## UTSA AND PERSONNEL GYMNASIUM AND FACULTY USE FEE

Faculty and staff gymnasium and facility use fees are required. Faculty and staff (including guests) desiring the use of the Convocation Center and Gymnasium and other recreational facilities may use the facilities, at specified hours only, and are charged fees according to the following schedule. Lockers and locks are provided. In order for a spouse or a child to use the facilities, the student, faculty, or staff member must first pay his/her use fee.

## CATEGORY

ANUAL FEE
A. UTSA and Personnel

1) Faculty-staff member
2) Faculty-staff spouse
3) Faculty-staff child
4) Student spouse
5) Student child
B. Guest fee

Guest of UT San Antonio student, faculty member, or staff member
These fees are non-refundable.

## TENNIS CENTER FEE

A UTSA student's use of the Tennis Center is included in the $\$ 2.00$ Gymnasium and Facility Use Fee or the \$4.00 Physical Instruction Laboratory Fee. Fees for use of the Tennis Center by faculty and staff will be established at a future date.

## DUPLICATE FEE RECEIPT

A service charge of $\$ 1.00$ is assessed for the issuance of a duplicate fee receipt. This charge must be paid at the time the application for a duplicate fee receipt is made.

## GENERAL PROPERTY DEPOSIT

Every student must make a general property deposit of $\$ 10.00$ at the time of initial registration to protect The University from losses, such as property loss, damage, or breakage, violation of rules in any University library or laboratory, failure to return keys furnished by The University, or damage to or loss of any
other University property. Charges are billed directly to the student or are collected by the department upon reissue of supplies or property. Failure to pay the charges promptly results in denial of the student's readmission or re-enrollment and in refusal to issue the student's transcript by The University. The property deposit records are reviewed periodically, and if charges have been made against the deposit, the student may be required to bring the deposit up to $\$ 10.00$.
The deposit will be refunded upon request, less outstanding charges, only when the student officially withdraws from school or graduates. A general property deposit which remains without call for refund for a period of four years from the date of last attendance at The University shall be forfeited, and the deposit shall become operative to the permanent use and purpose of student scholarships.

## CAREER PLANNNING AND PLACEMENT REGISTRATION FEE

UT San Antonio students and alumni interested in a credential file for employment purposes or for application to graduate or professional school, are invited to use the services of the Career Planning and Placement Center. There is no registration fee for students currently attending UT San Antonio. There is a $\$ 3.00$ fee for alumni who are interested in using the Career Planning and Placement Center services after leaving UT San Antonio. Active registrants may make use of the full range of services offered by the Center, e.g., on-campus interviewing, part-time job service, resume and interview seminars, vacancy listings, direct job referral, and duplication and mailing of credential file materials to prospective employers.

## TEACHER PLACEMENT SERVICE FEE

Presently enrolled students of The University of Texas at San Antonio may register for teacher placement services with the Office of Teacher Certification and Placement on a no fee basis. UT San Antonio alumni are assessed a $\$ 3.00$ annual fee for the same services. Both students and alumni receive, as part of their registration, the preparation, duplication and maintenance, of three credential sets. A fee of $\$ 1.00$ is assessed for each additional set requested by the registrant during his/her current year of registration.

## PROFESSIONAL LIABILITY (MALPRACTICE) INSURANCE

Prior to official registration for courses that place them in a clinical situation, Allied Health students are required under the Rules and Regulations of The University of Texas System Board of Regents to show evidence of professional liability (malpractice) insurance coverage. The Director of the Division of Allied Health and Life Sciences may be consulted relative to obtaining such insurance.

## EXENPTION FROM TUITION AND FEES

The Statutes of the State of Texas prescribe certain cases in which students can be exempted from tuition and/or certain fees. The various types of exemptions are described below; however, in each case it is the student's responsibility to initiate the action of applying for an exemption through the Registrar's Office and providing satisfactory evidence that all conditions required for the exemption have been met. Until such time as the exemption is granted, a student is required to pay all tuition and fees from his or her own funds. Students who might be eligible for an exemption should apply for the exemption at the

Registrar's Office at least one month prior to registration for the term in which they plan to utilize the exemption.
Exemption of Texas ex-service personnel. Legal residents of Texas are exempted from tuition and all fees and charges except property deposit fees, student services fees and any fees or charges for lodging, board, or clothing when they meet all the following criteria prior to the end of the registration period for the term that the exemption is claimed:

1. They have resided in Texas for a period of not less than twelve (12) months prior to the date of registration.
2. They served in the armed forces or in certain auxiliary services in World War I, World War II, the Korean conflict, or the Cold War. If service was in the Cold War, they must have served on active military duty (other than for training) for more than 180 days.
3. They were bona fide legal residents of the state at the time of entering service.
4. They were honorably discharged from service (those who served in World War II and who were discharged because of being over the age of thirty-eight or because of a personal request are not eligible for this exemption).
5. They are not eligible for education benefits provided for veterans by the United States Government.
Benefits for children of Texas veterans. Exemption from payment of tuition and all fees and charges, except property deposit fees, student services fees and any fees or charges for lodging, board, or clothing is extended to children of members of the armed forces who were killed in action or died while in the service in World War II or the Korean conflict or in the Cold War, and to orphans of members of the Texas National Guard and the Texas Air National Guard killed since January 1, 1946 while on active duty.
Exemption of children of certain disabled public employees. Children of certain firemen, peace officers, employees of the Texas Department of Corrections, and game wardens who have suffered injury in death or disability sustained in the line of duty are exempt from payment of all tuition, fees, and charges except general property deposit or to fees or charges for lodging, board, or clothing.
Exemption of certain deaf and blind students. Blind or deaf persons who are Texas residents are, under certain conditions, exempt from payment of tuition and all fees and charges except any fees or charges for lodging, board, or clothing.
Children of prisoners of war or persons missing in action. A dependent child under 21 years of age, or a person under 25 years of age who receives the majority of support from his or her parent or parents, is exempted from the payment of tuition and all fees and charges, except property deposit fees and any fees or charges for lodging, board, or clothing if he or she is the dependent child of any person who is a domiciliary of Texas on active duty as a member of the armed forces of the United States and who at the time of registration is classified by the Department of Defense as a prisoner of war or as missing in action.
General Fee. When the payment of this required fee causes undue hardship, a student may receive an exemption from payment of the fee by making application through the Office of Student Financial Aid. Exemptions are limited to 5\% of the total enrollment.
Exemption of Certain High School Graduates. The highest ranking graduate of an accredited Texas high school, as certified by the Texas Education Agency, is
exempt from the payment of tuition during both semesters of the first regular session immediately following graduation.

## REFUND POLICY AND ADJUSTMENT OF FEES FOR STUDENTS WITHDRAWING, ADDING, OR DROPPING COURSES

A student who officially withdraws from The University prior to the first class day will be refunded $100 \%$ of collected tuition and returnable fees, but will be assessed a $\$ 15.00$ matriculation fee. This fee will be deducted from the balance of tuition and refundable fees owed to the student.
In a Fall or Spring semester, upon surrender of the student identification card, a student withdrawing officially a) during the first five class days receives a refund of 80 percent of the applicable portion of the tuition and fees; b) during the second five class days, 70 percent; c) during the third five class days, 50 percent; d) during the fourth five class days, 25 percent; e) after the fourth five class days, no refund. In a summer term, a student withdrawing officially a) during the first three class days receives a refund of 80 percent of the applicable portion of the tuition and fees; b) on the fourth, fifth, or sixth day, 50 percent; c) the seventh day of classes and thereafter, no refund. ${ }^{12}$
A student who enrolls in The University for a given term and who is subsequently required to withdraw because of academic dismissal the previous term, receives a full refund of all tuition and fees and is not assessed the $\$ 15.00$ matriculation fee.
Refunds of tuition, applicable fees, general fees, and student service fees are made for courses dropped during the first twelve class days in the fall and spring or during the first four class days in a summer term if the student paid more than the minimum required and if the student has dropped below the total number of hours for which he or she originally registered. Tuition and applicable fees for added courses are billed to the student.
No refunds are made until 15 days have elapsed from the time fees were paid unless the fees were paid in cash or by money order. Refund checks are mailed to the address indicated when the student withdraws from The University. Students entitled to refunds should allow ten working days after the fifteen-day clearing period for receipt of the refund.
The University reserves the right to deduct from the refund any outstanding financial obligations owed The University.

## DEBTS OWED THE UNIVERSITY

In the event of non-payment of debts owed to The University (or failure to meet admission requirements), any of the following actions may be taken:

1. Denial of readmission of the student.
2. Denial of further registration.
3. Withholding of official transcripts.
4. Withholding a diploma to which the student would otherwise be entitled.

When a student has any of the above actions against his or her record, it is the student's responsibility to clear obligations with The University and see that the Registrar's Office is notified. No further services of The University will be provided until all obligations are cleared.
A student who pays tuition and fees with a check which is not subsequently honored by a bank and the fault is not that of the bank and who does not make payment within five days will be withdrawn from The University by the Registrar for non-payment of tuition and fees.

[^8]
## IV. INSTITUTIONAL POLICIES CONCERNING STUDENTS

## RULES AND REGULATIONS OF THE BOARD OF REGENTS

All students of The University of Texas at San Antonio are subject to the rules and regulations governing student conduct and discipline as set out in the Rules and Regulations of the Board of Regents of The University of Texas System and in the UT San Antonio Institutional Rules on Student Services and Activities.
The Regents' Rules and the Institutional Rules on Student Services and Activities have full force and effect as they concern all UT San Antonio students. The Regents' Rules may be consulted in the offices of the President, the Vice Presidents, and the Deans and in the John Peace Library.
A student at The University neither loses the rights nor escapes the responsibilities of citizenship. He or she is expected to comply with both the penal and civil statutes of the State and the federal government, the Rules and Regulations of the Board of Regents, and the policies and procedures of The University of Texas at San Antonio.
The Institutional Rules on Student Services and Activities may be obtained in the Office of the Dean of Students.

## STUDENT HEALTH SERVICES

The Application for Admission to The University of Texas at San Antonio includes an Immunization Record Form. This form must be completed by the student's family physician and returned to The University Student Health Center before the student can register.
When The University is in session, a registered nurse is on duty during class hours, and, when needed, a referral is made to a physician for medical treatment. The University Student Health Center has only limited medical capabilities.
Students are advised to carry health and accident insurance. Out-of-town students should have documents to verify insurance coverage to avoid possible delays in obtaining medical treatment.

## COUNSELING CENTER

The Counseling Center provides professional services which are designed to help meet the personal and developmental needs of UT San Antonio students. Individual or group sessions are available for students seeking personal, educational, or vocational counseling. Counseling psychologists in the Center deal with a variety of student concerns and utilize counseling techniques, psychological assessment, and other aids to assist students. All counseling is free, confidential, and on a voluntary basis.

## TESTING CENTER

The Testing Center provides a university-wide testing service. National tests are given on national testing dates. For the student seeking a better selfunderstanding, interest and personality inventories, achievement tests and intelligence tests may be scheduled by appointment in the Testing Center.
Students are encouraged to satisfy degree requirements through credit by examination (covered in Section VII). A brochure on Credit by Examination at UT San Antonio is available on the various tests which are accepted for credit by The University. For additional information students should consult the Credit by Examination section of the present catalog and the Credit by Examination brochure available from the Testing Center, as well as in the Admissions Office.


#### Abstract

ADVISEMENT Advisement for undeclared majors is a function of the Office of the Dean of Students, Division of Community and Student Affairs. This program is designed to provide basic information to students who are undecided about their educational goals. Academic advising for declared majors is carried on in the several Colleges, and information should be sought in the academic Deans' offices.

Advisement for all freshmen enrolled in the Provisional Admission Program is coordinated by the Office of the Dean of Students, Division of Community and Student Affairs.


## FINANCIAL AID

Loans, scholarships and grants-in-aid are administered through the Office of Student Financial Aid. Financial aid counseling for students and/or parents is an integral part of the total financial aid function. Applicants are urged to contact the UT San Antonio Office of Student Financial Aid about advice concerning opportunities for self-help and sources of financial aid and guidance that will assist them in making decisions about financing their education. An appointment with the Director of Student Financial Aid is encouraged for this purpose.
Application forms and information on how to apply are available at the Office of Student Financial Aid. Eligible students are notified of the amount and sources of financial aid only after they have been admitted officially to The University. Therefore, applicants should apply for admission before or at the same time they apply for financial aid.
In addition to providing scholarships and loan funds, UT San Antonio participates in state and federal financial aid programs, such as the College WorkStudy Program, the Hinson-Hazlewood Loan Program, the Federally Insured Student Loan Program, the Veterans' Administration Educational Loan Program, the Basic Educational Opportunity Grant Program, the Supplementary Educational Opportunity Grant Program, the Texas Public Educational Grant Program, and the Law Enforcement Education Program. A limited number of scholarships is also available to students with high academic credentials. Non-interest, shortterm emergency loans of up to $\$ 120$ are available to students. These are repayable during the semester in which they are made.
Scholastic aptitude and financial need are important factors in determining eligibility for most programs.
Financial need is determined by completing and submitting a Financial Aid Statement form to the College Scholarship Service or American College Testing Program.
These forms are available at the UT San Antonio Student Financial Aid Office. All undergraduate students are encouraged to apply for a Basic Educational Opportunity Grant. Consideration for eligibility for a Basic Grant will be given automatically to all undergraduate applicants who file a Financial Aid Statement form. Need analysis that is determined from the Financial Aid Statement form will be sent directly to UT San Antonio; the Basic Grant Report will be sent directly to the applicant to bring to the UT San Antonio Office of Student Financial Aid.
High school seniors are encouraged to contact their counselors about available scholarships.

Each financial aid applicant must:

1. File a Student's Financial Statement with the College Scholarship Service or American College Testing Program. Married or independent students should request forms designed for them.
2. File a UT San Antonio Application for Financial Aid with the Office of Student Financial Aid.
3. Meet deadlines set by the Office of Student Financial Aid.

The Texas Rehabilitation Commission offers assistance for tuition and nonrefundable fees to students who have certain disabling conditions provided their vocational objectives have been approved by a Texas Rehabilitation Commission Counselor. Examples of such conditions are orthopedic deformities, emotional disorders, diabetes, epilepsy, heart conditions, etc. Other services are also available to assist the handicapped student to become employable. Application for such service should be made at the Texas Rehabilitation Commission, 1222 N. Main Avenue, San Antonio, Texas.

## CAREER PLANNING AND PLACEMENT CENTER

The Career Planning and Placement Center offers a variety of services and programs in response to the placement needs of UT San Antonio students and alumni. ${ }^{1}$
To assist students in career development activities, the Center provides information on employment opportunities related to their college majors.
This information includes an annual report on the placement activities of our graduating students, average starting salary, the type of positions accepted, and, when available, the relationship between fields of study and accepted positions.
The Center provides the following services: part-time and summer employment opportunities; career placement for students and alumni after graduation; and assistance in the selection of graduate or professional schools. Students and alumni may establish a placement file and use the on-campus interview schedule to meet with representatives from business, industry, and government to explore professional employment opportunities.
Placement programs available at the Center are designed to assist all students in the development of effective job hunting skills and methods, e.g., effective letter writing, launching broadcast mail campaigns, resume development, and interview-skills training. Students are seen on a "drop-in" or appointment basis at the Career Planning and Placement Center.
Students and alumni are encouraged to use the career, vocational, and educational counseling services of the Center and its Career Resource Library. Students who have not decided which college major they wish to pursue can participate in the life planning workshops, value clarification labs, decision-making seminars (labs), and career exploration symposia offered by the Center. Vocational testing, including aptitude and interest inventories, is also available.

## TEACHER PLACEMENT SERVICE

The Teacher Placement Service, located in the Office of Teacher Certification and Placement, assists students from all Colleges and Divisions within The University of Texas at San Antonio who seek employment in the field of education by facilitating contact and communication between students and employers. ${ }^{2}$

[^9]The services of the Teacher Placement Service are available to all presently enrolled students, as well as to alumni of The University of Texas at San Antonio.

## ATHLETICS

The athletic program at UT San Antonio consists of general recreational activities and intramural programs. The facilities available in either the Convocation Center or the Physical Education Building include gymnasiums for basketball and volleyball, weight machines, badminton and shuffleboard courts, and a jogging path. There is also a 400-meter synthetic track with a grass playing infield and a tennis center available. Students are able to participate in tennis, basketball, track, volleyball, badminton, shuffleboard, table tennis, softball, soccer, and touch football.

## LIVING ACCOMMODATIONS

The University provides no on-campus housing. Students are responsible for providing their own housing facilities. A housing directory is available in the Office of Community and Student Affairs to assist students in finding living accommodations in the San Antonio community.

## IDENTIFICATION CARDS

Student identification cards are mandatory. The card is nontransferable. A replacement cost of \$2.00 is charged for lost or mutilated cards.

## DIRECTORY INFORMATION

All educational records of students at The University of Texas at San Antonio are maintained in accordance with State and Federal Laws.
Pursuant to the Family Educational Rights and Privacy Act, Directory Information at UT San Antonio includes the following:

Student's Name
Current and Permanent Address
Telephone Listing
Date and Place of Birth
Major Field of Study, including concentration Classification
Participation in Officially Recognized Activities and Sports
Weight and Height of Members of Athletic Teams
Dates of Attendance Degrees and Awards Received Most Recent Previous Educational Agency or Institution Attended
A student's consent is presumed, unless a written request to restrict the information as confidential is made by the student in the Registrar's Office on a prescribed form no earlier than the first day of registration and no later than the 12th class day in a semester or the 4th class day in a summer term. This consent or restriction remains in effect for the duration of the semester or summer term and must be refiled each subsequent semester or term that the student wishes to restrict the information. In those cases where a student files a request for restriction of information, such information is treated as confidential, and, in response to public inquiries. The University will verify only whether an individual is currently enrolled at The University.

For more specific information concerning confidentiality of student records or release of information consult the Institutional Rules on Student Services and Activities available in the Office of the Dean of Students.

## ORIENTATION

An orientation program is available to acquaint new students with the purposes and programs of The University, and with the academic advisement and registration procedures.

## LOST AND FOUND

All personal articles found at The University are placed in the Office of the Dean of Students. Items can be claimed upon proper identification of ownership. After a two-week period, all unclaimed articles are transferred to the Campus Security Office.

## HANDICAPPED STUDENTS

Handicapped students requiring special assistance should contact the Office of the Dean of Students, Division of Community and Student Affairs.

## INTERNATIONAL STUDENTS

Foreign students who are enrolled at UT San Antonio should contact the Office of the Dean of Students, Division of Community and Student Affairs, for assistance. If possible, contact should be made prior to arrival in the San Antonio area.

## V. ADMISSION REQUIREMENTS

## ADMISSION

Admission requirements for undergraduate study at UT San Antonio are designed so that students admitted will have a high probability of success in undergraduate academic work. The criteria for the various classifications of admission are set forth in the following paragraphs.

## ADMISSION OF FIRST-TIME FRESHMEN'

In-state applicants for admission who have graduated from an accredited Texas high school within five years of the date of first enrollment at UT San Antonio and who have never attended a college or university must have a minimum total score on either the Scholastic Aptitude Test (SAT) of the College Entrance Examination Board or the American College Testing Program (ACT) corresponding to their high school rank in class as indicated in the following table:

High School Rank in Class

Top 10\%

Top 25\%
(but not top 10\%)
Second $25 \%$
Third $25 \%$
Fourth 25\%
GED Test ${ }^{2}$

## Minimum Total SAT Score

Score must be submitted; no minimum score is required

$$
700
$$

750
800
850
850

## Minimum Total ACT Score

Score must be submitted; no minimum score is required

Applicants for admission who have graduated from an accredited high school five or more years prior to the date of first enrollment at UT San Antonio and who have never attended a college or university are eligible for admission regardless of high school rank in class and irrespective of SAT or ACT scores.
Out-of-state applicants for admission who have graduated from an accredited high school within five years of the date of first enrollment at UT San Antonio must be in the top half of their graduating class and must have minimum SAT or ACT scores corresponding to those required for in-state applicants who graduate in the top 25 percent or the second 25 percent of their class.
Recommended preparation. High school students who anticipate applying to UT San Antonio are strongly encouraged to include in their preparation for university study work in courses involving language skills; courses in quantification skills; and courses in subjects contributing to a broad academic background, such as English and foreign languages, speech, social sciences, history, mathematics and sciences, and the fine arts. ${ }^{3}$ The nature and number of high school units ${ }^{4}$ are suggested as follows:

[^10]Units
English 4
Mathematics: algebra, geometry,
trigonometry, and advanced
mathematics
3 or more
One foreign language
Natural science
Social science

2 or more
2 or more
2 or more

These specific units, although not required for admission, are recommended, since The University expects each applicant to be prepared for academic work at a higher level.

Early Admission. Applicants for admission as first-time freshmen, who are attending high school at the time of application for admission and who meet the rank-in-class and SAT or ACT score requirements during their senior year, are admitted pending certification of high school graduation. Applicants not meeting these requirements prior to graduation are reconsidered for admission upon submission of final transcripts or new test scores.

## ADMISSION OF TRANSFER STUDENTS

Applicants for admission who have earned less than 30 semester hours of credit from accredited colleges or universities must:

1) Meet the same rank-in-class and SAT, or rank-in-class and $A C T$, requirements as first-time freshmen;
2) Have at least a " $C$ " average ( 2.0 grade-point average on a 4.0 scale) on all college or university hours attempted; and
3) Must be in good standing at the last institution attended.

Applicants for admission who have earned 30 or more semester hours of credit from accredited colleges or universities must:

1) Have at least a " $C$ '" average ( 2.0 grade-point average on a 4.0 scale) on all college or university hours attempted; and
2) Must be in good standing at the last institution attended.

Applicants for admission as transfer students who are enrolled at another accredited college or university at the time of application for admission and who have at least a " $C$ " average on all college-level work attempted to date at other institutions may be admitted pending receipt of final transcripts verifying the cumulative ' C '' average and good standing. For applicants not meeting these requirements determination of eligibility for admission is deferred until all final transcripts are received.

## ADMISSION OF INTERNATIONAL FRESHMEN STUDENTS

All applicants for admission as freshmen who are not citizens of the United States or whose previous education has been outside the United States must:

1. Have credits equivalent to those of students entering from an accredited secondary school in the United States, as determined by the Admissions Office;
2. Have superior grades on work done in secondary school, as determined by the Admissions Office;
3. Submit scores from the Test of English as a Foreign Language (TOEFL), or successfully complete an intensive course in English from an accredi-
ted college or university in the United States. A minimum score of 550 on the TOEFL is required. Subsequent English tests and preparation may be required by a student's advisor if his or her performance in English is unsatisfactory. TOEFL scores are not required for international students from countries where the primary language of instruction is English; nor are TOEFL scores required for non-citizens of the United States graduating from United States high schools although a composite SAT or ACT test score appropriate to rank in class is required.
4. Submit a statement guaranteeing the student's ability to pay all expenses while a student at The University, if attendance under the F-1 (student) visa is anticipated. The statement may be sent from a parent or guardian when endorsed by a bank or other reliable institution, or from a United States citizen who will accept responsibility for the student's financial needs.

## ADMISSION OF INTERNATIONAL TRANSFER STUDENTS

International students who have attended a college or university in a country other than the United States must:

1. Have qualifications equal to those required for transfer from a college or university in the United States; and
2. Satisfy requirements 3 and 4 above for international freshmen students.

To be eligible for admission, international students who have attended another college or university in the United States must:

1. Have completed at least 30 semester hours of credit with a " $C$ " average ( 2.0 on a 4.0 scale) on all work attempted; and
2. Satisfy requirements 3 or 4 above for international freshmen students.

TOEFL scores are not required for non-citizens of the United States graduating from United States colleges and universities with at least a baccalaureate degree.

## PROVISIONAL ADMISSION PROGRAM FOR FRESHMEN

Any Texas resident applying as a freshman who has not attended a college or university and who is a graduate of an accredited high school but who does not qualify for admission due to an inadequate SAT or ACT score or deficiencies in high school preparation may be admitted on a provisional basis in the spring semester or in the first summer term (for both summer sessions). During this time provisional students are given an opportunity to demonstrate that they can perform college-level work and that they can reasonably be expected to make progress toward a degree.

A student admitted to the Provisional Admission Program is required to take courses selected from English, mathematics, natural science, and language and may not take courses in other disciplines until the provisional status is removed. The student must demonstrate ability to perform college work by obtaining an overall ' $C$ '' average ( 2.0 on a 4.0 scale) in 12 hours of work from these fields. Normally, a student is expected to complete these 12 hours of work in the summer sessions or during the spring semester. Upon completion of 12 hours of work from these fields a student is admitted as a regular university student in subsequent semesters. If a student enrolls for fewer than 12 hours and does not earn a 2.0 grade-point average, but earns at least a 1.50 grade-point average, the student may enroll for the next term. After 12 hours have been completed, the required cumulative grade-point average of 2.0 must have been reached, or the student is not allowed to continue at UT San Antonio.

## ADMISSION AS SPECIAL STUDENTS

An applicant who wishes to enroll in courses at the undergraduate level only without pursuing a degree at The University of Texas at San Antonio should apply for admission as a special student. A special student may register for any undergraduate course for which the prerequisites have been met and in which space is available.
Admission as a special student requires that the applicant have at least a " $C$ " average ( 2.0 on a 4.0 scale) on the last 30 semester hours attempted as well as be in good standing at the last accredited college or university attended. Applicants with less than 30 semester hours attempted must meet the same admission requirements as first-time freshmen and have at least a ' $C$ '' average on any college or university coursework attempted and be in good standing at the last institution attended. To be admitted later as a regular degree-seeking student, the special student must apply and meet the same admission requirements as listed above for transfer students.

## ADMISSION AS TRANSIENT STUDENTS

An applicant who wishes to enroll, normally for one session only, in courses at the undergraduate level without pursuing a degree at The University of Texas at San Antonio should apply for admission as a transient student. In order to qualify as a transient student at the undergraduate level, the applicant must provide a statement of good standing from the college or university last attended, as well as an application for admission.

Transient students may register for any courses for which they have the necessary prerequisites and in which space is available. A student registered in this capacity normally cannot register for a subsequent term unless he or she has been admitted as a transfer or special student according to the provisions set forth above.

## ADMISSION OF HIGH SCHOOL STUDENTS

Selected high school seniors may be admitted (as special students) in order to enroll in university courses while completing their high school studies. Such students must meet the admission requirements for first-time freshmen, except for high school graduation, must be recommended for the program of study by the high school counselor, and must be approved for enrollment by the Dean(s) of the College(s) in which they anticipate taking courses. High school students admitted as special students are eligible to register for any undergraduate course for which they have the prerequisites and in which space is available.

## APPLICATION DATES ${ }^{5}$

Students are urged to apply for admission as early as possible so that matters regarding admission can be resolved well in advance of the beginning of a term. Applications for admission are accepted as early as nine months before the term in which the student wishes to enter The University. The latest a completed application and all required supporting documents are accepted is August 1 for the Fall Semester and May 1 for the Summer Sessions. Failure to meet these priority dates may defer admission until a subsequent term.

[^11]
## ADMISSION PROCEDURES

The procedures to be followed in applying for admission are explained in the Application Information Brochure that accompanies the application form. Each applicant for admission is individually responsible for ensuring that all required support documents (e.g., application form, test results, and required transcripts) are on file in the Admissions Office, since admission is not granted until the applicant's file is complete. All documents submitted in support of an application become the property of The University and cannot be returned.
Students who apply for admission to The University of Texas at San Antonio for any term and do not register, must re-apply for admission if they wish to enroll at a later date. A subsequent application for admission must be in accordance with current admission requirements. New transcripts, test scores, and all other supporting documents are required since files for admitted students who do not register are not retained.

## RE-ADMISSION POLICIES AND PROCEDURES

Students who previously have been admitted and registered at The University of Texas at San Antonio, who were enrolled within 12 months prior to the beginning of any semester or summer session, and who are scholastically eligible to return may re-enroll without applying for re-admission. Former students who have not been enrolled within 12 months prior to the anticipated date of return must submit an application for re-admission to the Admissions Office.
All former students returning to UT San Antonio who have attended other institutions of higher education since they were last enrolled must submit an official transcript from each such institution. Eligibility for re-admission for any former student depends on the student's academic status at the conclusion of his/her last UT San Antonio enroliment and on any subsequent college or university work attempted.

## ADMISSION TO TEACHER CERTIFICATION PROGRAMS

The University of Texas at San Antonio has been approved by the Texas Education Agency to recommend students for teacher certification in various baccalaureate degree areas. ${ }^{6}$ Students who wish to prepare for teaching must apply for admission to The University through the Admissions Office and for admission to a certificate program through the Office of Teacher Certification and Placement. The application for admission to a certificate program should be submitted at the time the student attains upper-division standing.
All candidates for certification and/or endorsements must officially apply for the certificate and/or endorsement in the Certification and Placement Office no later than the end of the add/drop period of the term in which they intend to be certified. Candidates must complete the T.E.A. "R" form and include the appropriate money order made payable to the Texas Education Agency.
Candidates must have completed the official certificate program and maintained an overall grade point average of 2.50 on all academic work attempted.

[^12]
## VI. GENERAL ACADEMIC REGULATIONS

## REGISTRATION

All students who attend classes at The University of Texas at San Antonio must be registered officially or must be approved auditors. ${ }^{1}$ Registration instructions are included in the Schedule of Classes issued each term. Questions regarding registration should be directed to the Registrar's Office.
The University does not guarantee the availability of particular courses or sections, and admission to classes is permitted only until the maximum number of students allowable in any section has been reached. The University reserves the right to cancel any course or section in which the number of registrants does not warrant its continuation.

## LATE REGISTRATION

Late registration permits students to register during the first week of classes in a regular semester or during the first two class days of a summer term. Students who register late are charged an additional $\$ 5.00$ the first day of late registration and an additional $\$ 2.50$ per day thereafter to a maximum of $\$ 15.00$ for any one term. This fee is non-refundable. Instructions for late registration are available in the Registrar's Office. Students are not permitted to register after the close of late registration.
Students who register late are responsible for completing any work missed in the courses for which they enrolled during the time the course was in session prior to their being registered. It may be necessary for late registrants to select courses in which to enroll from a reduced schedule since many courses will have been closed at their capacities.

## ADDING COURSES

After registration, but during the first week of classes in a semester, or the first two class days in a summer term, a student may add a course only with the approval of the course instructor and the student's advisor. After the first week of classes and through the twelfth class day of any semester, or on the third or fourth class day of any summer term, the additional approval of the Dean of the College in which the course is offered is required. ${ }^{2}$ After the twelfth class day of any semester or after the fourth class day of any summer term, students may not add a course except for extremely rare and extenuating circumstances as approved by the Vice President for Academic Affairs. ${ }^{3}$ The University Calendar indicates the deadline dates for adding courses.

[^13]
## DROPPING COURSES

Courses officially dropped during the add/drop period (the first week of a semester or the first two days of a summer session) do not appear on the student's transcript. A student who drops courses after the add/drop period and through the first nine weeks of a semester or a proportional time period during summer terms may drop courses and receive an automatic grade of "W." The student is responsible for filing the change with the Registrar's Office so that the action becomes official.
Students may not drop courses later than the last day of the ninth week of classes (or a proportional time period during summer terms).
The University Calendar indicates the deadline dates for students to drop courses each term.
If a student ceases to attend class, the instructor must notify the Registrar's Office of the date on which attendance ceased.
The instructor may drop a student from the class for non-attendance. If the student is dropped by the instructor during the first nine weeks of a semester or a proportional time period during summer terms, the student will receive a grade of "W'. After these periods, the instructor shall assign a grade of " $W$ " if the student was passing at the time of the withdrawal or a grade of " $F$ '" if the student was failing at the time of withdrawal.

## WITHDRAWAL PROCEDURES

A student who finds it necessary to withdraw from The University (i.e., drop all courses for which he/she is enrolled) may obtain the form for this purpose from the Registrar's Office. After completing the required form, the student must file it with the Registrar's Office in order to withdraw officially. Students who officially withdraw from The University during the first nine weeks of a semester or a proportional time period during summer terms, will receive a grade of "W". Students who officially withdraw after the first nine weeks of classes in a regular semester or a proportional time period during summer terms will receive a grade of "W" for each class they are passing at the time of withdrawal and a grade of " $F$ " for each class in which they are not passing at the time of withdrawal. Students who withdraw from all classes are subject to The University's academic probation and dismissal regulations. Students withdrawing should refer to the Regulations on Refunds of Tuition and Fees.

## AUDITING OF COURSES

UT San Antonio students and non-students who wish to audit a course may do so with the approval of the instructor and the Dean of the College in which the course is offered, providing there is space in the classroom after all registered students have been accommodated. A course must achieve its minimum size without auditors. Auditing entitles a student to listen and observe. Participation of an auditor in class is at the discretion of the instructor. No UT San Antonio credit is granted for courses that are audited.
All auditors must submit the Request for Audit Form to the Registrar. A UT San Antonio student pays an auditing fee of $\$ 5.00$ per course and auditors who are not registered UT San Antonio students must pay an auditing fee of $\$ 25.00$ per course. Non-student auditors who wish library privileges may receive them by paying a non-student library deposit (Limited Borrower's Deposit) of $\$ 15.00$ at the John Peace Library. Persons over 65 are permitted to audit without paying an auditing fee, if space is available.

Permission to audit may be obtained and fees paid only during the late registration period. No official record is made of enrollment in classes on an audit basis.

## VERIFICATION OF ENROLLMENT

Following the add/drop period of each semester or summer session, a verification report is sent to each student indicating the schedule of classes in which he/she is officially enrolled. Any discrepancies between the courses shown on the notice and the courses the student is attending should be resolved immediately by the student in person with the Registrar's Office.

## MAINTAINING REGISTRATION

Degree candidates are expected to maintain registration until all degree requirements are satisfied. By failing to register for at least one term within a $12-$ month period, a student breaks his/her registration and must be readmitted. A "readmitted student" is required to satisfy the curriculum requirements existing at the time of re-enrollment. Students must be registered during any semester or summer term that they are taking courses or required examinations.

## CHANGE OF MAJOR OR DEGREE

A student who wishes to change his/her major or degree objective must obtain the required forms at the Registrar's Office. The change is not official until the form has been completed and filed with the Registrar's Office.

## STUDENT CLASSIFICATION SYSTEM

Upper-division (junior and senior): A student who has earned 60 or more semester hours of credit.
Lower-division (freshman and sophomore): A student who has earned less than 60 semester hours of credit.
Special: A student who registers for undergraduate courses and who is not seeking a degree at UT San Antonio.
Provisional: A student admitted to the Provisional Admission Program for Freshmen.

## DEFINITION OF A FULL-TIME AND A PART-TIME UNDERGRADUATE STUDENT

A full-time undergraduate student is one enrolled in twelve or more semester hours of courses during a semester or in six or more hours of courses during a summer term.
A part-time undergraduate student is one enrolled in less than twelve hours of credit during a semester or less than six hours during a summer term.
Note: Upon request, the Registrar may certify students as "full-time" during the term in which they intend to graduate if they are enrolled in the number of hours required to complete the degree, regardless of the number of hours involved.

## COURSE NUMBERING SYSTEM

All courses are designated by four-digit numbers following a two or three-letter abbreviation of the subject field. The first digit indicates the level of the course. All courses with a first digit of 1 or 2 are lower-division (freshman or sophomore)
courses, and all courses with a first digit of 3 or 4 are upper-division (junior or senior) courses. All course numbers starting with 5 or higher are graduate courses.

The second and third numbers are used within the Colleges by each Division to distinguish individual courses.
The fourth digit indicates the semester hour value of the course.

## PREREQUISITES

Prerequisites are stated for many courses listed in this catalog. The purpose of the prerequisite is to advise the student of the background expected of all students in the course. When a student has not met the specific prerequisites listed, he/she may, under special conditions, obtain permission to register from the instructor of the course. It is the student's responsibility to be sure that he/she has met all prerequisites before enrolling in any course.

## GRADING SYSTEM

Hours attempted. The number of hours attempted is the total number of hours for which a student has enrolled and received grades of "A," "B," "C," "D," or "F" (see below), except as provided for repeated courses.

Hours earned. The hours earned by a student are the number of semester hours of credit earned in which grades of "A," "B," "C," "D," or "CR" have been received (see below).

Grade-point Average. The UT San Antonio grade-point average (GPA) is determined by dividing the number of grade points earned at UT San Antonio by the number of semester hours attempted at UT San Antonio.

Credits and grades for work completed at other institutions or credits earned by examinations are not included in the UT San Antonio grade-point average.

Grade symbols and grade points.

| Symbols | Grade Points |
| :---: | :---: |
| A | 4 |
| B | 3 |
| C | 2 |
| D | 1 |
| F | 0 |
| CR | 0 |
| EP | 0 |
| W | 0 |
| IN | 0 |
| NR | 0 |
| NC | 0 |

## EXPLANATION OF GRADE SYMBOLS

" $A$ " through " $F$.' $A=$ Outstanding; $B=$ Above average; $C=$ Average; $D$ $=$ Below average but passing; $F=$ Failure.
"CR" or "Credit." The symbol "CR" is used to indicate that satisfactory performance has been demonstrated by examination (see Credit by Examination section), or in a course taken under the Credit-No Credit grading option.


#### Abstract

"NC" or "No Credit." The symbol "NC" is used to indicate unsatisfactory performance in a course taken under the Credit-No Credit grading option. "EP" or "Postponement of Final Examination." The symbol "EP" is used to indicate that a student has been permitted to postpone a final examination. See "Postponement of Final Examination Provisions," in this section of the catalog. "W" or "Withdrawal." The symbol "W" is used to indicate that at the time of withdrawal from a course, the student's grade was passing. "IN" or "Incomplete." The grade of "Incomplete" ("IN'), subject to the regulations of this section, may be assigned a student at the discretion of the instructor. The purpose of the "Incomplete" grade is to allow a student to complete a course without repetition of the regular work of a course. It may not be assigned when a definite grade can be given for the work done. The "Incomplete" grade is given to indicate that some part of the work of a student in the course has, for good reason, not been completed, while the rest has been satisfactorily completed. The student must have been in attendance at least threefourths of the term. Incomplete work must be made up within one year of the time that the "Incomplete" grade is received and before the student's graduation. If the work is not completed within this time the "Incomplete" changes to a grade of "F" or "NC." Whenever a grade of "Incomplete" is assigned, the instructor is required to file a "Requirements for Removal of Incomplete" report with the Registrar's Office. "NR" or "No Report." The grade "No Report'" ("NR') may be assigned a student only by the Registrar. This symbol is assigned only when in unusual circumstances it is not possible to obtain the student's proper grade by the deadline necessary for processing grades at the close of the term and is replaced with the official grade as soon as possible.


## REPORTING OF GRADES

Grades are reported by course instructors by term and are due in the Registrar's Office 48 hours following the final examination. Final grades cannot be withheld nor can reporting of them be deferred. Absence from a final examination should be reported as "EP," if a postponed examination has been authorized in accordance with the "Postponement of Final Examination Procedures" set forth in this catalog.

## GRADE REPORTS

The Registrar's Office mails final grades as soon as they are compiled after the close of each semester and each summer term. The grade report reflects the grade that appears on the instructor's final grade sheet; subsequent changes are not included. Grades are mailed to the address on file in the Registrar's Office. Only one grade report is mailed; additional copies are not available.

## CHANGE OF GRADES

Grade changes from "Incomplete'" ('IN' ') to a letter grade must be made within the time limit provision explained under "Explanation of Grade Symbols" in this catalog. A grade of "Incomplete" may be changed by the instructor within the time limits by completing a Removal of Incomplete form and filing it with the Registrar's Office.

Grade changes from "Postponement of Final Examination" ("EP') to a letter grade should be made as soon as possible after the student has taken the authorized postponed final examination. As explained under "Postponement of Final Examination Procedures' in this catalog, if a postponed final examination is not taken before the end of the fall or spring term following the one for which it was approved, the grade in the course is changed by the Registrar's Office to "F." Prior to that time the instructor may change the "EP" to another letter grade by completing a Change of Grade form and filing it with the Registrar's Office.
Any other change of grade must be initiated by the instructor on the required form available in the Registrar's Office and in the Offices of the College Deans. All requests for a change of grade should be accompanied by a statement explaining the requested change. It is the policy to change a grade (other than "Incomplete") only in the case of error. Additional work performed by a student may not be used to raise a grade that has been reported to the Registrar's Office. Requests for a change of grade require the approval of the Vice President for Academic Affairs before the Registrar will make the change on the student's record.

## CLASS PARTICIPATION POLICY

Regular attendance at and participation in all meetings of courses for which a student is registered is expected. It is the instructor's responsibility to set and to communicate to students the participation requirements for each course. The degree to which classroom participation is required and whether or not work missed by a student during an absence may be made up is at the discretion of the instructor.

When, in the judgment of the instructor, a student has been absent excessively, the instructor may report the absences to the Dean of the College in which the course is offered and recommend that the student be dropped from the course with a grade of "F." If the Dean approves the recommendation, he advises the Registrar, who in turn advises the instructor and student of the action taken.
A student who enrolls for a course and then does not attend is considered absent from class until he/she officially drops the course or until he/she has accumulated an excessive number of absences and is dropped from the class with a grade of "F."

## REPEATING COURSES

Only those courses in the catalog in which the course description specifically indicates "may be repeated for credit" may be repeated with both the units and grade points earned being counted. An undergraduate student may, however, repeat a course in which he/she received a grade of "D," "F," or "NC' in order to improve his/her grade but cannot receive credit for the course more than once.

If a student re-enrolls in a course in which a "D" has been received, only the highest grade earned is used in calculating the grade-point average. If another "D' or a lower grade is received the second time, the repeated course grade is not used in computing the cumulative UT San Antonio grade-point average, and the course is marked as "Duplication" on the student's official records.
Re-enrollment in a course in which an " $F$ " has been received cancels the credit hours charged against the student's UT San Antonio grade-point average if a higher grade is earned. If a second " $F$ " is received, it is not charged against the
student's grade-point average and is marked as "Duplication" on the student's official record.
A student may not repeat a course by correspondence or extension study for the purpose of raising his/her grade-point average.
Only undergraduate students may repeat courses for the purpose of raising the grade-point average, as described above.

## POSTPONEMENT OF FINAL EXAMINATION PROCEDURES

A student who is compelled to be absent from a final examination because of illness or other imperative reason should, either in person or through a friend, petition his/her academic Dean for permission to postpone the examination. This request, which requires prior approval by the instructor, should be made to the Dean as soon as the student knows he/she will be compelled to be absent.
The instructor records the symbol "EP' on the final grade report for a student who has been permitted to postpone an examination.
The examination should be given as soon as possible (preferably during the same examination period), but not later than thirty days after the original examination period. If for good reason the student cannot take the examination within the thirty-day period, the examination may be scheduled at any time convenient to the instructor, except that in no case will it be given later than the end of the fall or spring term following the one for which the postponed examination was approved. If a postponed examination is not taken before the end of the next fall or spring term, the grade in the course will be changed to "F."

## HONOR ROLL AND DEAN'S LIST

Undergraduate students who achieve scholastic distinction in a semester, as evidenced by a grade-point average of 3.50 or higher in at least 12 hours of credit, excluding grades of "CR," and receive no grades of "D," "F," "EP," "IN," or "NC" are included on the Honor Roll. Undergraduate students who complete at least 12 semester hours, excluding grades of "CR," and receive no grades of "D," "F," "EP," "IN," or "NC" and who achieve a grade-point average of 3.75 or higher for any semester are included on the Dean's List. Neither the Honor Roll nor the Dean's List are prepared for the summer terms. To determine eligibility for graduation with honors, see Graduation with Honors.

## ACADEMIC STANDING

Students are expected to maintain a level of scholastic achievement that would allow them to meet the grade requirements for graduation. Students who fail to maintain the minimum required grade-point average of 2.0 in all work attempted at UT San Antonio will be placed on academic probation or on academic dismissal as appropriate. ${ }^{4}$

## ACADEMIC PROBATION

Students whose cumulative UTSA grade-point average falls below 2.0 are placed on academic probation. These students will remain on academic probation as long as their cumulative UTSA grade-point average remains below 2.0 provided that they achieve above 2.0 each term. Academic probation will be cleared when they achieve a 2.0 cumulative grade-point average. Failure to achieve a

[^14]grade-point average above 2.0 during any term while on academic probation will result in academic dismissal.

## ACADEMIC DISMISSAL

Students on academic probation who achieve a grade-point average of 2.0 or below during any term will be placed on academic dismissal.

## PETITION FOR REINSTATEMENT

A student who has been dismissed academically may petition for reinstatement. Information and petition forms are available in the Registrar's Office.

## SCHOLASTIC DISHONESTY

The integrity of a university degree depends on the integrity of the work done for that degree by each student. The University expects a student to maintain a high standard of individual honor in his/her scholastic work.
"Scholastic dishonesty" includes, but is not limited to, cheating on a test or other class work, plagiarism (the appropriation of another's work and the unacknowledged incorporation of that work in one's own written work offered for credit), and collusion (the unauthorized collaboration with another person in preparing course work offered for credit).
Should a student be accused of scholastic dishonesty, the Dean of the College in which the student is enrolled may initiate disciplinary proceedings.

## CANCELLATION OF ENROLLMENT

Any student who fails to fulfill admission or registration requirements or who otherwise fails to adhere to academic regulations is subject to having his/her enrollment for that term cancelled. Application for re-admission to a subsequent term may be considered, provided the deficiency which resulted in the cancellation has been removed.

## TRANSCRIPTS

Official transcripts of all course work taken at The University of Texas at San Antonio are available in the Registrar's Office. Requests for transcripts must be in writing and must bear the signature of the student whose record is requested. A fee of $\$ 1.00$ is charged for each copy of the transcripts and must be paid in advance. Transcripts from other institutions submitted to UT San Antonio become the property of The University and are not reproduced and/or mailed to other institutions, agencies, or individuals. Upon request, work in progress (i.e., a listing of classes in which the student is currently enrolled) is included with the transcript without additional charges.
Transcript service is withheld from students who have a financial obligation or other commitment outstanding to The University until the obligation is cleared.

## RELEASE OF TRANSCRIPTS AND ACADEMIC RECORDS

UT San Antonio transcripts and other information from a student's academic records are released by the Registrar only upon written request from the student or other person authorized by law and when payment of the appropriate fee is made. Exceptions may be made in response to a subpoena or court order and as provided in the policy on releasing directory information set forth in this catalog.

All official certification with regard to the academic performance or status of a student or former student of The University of Texas at San Antonio are made by the Registrar's Office.

## CHANGE OF NAME

A student's name on official records at UT San Antonio is the name under which the student applied for admission, unless a Change of Name form has been processed through the Registrar's Office. Name changes are made only when appropriate legal documentation accompanies the request, except that upon marriage a student may declare the newly taken name.
VII. BACHELOR'S DEGREE
REGULATIONS

## DEGREE REQUIREMENTS

In order to receive a bachelor's degree from UT San Antonio, a student must comply with the following minimum requirements: ${ }^{1}$

1. Complete a minimum of 120 semester hours of credit, of which at least 39 must be in upper-division work.
2. Complete the university-wide general education requirements.(See immediately below.)
3. Complete the major and support-work requirements and the free elective requirements ${ }^{2}$ for the desired degree. (See Section IX of catalog.)
4. Meet the residence requirements. (See below.)
5. Achieve an overall 2.0 grade-point average in all work attempted at UT San Antonio and a 2.0 grade-point average in all work included in the major.
6. Be in good academic standing at UT San Antonio.

The only restrictions placed upon courses used as free electives are:

1) that a specified number of free elective credits must be at the upperdivision level for some degree programs;
2) that a maximum of six hours of physical activities courses can be applied to the free electives allowed for any UT San Antonio degree program; and
3) that a maximum of nine hours of military science credit can be applied to the free electives allowed for any UT San Antonio degree program.

## GENERAL EDUCATION REQUIREMENTS

All candidates for a bachelor's degree at The University of Texas at San Antonio must satisfy the following university-wide general education requirements. ${ }^{3}$

1. Complete a minimum of 35 semester hours as follows:
A. Nine semester hours in English and humanities (ENG 1013 and ENG 1023 are required of all students, with the three remaining hours to be selected from ENG 1033, ENG 1043, or HUM 1053).
B. Six semester hours in American history or three hours each in Texas and American history. ${ }^{4}$ (See the Appendix for a list of eligible courses.)
C. Six semester hours in U.S. and Texas government. ${ }^{5}$ (See the Appendix for a list of eligible courses.)
D. Nine semester hours in a single foreign language. ${ }^{6}$
E. Four semester hours in mathematics, computer science, or systems design.

[^15]F. One semester hour of library study, LIB 1001. (Optional for students entering with 60 hours or more.)
2. Complete an additional 15 semester hours of required electives as follows:
A. Students majoring in art and design, English, foreign language, humanities, or music must select at least six hours from Group B, six hours from Group C, and three additional hours from either Group B or C below.
B. Students majoring in business, criminal justice, or any of the social sciences must select at least six hours from Group A (three of which should be in the fine arts), six hours from Group B, and three additional hours from either Group A or B below.
C. Students majoring in applied science; biology; chemistry; mathematics, computer science, and systems design; or allied health professions must select at least six hours from Group A (three of which should be the fine arts), six hours from Group C, and three additional hours from Group A or C below.
D. Students majoring in early childhood and elementary education, health, or physical education must select at least six hours from each of two groups (A, B, or C, excluding education) and an additional three hours from any of Groups A, B, or C (excluding education) below. Three hours should be in art or music.
Group A
English
Foreign Languages
Classics
Communications
Comparative
Studies in
the Humanities
Humanities
Linguistics
Philosophy
Architectural Design
Art
Art History and
Criticism
Music

## MINIMUM RESIDENCE REQUIREMENTS

The following minimum residence ${ }^{\text {a }}$ requirements at UT San Antonio 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 30 semester hours of credit in UT San Antonio courses must be completed before a degree can be conferred.
2. Twenty-four of the last thirty semester hours must be completed in residence, with the exception that among the UT System components, a stu-

[^16]dent may, with the approval of the appropriate Dean, transfer additional course work to his/her program at the degree-granting institution.
3. Of the 39 upper-division hours required in all degree programs at UT San Antonio, 18 of these must be earned in UT San Antonio courses.
4. At least six hours of upper-division UT San Antonio course work in the major must be completed. Additional hours in the major sequence may be required under individual UT San Antonio degree plans, as set forth in Section IX of this catalog.

## TRANSFER OF CREDIT

Undergraduate transfer of credit policies of The University of Texas at San Antonio are designed to reduce the difficulties often experienced by students seeking to transfer credit from one institution to another. To prevent unnecessary loss of time and credit, prospective transfer students are encouraged to inform themselves as early as possible of UT San Antonio's admission policies (see Section V ) and degree requirements in their areas of interest (see Section IX). Students attending community colleges should be guided as well by the Core Curricula designed and adopted by the Coordinating Board, Texas College and University System to simplify the transfer of credit, copies of which are available through most community college counselors. Questions regarding the transferability of courses should be addressed to the UT San Antonio Admissions Office.

The Coordinating Board, Texas College and University System 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 taken in these core curricula at various institutions may not be precisely equivalent to courses in the UT San Antonio Undergraduate Catalog, students who have successfully completed these core curricula at other institutions are given full credit toward the appropriate degree at UT San Antonio.
Undergraduate college credits completed at other institutions are evaluated for transfer to UT San Antonio by the Director of Admissions and Registrar on the basis of UT San Antonio equivalency tables and according to the following guidelines:

1. All work transferred must be from a college or university accredited by a regional accrediting association (credits completed at foreign institutions are evaluated on an individual basis).
2. 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 of this section. Only those hours which apply toward a specific baccalaureate degree program count toward minimum degree requirements.
3. The applicability of particular courses completed at other institutions toward specific course requirements for a baccalaureate degree at UT San Antonio depends upon equivalency of such courses to courses offered by UT San Antonio. Other academic courses are transferred as electives; credit for these courses count 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.
4. When a course has been repeated for credit, the highest grade earned is used in the acceptance of credit.
5. Credits for courses such as remedial courses, vocational-technical courses, ${ }^{9}$ orientation, life experience, high school level courses, or mathematics below the college algebra level are not accepted for transfer credit. No transfer credit is granted for the General Education Development Tests.
6. Credit by examination awarded at another accredited college or university is transferred as though the student had completed the course(s) or general subject area(s) at the other institution and is evaluated the same as any other course(s) at that institution. Such credit is subject to all other provisions of this section.
7. Credit earned through accredited colleges and universities for college level academic courses by extension or correspondence (including USAFI courses) is evaluated and accepted for transfer if equivalent to UT San Antonio courses, if applicable to the student's degree program, and if all other transfer provisions of this section are met. However, the maximum credit accepted through a combination of extension and correspondence courses is 30 hours ( 18 -hour maximum by correspondence, including USAFI). No more than 6 hours of correspondence credit may be applied to the major.
8. Transfer credit for junior college work may not exceed 66 semester hours. Students who have completed more than 66 acceptable semester hours may apply completed, transferable courses to specific course requirements and thereby not have to repeat the courses. The semester hours for those additional courses may not be applied toward the minimum semester hour requirements for a baccalaureate degree.
No upper-division credit may be earned at a junior college. All course requirements at UT San Antonio which are designated as upper-division may be transferred to UT San Antonio 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 of upper-division level.
If the equivalent of a required upper-division UT San Antonio course is completed at an accredited institution as a lower-division course, the course need not be repeated, but another upper-division course, as approved by the student's Advisor, must be completed at UT San Antonio in substitution.
9. Transfer credit for military service training school courses is not granted by UT San Antonio. A student having taken such courses may challenge by examination those UT San Antonio courses which appear equivalent to those already completed. (See the paragraph on UT San Antonio Challenge Examinations in the Credit by Examination section of this catalog.) Credit for ROTC or military science, when awarded by another accredited college or university, will be accepted by UT San Antonio as free elective credit within the limitations of the student's degree program (normally a maximum of 9 semester hours). ${ }^{10}$

[^17]10. Credits earned for physical activities courses can be transferred, within the provisions of this section, as free elective credit subject to a maximum of 6 semester hours.
11. Credits earned in partially accredited colleges and universities may be considered for transfer to UT San Antonio on an individual basis and as applicable to the student's degree program.
The University reserves the right to refuse recognition of credit from a non-accredited institution. Any such credit accepted in transfer must be validated by 30 semester hours of course work in residence at UT San Antonio, with a grade-point average of 2.0 or higher in that work.
An official Evaluation of Transfer Credit is supplied to each new student as soon as possible following admission. This evaluation shows the equivalency of courses completed elsewhere to courses at UT San Antonio and their applicability to the student's proposed baccalaureate degree at UT San Antonio.
Students who do not receive transfer credit for specific courses should review the policies for credit by examination.

## CORRESPONDENCE AND EXTENSION COURSES

The University of Texas at San Antonio does not offer correspondence or extension courses at this time. For UT San Antonio policies on transfer and credit limitations on such courses, see Transfer of Credit and Minimum Residence Requirements in this section of the catalog.
While enrolled at UT San Antonio, students normally are not permitted to transfer to UT San Antonio credit earned through correspondence or extension courses. 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 about to graduate cannot obtain the course in residence.

## CREDIT BY EXAMINATION

A student at The University of Texas at San Antonio may normally satisfy general education and specific degree requirements through credit by examination. ${ }^{11}$ Except for one type of examination, credit earned by this means is not counted as satisfying minimum residence requirements. The exception noted pertains to credits earned by challenging UT San Antonio undergraduate courses; these credits are counted toward the minimum residence requirements but are not included in the calculation of the student's UT San Antonio gradepoint average.
Unsuccessful attempts to earn credit by examination do not become part of the student's official academic record.
A brochure on Credit by Examination at UT San Antonio is available from the Testing Center, Office of the Dean of Students on the various tests which may be accepted for credit at The University. The brochure describes the tests available, when and where they are given, their costs, procedures for having test scores submitted for consideration for credit, the amount of credit that may be earned, and how to obtain additional information on each test.
The symbol "CR" (Credit) is awarded for all credit earned by examination.

## CREDIT-NO CREDIT GRADING POLICY

A Credit-No Credit grading option is provided to encourage undergraduate students to expand their knowledge of fields outside their major area of interest.

[^18]This grading option also allows for more realistic evaluation of students in undergraduate courses which do not lend themselves to traditional forms of grading, such as internships, seminars, recitals, etc.

1. A maximum of four courses may be taken under the Credit-No Credit system.
2. Degree seeking students must have at least 60 credit hours to participate, and must have been at UTSA at least one semester prior to taking a Credit-No Credit course. Special or transient students may take courses on the Credit-No Credit basis upon approval of the instructor, up to a maximum of four courses.
3. Degree-seeking students must have a GPA of 2.5 or higher (on a 4.00 scale) to take a course on a Credit-No Credit basis at the student's option.
4. Students must choose to take the course on a Credit-No Credit basis at registration and may not change that decision after the add period.
5. Each College or Division has the option to designate which courses may never be taken on a Credit-No Credit basis, which must be taken on a Credit-No Credit basis, and which courses the student may elect to take on a Credit-No Credit basis.
6. When a Division has designated a particular course to be taken on a mandatory Credit-No Credit basis, students must get approval of the Division offering the course.
7. Courses taken on a Credit-No Credit basis will appear on the student's transcripts.

## UT SAN ANTONIO CHALLENGE EXAMINATIONS

Students enrolled at The University of Texas at San Antonio may "challenge," that is request an examination in, any UT San Antonio undergraduate course for which they have not already received credit. Not all courses, however, consist of materials in which comprehension can be evaluated by means of examination. The option of whether or not to grant the request rests with the instructor of the course.

To challenge a UT San Antonio undergraduate course by examination, the student must enroll in the course and within the first three weeks must request to complete it by examination. A charge of $\$ 15.00$ is made for each course challenged by examination. If the student's performance on the examination is at the grade level of " C " or higher, a grade of "CR" is submitted at the end of the term by the instructor on the grade report for the course along with a credit by examination notation.

Unsuccessful attempts to earn credit by examination do not become part of the student's official academic record; the student may, however, elect to drop the course or complete the course on a regular basis following the evaluation of the examination(s) for the course(s) challenged.
Students admitted under the Provisional Admission Program may request to challenge by examination courses in those disciplines to which their enrollment is restricted.

Credits earned by challenging UT San Antonio undergraduate courses by examination apply to degree requirements as though the courses had been completed in the normal manner, except that since a grade of "CR" is awarded, such courses are not included in the UT San Antonio grade-point average. These
credits are also counted toward the minimum residence requirements. Students may challenge the same UT San Antonio course by examination only once.

## MULTIPLE MAJORS

A student completing a baccalaureate degree at The University of Texas at San Antonio is not restricted in the number of majors he or she may complete for the degree. However, 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. In such cases, only one degree is awarded. 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.

## ADDITIONAL BACCALAUREATE DEGREES

A student holding a baccalaureate degree from The University of Texas at San Antonio or from another accredited institution may receive an additional bachelor's degree in a different major from UT San Antonio. Such a student continues to be classified as an undergraduate and must:

1. Complete a minimum of 30 semester hours of credit in UT San Antonio courses (of which at least 12 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 gradepoint average requirements, support courses, elective courses, and upper-division courses, as set forth in this catalog.

## ENROLLMENT IN GRADUATE COURSES FOR UNDERGRADUATE CREDIT

With approval of the student's advisor, the instructor, the Division Director and the Dean of the College in which the course is offered, and the Vice President for Academic Affairs, an exceptional undergraduate student may enroll in a graduate course and apply the credit earned to his/her undergraduate degree. An approval form is available at the Registrar's Office.

## ENROLLMENT IN GRADUATE COURSES FOR GRADUATE CREDIT

An undergraduate student lacking no more than 12 semester hours for graduation may enroll in a graduate course and earn graduate credit under the following conditions:

1. All hours required for the degree must be completed in the term in which he/she is taking the additional course(s) for graduate credit.
2. Permission, on an approved form available at the Registrar's Office, must be obtained from the student's advisor, the Dean of the College in which the course(s) to be taken for credit is (are) offered, and the Vice President for Academic Affairs. The approved form must be filed with the Registrar's Office by the end of the add/drop period of the term in which the registration is being made.
3. In order to earn graduate credit, the student must graduate at the end of that term; otherwise, the course(s) is (are) regarded as undergraduate credit. If graduate credit is earned, the semester hours are not considered part of the baccalaureate degree program.

## CATALOG OF GRADUATION

Candidates for a baccalaureate degree may graduate upon the completion of the requirements as stated in the catalog in effect at the time of initial registration at UT San Antonio, provided they register for at least one term every twelve months, or in any subsequent catalog under which they have enrolled, except that no degree is granted on the basis of the requirements listed in a catalog issued more than seven years prior to the date of graduation. In the event certain required courses have been discontinued, substitutions may be authorized or required by the student's academic Dean.

## APPLICATION FOR THE DEGREE

All degree candidates must officially apply for the degree at the Registrar's Office no later than the end of the add/drop period of the term (Fall, Spring, or Summer Session) in which they intend to graduate. Undergraduate students should apply for the degree during the term in which their current enrollment yields 90 semester hours of earned credit. Upon application for the degree, an official degree check is prepared and issued to the student by the Office of Admissions and Registrar.

## GRADUATION WITH HONORS

Undergraduate students who complete degree requirements for a baccalaureate degree and who have earned an overall grade-point average of 3.50 in all academic college work attempted and have earned a grade-point average of 3.50 in all semester hours attempted at The University of Texas at San Antonio are eligible for graduation Magna Cum Laude. Those who have earned a grade-point average of 3.75 on an overall basis and at UT San Antonio are eligible for graduation Summa Cum Laude.
Candidates who have completed some portion of the requirements for the baccalaureate degree at other collegiate institutions may be graduated with honors when they meet the requirements listed above in addition to completing a minimum of 45 semester hours of credit at The University of Texas at San Antonio, excluding courses challenged by examination or taken on a Credit-No Credit basis in which only the symbol "CR"' is recorded.
No degree candidate shall be eligible for graduation with honors if, at the time of graduation, disciplinary action is noted on the candidate's official records in the Registrar's Office.

## GRADUATION DATES

Degrees are conferred at the end of each semester and at the end of the summer session. Public commencement ceremonies are held only at the conclusion of the spring semester. Students who wish to participate in commencement ceremonies at the close of the spring semester and who have graduated during the previous summer or fall terms may do so. Information on the procedures to be followed is available in the Registrar's Office.

## VIII. SUMMARY OF UNDERGRADUATE DEGREE PROGRAMS AND SUPPORT AREAS FOR 1978-80

## SUMMARY OF UNDERGRADUATE DEGREE PROGRAMS


#### Abstract

The following undergraduate degree programs are available during 1978-80.' Detailed requirements for each degree are found in Section IX of the present catalog.


## Bachelor of Business Administration (BBA)

Accounting
Concentrations: (1) Accounting
(2) Business Data Systems

Economics
Finance
Management
Concentrations: (1) Business Management
(2) Industrial Management
(3) Marketing Management
(4) Personnel Management

Bachelor of Arts (BA)
American Studies
Anthropology
Criminal Justice
Early Childhood and Elementary Education
Economics
English
French
Geography
German
History
Humanities
Political Science
Psychology
Sociology
Spanish
Bachelor of Fine Arts (BFA)
Art and Design
Concentration: Art
Bachelor of Music (BM)
Bachelor of Music Education (BME)

## Bachelor of Science (BS) <br> Applied Science <br> Concentrations: (1) Applied Geology

[^19](2) Applied Physics
(3) Polymer Science

Biology<br>Chemistry Health Education<br>Mathematics<br>Mathematics, Computer Science, and Systems Design<br>Medical Technology<br>Physical Education<br>Physical Therapy

## Summary of Undergraduate Support Areas

Additional undergraduate courses are available in the following support areas during 1978-80. ${ }^{2}$

Architectural Design
Art History and Criticism
Astronomy
Bicultural-Bilingual Studies
Business Law
Classics
Comparative Studies in the Humanities
Communication
Educational Psychology (Special Education)
English as a Second Language
Environmental Management
Linguistics
Occupational Therapy
Philosophy
Social Science

[^20]
## IX. UNDERGRADUATE DEGREE PROGRAMS AND COURSE DESCRIPTIONS

## 74 / GENERAL EDUCATION REQUIREMENTS AS APPLIED IN THE COLLEGE OF BUSINESS

## COLLEGE OF BUSINESS

General Education Requirements as Applied in the College of Business

English
Foreign Language
History
Political Science
Mathematics
Computer Science
Fine and Applied Arts

## Group A Elective

English
Foreign Languages
Classics
Communications
Comparative Studies in the Humanities
Humanities
Linguistics
Philosophy
Architectural Design
Art
Art History and Criticism
Music

## Group B Elective

Applied, Biological, Physical, and Earth Sciences (including Astronomy)
Mathematics, Computer Science and Systems Design
Library Study

ENG 1013, ENG 1023, ENG 1043
9 semester hours
6 semester hours
6 semester hours
MAT 1011, MAT 1022, MAT 1031, MAT
1051, MAT 1062
CS 1043
3 semester hours
3 semester hours

3 semester hours

LIB 1001

## DIVISION OF ACCOUNTING AND BUSINESS DATA SYSTEMS

The Division faculty recommends that prospective majors should have attained an overall grade-point average of 2.5 in their first 60 semester hours of university credit and a "B" average for Accounting 2013 and 2023.

## BACHELOR OF BUSINESS ADMINISTRATION DEGREE IN ACCOUNTING WITH A CONCENTRATION IN ACCOUNTING

The minimum number of semester hours required for this degree, including the 50 hours of General Education Requirements,' is 128.
All candidates for the degree must complete:
A. 33 semester hours in the major, 27 of which must be at the upperdivision level.

1. 27 semester hours of required courses are:

ACC 2013 Fundamentals of Accounting I
ACC 2023 Fundamentals of Accounting II
ACC 3013 Managerial Accounting
ACC 3023 Intermediate Accounting I
ACC 3033 Intermediate Accounting II
ACC 3043 Federal Income Tax Accounting
ACC 4013 Principles of Auditing
ACC 4153 Corporate and Partnership Taxation
BDS 3013 Accounting Information Systems
2. 6 additional semester hours are required in accounting, as approved by the student's Advisor.
B. 39 semester hours of support work, 30 of which must be at the upperdivision level.

1. 36 semester hours of required courses are:

BLW 3013 Business Law
BLW 3023 Business Organizations and Commercial Law
ECO 2013 Introductory Macroeconomics
ECO 2023 Introductory Microeconomics
ECO 3033 Economics of the Firm
FIN 3013 Organization and Management Theory
MGT 3013 Organization and Management Theory
MGT 3023 Organizational Behavior
MGT 3033 Quantitative Decision Analysis and Production
MGT 3043 Business Communications
MGT 4893 Business Policies and Management
MKT 3013 Principles of Marketing
2. 3 semester hours are required in anthropology, sociology, or psychology.
C. 6 semester hours of free electives, of which 3 must be at the upperdivision level.

[^21]
## 76 / BACHELOR OF BUSINESS ADMINISTRATION DEGREE IN ACCOUNTING WITH A CONCENTRATION IN BUSINESS DATA SYSTEMS

## BACHELOR OF BUSINESS ADMINISTRATION DEGREE IN ACCOUNTING WITH A CONCENTRATION IN BUSINESS DATA SYSTEMS

The minimum number of semester hours required for this degree, including the 50 hours of General Education Requirements ${ }^{2}$ is 128.
All candidates for the degree must complete:
A. 24 semester hours in the major, 12 of which must be at the upperdivision level.

1. 18 semester hours of required courses are:

ACC 2013 Fundamentals of Accounting I
ACC 2023 Fundamentals of Accounting II
ACC 3013 Managerial Accounting
BDS 2013 Business-Oriented Computer Languages
BDS 3063 Data Structures and Information Retrieval
BDS 4053 Business Systems Analysis
2. 6 additional semester hours are required in business data systems or in computer science as approved by the student's Advisor.
B. 39 semester hours of support work, 30 of which must be at the upperdivision level.

1. 36 semester hours of required courses are:

BLW 3013 Business Law
BLW 3023 Business Organizations and Commercial Law
ECO 2013 Introductory Macroeconomics
ECO 2023 Introductory Microeconomics
ECO 3033 Economics of the Firm
FIN 3013 The Finance Function
MGT 3013 Organization and Management Theory
MGT 3023 Organizational Behavior
MGT 3033 Quantitative Decision Analysis and Production
MGT 3043 Business Communications
MGT 4893 Business Policies and Management
MKT 3013 Principles of Marketing
2. 3 semester hours of required electives are to be selected in anthropology, sociology, or psychology.
C. 15 semester hours of free electives, of which 9 must be at the upperdivision level.

# COURSE DESCRIPTIONS <br> ACCOUNTING (ACC) 

## 2013 Fundamentals of Accounting I

(3-0) 3 hours credit. Prerequisite: MAT 1011 or consent of Division Director or Dean.
An introduction to the basic concepts of financial accounting. A course to provide coverage of the fundamental aspects of the accounting discipline by focusing on significant financial issues.

## 2023 Fundamentals of Accounting II

(3-0) 3 hours credit. Prerequisite: ACC 2013.
A continuation of Fundamentals of Accounting I, with an introduction to the concepts of accounting for planning and control.

## 3013 Managerial Accounting

(3-0) 3 hours credit. Prerequisite: ACC 2023.
A study of management's use of accounting to provide information for planning and controlling routine operations, long-range planning, inventory valuation and nonroutine decision making.
3023 Intermediate Accounting I
(3-0) 3 hours credit. Prerequisite: ACC 2023. Students desiring to major in accounting should have attained a "B' average for ACC 2013 and ACC 2023
A study of accounting theory and concepts. Analysis of the special problems which arise in applying these concepts to financial accounting and reporting.

## 3033 Intermediate Accounting II

(3-0) 3 hours credit. Prerequisite: ACC 3023.
A continuation of the study of accounting theory and concepts of Intermediate Accounting !.

## 3043 Federal Income Tax Accounting

(3-0) 3 hours credit. Prerequisite: ACC 2023.
Fundamentals of federal income tax accounting, with emphasis on individual income tax; income inclusions and exclusions and statutory deductions in computing tax liability.

## 4013 Principles of Auditing

(3-0) 3 hours credit. Prerequisites: ACC 3033 and BDS 3013.
A study of auditing theory, professional ethics, audit programs, evidential matter and professional reports.

## 4023 Cost Analysis

(3-0) 3 hours credit. Prerequisite: ACC 3013.
A study of advanced cost accounting systems, variance analysis, cost-volumeprofit relationships, capital budgeting and relevant costs.

## 4033 Advanced Accounting

(3-0) 3 hours credit. Prerequisite: ACC 3033.
A study of specialized areas of accounting, including partnerships, business combinations, and consolidated financial statements.

## 4043 International Accounting

(3-0) 3 hours credit. Prerequisite: ACC 3033.
A study of the accounting issues and problems of multi-national corporations.
4053 Accounting for Governmental and Not-for-Profit Organizations
(3-0) 3 hours credit. Prerequisite: ACC 3033 or consent of instructor.
A study of accounting, budgeting, fiscal procedures and financial records of governmental agencies and private not-for-profit organizations.
4073 Tax Research Methods
(3-0) 3 hours credit. Prerequisite: ACC 4153.
A study of tax research methods and materials and the history of the Internal Revenue Code. Collection and appeals procedures in the Internal Revenue Service.
4083 Budgeting, Planning and Forecasting
(3-0) 3 hours credit. Prerequisite: 12 semester hours of accounting.
A study of the techniques of long-range budgeting, including methods and limits of accounting models used in forecasting.
4153 Corporate and Partnership Taxation
(3-0) 3 hours credit. Prerequisite: ACC 3043.
Taxation of corporate and partnership earnings and distributions. Includes corporate reorganizations, liquidations, personal holding companies, collapsible corporations and Subchapter S

## 4163 Federal Tax Procedures

(3-0) 3 hours credit. Prerequisite: ACC 4153.
Organization of the Internal Revenue Service, audit problems, district and appellate conferences, assessments, collections, refunds, civil penalties and tax crimes.

## 4173 Estate and Gift Taxation

(3-0) 3 hours credit. Prerequisite: ACC 3043 or consent of instructor.
Introduction to the Federal Estate and Gift Tax Laws with an emphasis on the applicable code sections and regulations.

## 4911-3 Independent Study

1-3 hours credit. Prerequisite: Permission in writing (form available) of the instructor, the student's Advisor, and the Division Director and Dean of the College in which the course is offered. Independent reading, research, discusion, and/or writing under the direction of a faculty member. May be repeated for credit, but not more than 6 hours of independent study, regardiess of discipline, will apply to a bachelor's degree.

## 4933 Internship in Accounting

49363 or 6 hours credit. Prerequisite: Senior standing.
To provide students with knowledge gained 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.

## 4953 Special Studies in Accounting

(3-0) 3 hours credit. Prerequisite: Consent of instructor.
An organized course offering specialized study not normally or not often available as part of the regular course offerings. Special Studies courses may be repeated for credit when the topics vary, but not more than 6 hours within any one discipline will apply to a bachelor's degree.

## COURSE DESCRIPTIONS BUSINESS DATA SYSTEMS (BDS)

2013 Business-Oriented Computer Languages
(3-0) 3 hours credit. Prerequisite: CS 1043.
Special purpose computer languages such as COBOL and RPG. The development of program logic, file description, input, calculation, and output of practical business-oriented problems on computer systems.

## 3013 Accounting Information Systems

(3-0) 3 hours credit. Prerequisites: ACC 2023 and CS 1043 or their equivalents.
An in-depth study of computerized accounting systems including payroll, accounts receivable, accounts payable, inventory control, and general ledger. May not be applied for credit in the BDS concentration.
3063 Data Structures and Information Retrieval
(3-0) 3 hours credit. Prerequisite: BDS 2043.
Techniques of designing and implementing data management systems including file organization, file maintenance, retrieval and display selection of computer systems, and data structures.

## 4053 Business Systems Analysis

(3-0) 3 hours credit. Prerequisite: BDS 3063.
Case studies in management information, financial and cost accounting, inventory, personnel, and other business functions, emphasizing problem definition, data gathering, analysis, synthesis, specification, development, documentation, and implementation.

## 4911-3 Independent Study

$1-3$ hours credit. Prerequisite: Permission in writing (form available) of the instructor, the student's Advisor, and the Division 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 hours of independent study, regardless of discipline, will apply to a bachelor's degree.

Internship in Business Data Systems
49363 or 6 hours credit. Prerequisite: 12 hours of upper-division work in accounting or business data systems.
To provide students with knowledge gained 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.
4953 Special Studies in Business Data Systems
(3-0) 3 hours credit. Prerequisite: Consent of instructor.
An organized course offering specialized study not normally or not often available as part of the regular course offerings. Special Studies courses may be repeated for credit when the topics vary, but not more than 6 hours within any one discipline will apply to a bachelor's degree.

# DIVISION OF ECONOMICS AND FINANCE 

## BACHELOR OF BUSINESS ADMINISTRATION DEGREE IN ECONOMICS

The minimum number of semester hours required for this degree, including the 50 hours of General Education Requirements, ${ }^{3}$ is 128.
All candidates for the degree must complete:
A. 27 semester hours in the major, 21 of which must be at the upperdivision level.

1. 15 semester hours of required courses are:

ECO 2013 Introductory Macroeconomics
ECO 2023 Introductory Microeconomics
ECO 3033 Economics of the Firm
ECO 3053 Aggregate Economic Analysis
ECO 3113 Introduction to Mathematical Economics
2. 12 additional semester hours are required in economics, as approved by the student's Advisor.
B. 36 semester hours of support work, 24 of which must be at the upperdivision level.

1. 30 semester hours of required courses are:

ACC 2013 Fundamentals of Accounting I
ACC 2023 Fundamentals of Accounting II
ACC 3013 Managerial Accounting
BLW 3013 Business Law or
ECO 3213 Government Regulation of Industry
FIN 3013 The Finance Function
MGT 3013 Organization and Management Theory
MGT 3023 Organizational Behavior
MGT 3043 Business Communications
MGT 4893 Business Policies and Management
MKT 3013 Principles of Marketing
2. 6 semester hours of required electives are to be selected as follows:

3 additional semester hours in the College of Business;
3 semester hours in anthropology, sociology, or psychology;
C. 15 semester hours of free electives, of which 9 must be at the upperdivision level.

## BACHELOR OF ARTS DEGREE IN ECONOMICS

The minimum number of semester hours required for this degree, including the 50 hours of General Education Requirements, ${ }^{4}$ is $125 .{ }^{5}$
All candidates for the degree must complete:
A. 27 semester hours in the major, 21 of which must be at the upperdivision level.

1. 15 semester hours of required courses are:

ECO 2013 Introductory Macroeconomics

[^22]ECO 2023 Introductory Microeconomics
ECO 3013 Theory of Price
ECO 3053 Aggregate Economic Analysis
ECO 3113 Introduction to Mathematical Economics
2. 12 additional semester hours are required in economics, as approved by the student's Advisor.
B. 21 semester hours of support work.

1. 3 semester hours of ACC 2013 FUNDAMENTALS OF ACCOUNTING I is required.
2. 18 semester hours of required electives are to be selected as follows:
6 additional semester hours in the College of Business;
3 semester hours in anthropology, sociology or psychology;
9 additional semester hours of social science electives.
C. 27 semester hours of free electives, but no more than 9 semester hours of this group may be in additional economics courses.

# COURSE DESCRIPTIONS <br> ECONOMICS <br> (ECO) 

## 2003 Introduction to Political Economy

(3-0) 3 hours credit.
A nontechnical introduction to economic analysis and its application to current economic issues such as inflation, unemployment, taxation, economic concentration and power, energy, health and welfare, and international commerce. May not be counted toward a major in economics or as an elective for the College of Business students. Credit may not be counted for ECO 2003 and ECO 2013 or ECO 2023.
2013 Introductory Macroeconomics
(3-0) 3 hours credit. Prerequisite: MAT 1011 or consent of Division Director or Dean.
Economic analysis at the national level, including the determination of aggregate income and employment, operation of the monetary system, short-term income fluctuations, long-term income growth, public policy toward business, and problems of international trade and finance.
2023 Introductory Microeconomics
(3-0) 3 hours credit. Prerequisite: MAT 1011 or consent of Division Director or Dean.
The application of economic theory to decision-making by consumers and administrators; demand and cost analysis (including demand forecasts); price policy of the individual firm; production analysis; cost-benefit analysis for the public sector.
3013 Theory of Price
(3-0) 3 hours credit. Prerequisites: ECO 2013, 2023 and MAT 1022, or their equivalents.
Operations of individual markets; market structure; theory of the firm; theory of production; demand theory; general equilibrium and welfare economics.

## 3033 Economics of the Firm

(3-0) 3 hours credit. Prerequisites: ECO 2013, 2023 and MAT 1022, or their equivalents.
Review and extension of microeconomic analysis with applications in the area of administrative problems; analysis of market systems and firm behavior; examination of public and private decision making and economic issues.

## 3053 Aggregate Economic Analysis

(3-0) 3 hours credit. Prerequsites: ECO 2013 and ECO 2023 or their equivalents.
Analysis of the measurement, determination, and control of aggregate economic
activity; the monetary system in relation to income and employment; short-term income fluctuations; long-term growth.

## 3113 Introduction to Mathematical Economics

(3-0) 3 hours credit. Prerequisite: ECO 3013 or ECO 3033 , and MAT 1022 or the equivalent, or consent of instructor.
Mathematical formulations of economic theory; mathematical treatment of optimizing behavior; applications to consumer and business firm theory; emphasis on understanding of analytical techniques.

## 3123 Econometrics

(3-0) 3 hours credit. Prerequisite: ECO 3113 or the equivalent.
Introduction to measurement in economics; numerical evaluation of mathematical models by statistical methods; survey of classical models; scope and method of econometric analysis.

## 3163 Development of Economic Thought

(3-0) 3 hours credit.
Evolution of economic theory and doctrine, contributions to economic thought from ancient times to the present; emphasis on institutional forces shaping the continuum of economic thinking.

## 3173 Introduction to Comparative Systems

(3-0) 3 hours credit.
Analysis of alternative economic systems of the industrialized and emerging nations; emphasis on the comparative study of the capitalist, socialist, and the communist economic systems of the modern world.

## 3183 Economic Development of the United States

(3-0) 3 hours credit. Prerequisite: ECO 2013 or ECO 2023 or the equivalent.
The growth of the American economy from colonial times to the present; special emphasis on the market forces, institutional arrangements, and policies contributing to this process.

## 3193 The International Economy

(3-0) 3 hours credit. Prerequisite: ECO 2013 or ECO 2023 or the equivalent, or consent of instructor.
Principles of international trade; significance of geographic, economic, social and political influences; current problems in international trade and payments; tariffs and commercial policy; role of international organizations.
3213 Government Regulation of Industry
(3-0) 3 hours credit. Prerequisite: ECO 2023 or the equivalent, or consent of instructor.
A study of competition enforced by law, including the legal, social, and economic aspects of mergers, pricing policies, monopolization and market concentration.
3273 Public Choice and the Public Finances
(3-0) 3 hours credit. Prerequisite: ECO 3013 or ECO 3033 or the equivalent.
Analysis of administrative and legislative decisions applicable to public goods and services; government expenditure policy, sources of revenue; public credit; fiscal policy, principles and methods of taxation and financial administration.

## 3283 Labor Economics and Collective Bargaining

(3-0) 3 hours credit. Prerequisite: ECO 2013 or ECO 2023 or the equivalent, or consent of instructor.
Theories of wages and employment determination, U.S. labor history, labor legislation, and collective bargaining systems; comparative labor movements; contemporary labor problems.
3303 Theories of Economic Progress
(3-0) 3 hours credit. Prerequsite: ECO 2013 or the equivalent, or consent of instructor.
Dynamics of economic progress and change in industrialized and underindustrialized countries of the modern world; historical theories of growth; empirical case studies; formulation of development projects and programs.

## 3403 Economic Aspects of Urbanization

(3-0) 3 hours credit. Prerequisite: ECO 2013 or ECO 2023 or the equivalent.
Application of economic analysis to urban growth and the urban-regional environment; consideration of public services, transportation, ghetto problems, and urban organization; analysis of environmental protection problems and policies.

## 4273 Environmental Economics

(3-0) 3 hours credit. ECO 2023 or the equivalent, or consent of instructor.
Economic principles applied to environmental problems; relationship of market and nonmarket forces to environmental quality; development of tools for policy analysis.

## 4283 Manpower Economics: Problems and Programs

(3-0) 3 hours credit. Prerequisite: ECO 2023 or the equivalent.
Economics of human resource development; examination of programs for training and upgrading of workers; barriers to skill development and job entry; formulation of public policies on human resources.

## 4293 Economics of Discrimination and Poverty

(3-0) 3 hours credit. Prerequisite: ECO 2023 or the equivalent, or consent of instructor.
Economic and non-economic implications of discrimination on the basis of race and sex; discrimination in the labor and commodity markets; problems of educational training, unemployment, and personal income distribution.

## 4303 Economic Problems of Emerging Nations

(3-0) 3 hours credit. Prerequisite: ECO 2013 or the equivalent, or consent of instructor.
Specific economic problems of emerging nations and national groupings; basic approaches to economic development; major proposals for accelerating development; role of planning; trade, aid and economic integration.

## 4313 Monetary Theory and Policy

(3-0) 3 hours credit. Prerequisites: ECO 3053 and FIN 3313 or their equivalents.
Relationship of money and interest rate to economic stabilization; consideration of federal reserve system, money market, and factors determining money supply and demand; neo-Keynesian, Chicago, and radical policy views.

## 4363 The Latin American Economies

(3-0) 3 hours credit. Perequisite: ECO 2013 or the equivalent. Survey of economic status and problems of Latin American nations; analysis of economic and social forces at work in Latin American development. (When offered in Spanish, course schedule will so indicate.)

## 4463 Medical and Health Economics

(3-0) 3 hours credit. Prerequisite: ECO 2023 or the equivalent.
Economic analysis of medical and health services. Physician and dentist pricing; hospital supply; markets in health-related professions; drug and equipment markets; medical and health insurance; national priorities and policy for health service delivery.

## 4493 Economics of the Transportation Industry

(3-0) 3 hours credit. Prerequisite: ECO 2023 or the equivalent.
Economic analysis applied to specific problems of transport. Effects of location and transportation cost on firm behavior; public regulation and policy; capacity, rate structure, service areas; problems of urban mass transportation.

## 4911-3 Independent Study

1-3 hours credit. Prerequisites: Permission in writing (form available) of the instructor, the student's Advisor, and the Division 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 hours of independent study, regardless of discipline, will apply to a bachelor's degree.

## 1933 Internship in Economics

19363 or 6 hours credit. Prerequisite: 12 hours of upper-division economics. Work experience in research or applied economics; may be undertaken either in
private business or a public agency; opportunities developed in consultation with faculty Advisor and Division Director and require approval of both.
4953 Special Studies in Economics
(3-0) 3 hours credit. Prerequisite: Consent of instructor.
An organized course offering specialized study not normally or not often available as part of the regular course offerings. Special Studies courses may be repeated for credit when the topics vary, but not more than 6 hours within any one discipline will apply to a bachelor's degree.

## BACHELOR OF BUSINESS ADMINISTRATION DEGREE IN FINANCE

The minimum number of semester hours required for this degree, including the 50 hours of General Education Requirements, ${ }^{6}$ is 128.
All candidates for the degree must complete:
A. 18 semester hours in the major, all of which must be at the upperdivision level.

1. 9 semester hours of required courses are:

FIN 3013 The Finance Function
FIN 3033 Principles of Investment
FIN 3313 Money and Banking
2. 9 additional semester hours are required in finance, as approved by the student's Advisor.
B. 45 semester hours of support work, 30 of which must be at the upperdivision level.

1. 39 semester hours of required courses are:

ACC 2013 Fundamentals of Accounting I
ACC 2023 Fundamentals of Accounting II
ACC 3013 Managerial Accounting
BLW 3013 Business Law or
ECO 3213 Government Regulation of Industry
ECO 2013 Introductory Macroeconomics
ECO 2023 Introductory Microeconomics
ECO 3033 Economics of the Firm
MGT 3013 Organization and Management Theory
MGT 3023 Organizational Behavior
MGT 3033 Quantitative Decision Analysis and Production
MGT 3043 Business Communications
MGT 4893 Business Policies and Management
MKT 3013 Principles of Marketing
2. 6 semester hours of required electives are to be selected as follows:

3 additional semester hours in the College of Business;
3 semester hours in anthropology, sociology, or psychology.
C. 15 semester hours of free electives, of which 9 must be at the upperdivision level.

## COURSE DESCRIPTIONS <br> FINANCE (FIN)

2003 Consumer Finance
(3-0) 3 hours credit.
A nontechnical course examining various aspects of budgeting, banking, real estate, insurance, consumer credit, and retirement plans from the individual's point
of view. May not be counted toward a major in finance or as an elective for the College of Business students.

## 3013 The Finance Function

(3-0) 3 hours credit. Prerequisites: ACC 2023 and MAT 1022 or their equivalent. Introduction to analytical financial management with emphasis on the management of the short-term uses and sources of funds; capital investment and management of long-term sources.

## 3033 Principles of Investment

(3-0) 3 hours credit. Prerequisite: FIN 3013 or the equivalent.
Introduction to securities markets; analysis of securities issued by corporations in various industries by intermediaries, and by federal, state, and municipal governments; investment management in the light of tax considerations, timing, and selected portfolio needs.

## 3313 Money and Banking

(3-0) 3 hours credit. Prerequisite: ECO 2013 or the equivalent.
Elements of monetary theory; relationships between money, prices, production and employment; factors determining money supply; operation of capital markets with reference to the United States.

## 3403 Cases in Financial Management

(3-0) 3 hours credit. Prerequisite: FIN 3013 or the equivalent.
Advanced analysis of financial cases based on actual business problems and the application of financial theory and technique are used to illustrate the process required to formulate financial decisions.

## 3413 Management of Financial Institutions

(3-0) 3 hours credit. Prerequisite: FIN 3313 or the equivalent.
Analysis of financial management principles, theories, and techniques as they apply to the peculiarities of the financial firm; emphasis on asset and liability management in a changing environment of regulation, competition and financial intermediation.

## 3423 Security Analysis

(3-0) 3 hours credit. Prerequisite: FIN 3033 or the equivalent.
Advanced financial analysis: examination of statements and supplementary data of industrial, commercial, financial intermediary, and public utility enterprises; preparation of reports relevant to achieving an understanding of financial management policies.

## 4313 Commercial Bank Management

(3-0) 3 hours credit. Prerequisite: FIN 3313 or the equivalent.
Direction and coordination of the various functions of the commercial bank, including money position, lending, capital management, trust and auxiliary functions.

## 4323 Financial Markets

(3-0) 3 hours credit. Prerequisite: FIN 3413 or the equivalent.
Theory and analysis of equilibrium in the financial markets and the changing structure of financial intermediation; capital asset pricing, efficient markets, portfolio theory, direct and indirect finance, disintermediation competition, structural reform.

## 4403 Capital Structure and Budgeting

(3-0) 3 hours credit. Prerequisite: FIN 3403 or the equivalent.
Application of long-term economic decision analysis to financial planning in both profit and non-profit institutions; development of allocation criteria for sources and uses of scarce financial resources.

## 4423 Investment Portfolio Management

(3-0) 3 hours credit. Prerequisite: 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.

## 4523 Management of Risk

(3-0) 3 hours credit. Prerequisite: FIN 3033 or the equivalent.
Application and evaluation of quantitative tools of analysis in the risk-management
decision process; nature of risk and risk-aversion; insurance as a major mechanism for spreading risk.

## 4543 Finance of Non-Profit Organizations

(3-0) 3 hours credit. Prerequisite: FIN 3013 or the equivalent.
Types of non-profit organizations and their functions; budget development and income generation; the decision process in the provision of services; analytical approaches in managerial finance of non-profit institutions.

## 4563 Hospital Financial Management

(3-0) 3 hours credit. Prerequisite: FIN 3013 or the equivalent.
The special problems of financial management of health care delivery systems, medical insurance programs, and health maintenance organizations; issues in fund-raising; application of cost-benefit analysis to situations concerning human life and welfare.
4613 Introduction to International Finance
(3-0) 3 hours credit. Prerequisite: FIN 3013 or the equivalent.
Study of underlying forces in international financial relations and the unique problams of international trade, investments, and operations; examination of multinational business finance and its economic, legal, and political dimensions.

## 4713 Mortgage Banking and Real Estate Finance

(3-0) 3 hours credit. Prerequisites: FIN 3013 and FIN 3313 or their equivalents.
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.

## 4723 Urban Land Acquisition and Development

(3-0) 3 hours credit. Prerequisite: FIN 4713 or the equivalent.
Examination of urban real estate and its planning; implications of institutional-legal constraints; economic considerations in land use; financial strategies; relationship of land use to quality of the urban environment.

## 4813 The Insurance Function

(3-0) 3 hours credit. Prerequisite: FIN 3013 or the equivalent.
Analysis of insurance as a principal method of handling risk; types of insurance and contracts; determinants of premiums and resources; applicable legal principles.

## 4823 Financing Insurance Operations

(3-0) 3 hours credit. Prerequisite: FIN 3013 or the equivalent.
Organization of insurance enterprises and related businesses; examination of underwriting function and practices; coverage supplied by the individual firm; insurance company investments and their management.

## 4911-3 Independent Study

1-3 hours credit. Prerequisites: Permission in writing (form available) of the instructor, the student's Advisor, and the Division 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 hours of independent study, regardless of discipline, will apply to a bachelor's degree.

## 4933 Internship in Finance

49363 or 6 hours credit. Prerequisite: 12 hours of upper-division finance.
Work experience in research of financial operations, including real estate and insurance; may be undertaken in either private business or a public agency; opportunities developed in consultation with faculty Advisor and Division Director and requires approval of both.
4953 Special Studies in Finance
(3-0) 3 hours credit. Prerequisite: Consent of instructor.
An organized course offering specialized study not normally or not often available as part of the regular course offerings. Special Studies courses may be repeated for credit when the topics vary, but not more than 6 hours within any one discipline will apply to a bachelor's degree.

## 4973 Proseminar in Financial Theory

(3-0) 3 hours credit. Prerequisite: FIN 3403 or consent of instructor.
Examination of the recent theoretical developments in the various areas of finance.
Analysis will focus on the techniques and procedures by which new theoretical developments evolve. A seminar approach will be used to provide a high degree of student-instructor interaction.

# COURSE DESCRIPTIONS <br> BUSINESS LAW (BLW) 

## 3013 Business Law

(3-0) 3 hours credit. Prerequisites: ENG 1013 and ENG 1023, or consent of Division Director or Dean.
Origin and development of law, judicial procedure, tort law, contracts, and wills, with emphasis on consumer-business rights and responsibilities.

## 3023 Business Organizations and Commercial Law

(3-0) 3 hours credit. Prerequisite: BLW 3013 or the equivalent.
Agency, partnership, corporations, sales, commercial paper, creditors rights and secured transactions under the Uniform Commercial Code.

## 3523 Real Estate Law

(3-0) 3 hours credit. Prerequisite: BLW 3013 or the equivalent.
Legal environment of real property ownership, transfer and legal brokerage; estates in land, sales contracts; mortgage transactions; title conveyances; landlord and tenant; restrictions and zoning; eminent domain.

# DIVISION OF MANAGEMENT AND MARKETING 

## BACHELOR OF BUSINESS ADMINISTRATION DEGREE IN MANAGEMENT WITH A CONCENTRATION IN BUSINESS MANAGEMENT

The minimum number of semester hours required for this degree, including the 50 hours of General Education Requirements, ${ }^{7}$ is 128.
All candidates for the degree must complete:
A. 21 semester hours in the major, all of which must be at the upperdivision level.

1. 15 semester hours of required courses are:

MGT 3013 Organization and Management Theory
MGT 3023 Organizational Behavior
MGT 3033 Quantitative Decision Analysis and Production
MGT 3043 Business Communications
MGT 4893 Business Policies and Management
2. 6 additional semester hours are required in management, as approved by the student's Advisor.
B. 42 semester hours of support work, 27 of which must be at the upperdivision level.

1. 33 semester hours of required courses are:

ACC 2013 Fundamentals of Accounting I
ACC 2023 Fundamentals of Accounting II
ACC 3013 Managerial Accounting
ACC 3023 Intermediate Accounting I
BLW 3013 Business Law or
ECO 3213 Government Regulation of Industry
ECO 2013 Introductory Macroeconomics
ECO 2023 Introductory Microeconomics
ECO 3033 Economics of the Firm
ECO 3053 Aggregate Economic Analysis
FIN 3013 The Finance Function
MKT 3013 Principles of Marketing
2. 9 semester hours of required electives are to be selected as follows: 3 additional semester hours in finance;
3 additional semester hours in marketing;
3 semester hours in anthropology, sociology, or psychology.
C. 15 semester hours of free electives, of which 9 must be at the upperdivision level.

## BACHELOR OF BUSINESS ADMINISTRATION DEGREE IN MANAGEMENT WITH A CONCENTRATION IN INDUSTRIAL MANAGEMENT

The minimum number of semester hours required for this degree, including the 50 hours of General Education Requirements, ${ }^{7}$ is 128.

[^23]
# BACHELOR OF BUSINESS ADMINISTRATION DEGREE IN MANAGEMENT / 89 <br> WITH A CONCENTRATION IN INDUSTRIAL MANAGEMENT-MARKETING MANAGEMENT 

All candidates for the degree must complete:
A. 18 semester hours in the major, all of which must be at the upperdivision level.

1. 15 semester hours of required courses are:

MGT 3033 Quantitative Decision Analysis and Production
MGT 3343 Production Management Applications
MGT 3333 Management Information Systems
MGT 3353 Logistics Management
MGT 4603 Advanced Logistics

## or

MGT 3033 Quantitative Decision Analysis and Production
MGT 3313 Statistical Applications in Business
MGT 3323 Simulation Applications in Business
MGT 3343 Production Management Applications
MGT 4593 Advanced Quantitative Decision Analysis
2. 3 additional semester hours in management, as approved by the student's Advisor.
B. 45 semester hours of support work, 30 of which must be at the upperdivision level.

1. 39 semester hours of required courses are:

ACC 2013 Fundamentals of Accounting I
ACC 2023 Fundamentals of Accounting II
ACC 3013 Managerial Accounting
BLW 3013 Business Law or
ECO 3213 Government Regulation of Industry
ECO 2013 Introductory Macroeconomics
ECO 2023 Introductory Microeconomics
ECO 3033 Economics of the Firm
FIN 3013 The Finance Function
MGT 3013 Organization and Management Theory
MGT 3023 Organizational Behavior
MGT 3043 Business Communications
MGT 4893 Business Policies and Management
MKT 3013 Principles of Marketing
2. 6 semester hours of required electives are to be selected as follows:

3 additional semester hours in the College of Business;
3 semester hours in anthropology, sociology, or psychology.
C. 15 semester hours of free electives, of which 9 must be at the upperdivision level.

## BACHELOR OF BUSINESS ADMINISTRATION DEGREE IN MANAGEMENT WITH A CONCENTRATION IN MARKETING MANAGEMENT

The minimum number of semester hours required for this degree, including the 50 hours of General Education Requirements, ${ }^{8}$ is 128.
All candidates for the degree must complete:
A. 18 semester hours in the major, all of which must be at the upperdivision level.

## 90 / BACHELOR OF BUSINESS ADMINISTRATION DEGREE IN MANAGEMENT WITH A CONCENTRATION IN MARKETING MANAGEMENT-PERSONNEL MANAGEMENT

1. 9 semester hours of required courses are:

MKT 3013 Principles of Marketing
MKT 4083 Marketing Research
MKT 4893 Advanced Marketing
2. 6 semester hours of required courses must be selected from the following:
MKT 3033 Principles of Promotion
MKT 3133 Distribution
MKT 4093 Consumer Behavior
3. 3 additional semester hours are required in marketing, as approved by the student's Advisor.
B. 45 semester hours of support work, 30 of which must be at the upperdivision level.

1. 39 semester hours of required courses are:

ACC 2013 Fundamentals of Accounting I
ACC 2023 Fundamentals of Accounting II
ACC 3013 Managerial Accounting
BLW 3013 Business Law or
ECO 3213 Government Regulation of Industry
ECO 2013 Introductory Macroeconomics
ECO 2023 Introductory Microeconomics
ECO 3033 Economics of the Firm
FIN 3013 The Finance Function
MGT 3013 Organization and Management Theory
MGT 3023 Organizational Behavior
MGT 3033 Quantitative Decision Analysis and Production
MGT 3043 Business Communications
MGT 4893 Business Policies and Management
2. 6 additional semester hours of required electives are to be selected as follows:
3 additional semester hours in the College of Business;
3 semester hours in anthropology, sociology, or psychology.
C. 15 semester hours of free electives, of which 9 must be at the upperdivision level.

## BACHELOR OF BUSINESS ADMINISTRATION DEGREE IN MANAGEMENT WITH A CONCENTRATION IN PERSONNEL MANAGEMENT

The minimum number of semester hours required for this degree, including the 50 hours of General Education Requirements, ${ }^{9}$ is 128.
All candidates for the degree must complete:
A. 18 semester hours in the major, all of which must be at the upperdivision level.

1. 15 semester hours of required courses are:

MGT 3013 Organization and Management Theory
MGT 3613 Personnel Administration
MGT 3623 Wage and Salary Administration

## MGT 4633 Labor Relations <br> MGT 4803 Human Resources Management

2. 3 additional semester hours in management, as approved by the student's Advisor.
B. 45 semester hours of support work, 30 of which must be at the upperdivision level.
3. 39 semester hours of required courses are:

ACC 2013 Fundamentals of Accounting I
ACC 2023 Fundamentals of Accounting II
ACC 3013 Managerial Accounting
BLW 3013 Business Law or
ECO 3213 Government Regulation of Industry
ECO 2013 Introductory Macroeconomics
ECO 2023 Introductory Microeconomics
ECO 3033 Economics of the Firm
FIN 3013 The Finance Function
MGT 3023 Organizational Behavior
MGT 3033 Quantitative Decision Analysis and Production
MGT 3043 Business Communications
MGT 4893 Business Policies and Management
MKT 3013 Principles of Marketing
2. 6 semester hours of required electives are to be selected as follows:

3 additional semester hours in the College of Business;
3 semester hours in anthropology, sociology, or psychology.
C. 15 semester hours of free electives, of which 9 must be at the upperdivision level.

# COURSE DESCRIPTIONS <br> MANAGEMENT (MGT) 

3013 Organization and Management Theory
(3-0) 3 hours credit. Prerequisites: ECO 2023 and MAT 1062, or consent of Division Director or Dean.
Study of the various organizations and management theory (empirical, behavioral, quantitative) process. Builds base for identification analysis, and synthesis of managerial concepts as related to complex organizations.

## 3023 Organizational Behavior

(3-0) 3 hours credit. Prerequisite: MGT 3013 or the equivalent.
Behavioral theory and empirically-derived knowledge as it relates to the functioning of individuals, pairs, and groups in organizations. Investigation of organization as a complex of tasks, structures, tools, and people in states of continuous change.
3033 Quantitative Decision Analysis and Production
(3-0) 3 hours credit. Prerequisites: MAT 1143, 1153, and CS 1054, or their equivalents.
Basic techniques of decision analysis applied to problems in business and economics with an emphasis on production problems. Techniques include modeling and optimization of deterministic and non-deterministic systems in the applied areas of business and economics.
3043 Business Communications
(3-0) 3 hours credit. Prerequisite: MGT 3013 or consent of Division Director or Dean.
With the aim of developing business writing proficiency, the course stresses general techniques of report writing, report organization and make-up, and graphic pre-
sentation and documentation. Special emphasis is given to the research methodology which precedes report preparation.

## 3123 Organizational Communications

(3-0) 3 hours credit. Prerequisites: MGT 3013 and MGT 3023 or their equivalents.
A course stressing the importance of and problems in effective communication within the organizational setting. Special emphasis will be given to problems of horizontal and vertical communication, communication blockages, informal communication channels, and the effects of organizational structure and leadership patterns on communication. The course will also stress the means of evaluating organizational communication effectiveness.

## 3183 Administrative Process

(3-0) 3 hours credit. For non-business majors.
Study of the functions of management including planning, organizing, staffing, directing, and controlling. Focus on integration of managerial functions in accomplishment of the administrative tasks under conditions of risk, uncertainty, and change. May not be taken for credit by students who have had MGT 3013 or its equivalent.

## 3253 Interpersonal Communication

(3-0) 3 hours credit. Prerequisite: MGT 3043 or the equivalent.
A course aimed at the dynamics of interpersonal communication. The course stresses the social context of communication and gives emphasis to the effects of status, rank, culture, group affiliation, attraction, etc., on the communicating parties. Both verbal and non-verbal interaction is explored in terms of consequences on the communication process.

## 3313 Statistical Applications in Business

(3-0) 3 hours credit. Prerequisites: ECO 2023 and MGT 3033 or their equivalents. Examples and procedures for experimental design, data collection and display. data interpretation, hypothesis testing, and forecasting in business and economic systems.

## 3323 Simulation Applications in Business

(3-0) 3 hours credit. Prerequisites: FIN 3013 and MGT 3033 or their equivalents. Examples of computer simulation in financial, marketing, management, and economic systems. Techniques for modeling and for analyzing models within business environments.

## 3333 Management Information Systems

(3-0) 3 hours credit. Prerequisites: MGT 3013 and MGT 3033 or their equivalents. A study of the information needs of business and automated methods of acquiring, storing, updating, and retrieving useful information.

## 3343 Production Management Applications

(3-0) 3 hours credit. Prerequisites: MGT 3013 and MGT 3033 or their equivalents.
Applications of modeling and optimization techniques in inventory, production, and quality control with related considerations of reliability, maintenance, and transportation.
3353 Logistics Management
(3-0) 3 hours credit. Prerequisite: MGT 3033 or the equivalent.
A study of procurement needs, acquisition methods, and transportation and distribution structures. Techniques for analysis of logistics system alternatives.

## 3613 Personnel Administration

(3-0) 3 hours credit. Prerequisite: MGT 3023 or consent of Division Director or Dean.
Policies and practices related to the design and administration of the personnel activity. Employee recruitment, selection, development, evaluation, and compensation given emphasis.

## 3623 Wage and Salary Administration

(3-0) 3 hours credit. Prerequisite: MGT 3613 or the equivalent.
Development and administration of wage and salary programs for organizations. Emphasis upon objectives, policies, organization, and control of compensation systems.

## 4203 Business and Society

(3-0) 3 hours credit. Prerequisite: Upper-division standing or consent of instructor. A study of the impact of societal influences on the managerial decision-making process. Special attention given to business-government relationships and the role of the organization in the community.

## 4213 Advanced Organization Theory

(3-0) 3 hours credit. Prerequisites: MGT 3013 and MGT 3023 or their equivalents. Advanced study of the structure and process of organizations. Emphasis upon such topics as typologies of organizational complexity and formalization, communication and decision-making processes, and organizational development and change. Contingency views of organizations are stressed.

## 4223 Career Development

(3-0) 3 hours credit. Prerequisites: MGT 3013 and MGT 3023 or their equivalents. Focus is on developmental processes of executive talent in organizations. Emphasis is placed on topics such as effects of stress, routes to the executive suite, socialization processes, managerial styles, the success ethic, career crises, and political realities in the organization.

## 4593 Advanced Quantitative Decision Analysis

(3-0) 3 hours credit. Prerequisites: MGT 3313, 3323 and MGT 3343, or their equivalents.
Detailed study of applications of quantitative decision analysis to policy and planning systems. Designed to provide a comprehensive understanding of the state of the art in quantitative decision analysis techniques of use in developing effective and efficient management systems.

## 4603 Advanced Logistics

(3-0) 3 hours credit. Prerequisites: MGT 3333, 3343, and MGT 3353, or their equivalents.
Detailed analysis of the management of logistics systems with specific focus on policy and planning considerations. Designed to provide a comprehensive understanding of the functional areas of logistics and the integration of these functions into an effective and efficient logistics system.
4633 Labor Relations
(3-0) 3 hours credit. Prerequisite: MGT 3613 or the equivalent.
A contemporary analysis of the union-management relationship in both business and non-business organizations. Topics include union organizing activities, collective bargaining, and agreement administration.
4643 Labor Law
(3-0) 3 hours credit. Prerequisite: MGT 3613 or the equivalent.
An analysis of historical and contemporary labor law in the United States. Integration of the evolution of labor law with the social and economic forces shaping the current labor-management environment.
4803 Human Resources Management
(3-0) 3 hours credit. Prerequisites: MGT 3613, 3623, and MGT 4633, or their equivalents.
Detailed analysis of the management of personnel systems with specific focus on policy and planning considerations. Designed to povide a comprehensive understanding of the functional areas of personnel and the integration of these functions into an effective and efficient personnel system.
4863 Ethical and Social Issues in Management
(3-0) 3 hours credit. Prerequisite: Upper-division standing or consent of instructor. Students challenged to order thought, values, and behavior in operational, directional, and constitutional contexts. Develops a moral frame of reference providing both individual and operational guidance contributing to social justice.
4883 Small Business Management
(3-0) 3 hours credit. Prerequisite: Upper-division standing or consent of instructor. Focuses on the operation of small businesses. Analysis of the accounting, finance, production, and marketing functions as they pertain to entrepreneurial endeavors. Develops overail managerial awareness.

## 4893 Business Policies and Management

(3-0) 3 hours credit. Prerequisite: Semester of graduation or minimum completion of 42 semester hours of B.B.A. work or consent of instructor.
Capstone integration of marketing, finance, accounting, production, procurement, personnel policies emphasized through case studies and business simulations.

## 4911-3 Independent Study

$1-3$ hours credit. Prerequisites: Permission in writing (form available) of the instructor, the student's Advisor, and the Division 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 hours of independent study, regardless of discipline, will apply to a bachelor's degree.

## 4933 Internship in Management

49363 or 6 hours credit. Prerequisite: 12 hours of upper-division management.
Work experience in research or financial operations, including real estate and insurance. May be undertaken in either private business or a public agency. Opportunities developed in consultation with faculty Advisor and Division Director and requires approval of both.
4953 Special Studies in Management
(3-0) 3 hours credit. Prerequisite: Consent of instructor.
An organized course offering specialized study not normally or not often available as part of the regular course offerings. Special Studies courses may be repeated for credit when the topics vary, but not more than 6 hours within any one discipline will apply to a bachelor's degree.

# COURSE DESCRIPTIONS MARKETING (MKT) 

## 3013 Principles of Marketing

(3-0) 3 hours credit. Prerequisites: ECO 2023 and MAT 1062, or consent of Division Director or Dean.
Introduction to the basic components of marketing including product policy, promotion, consumer behavior and pricing. Emphasis on current marketing practices.

## 3033 Principles of Promotion

(3-0) 3 hours credit. Prerequisite: MKT 3013 or the equivalent.
Principles of persuasive communication and consumer behavior are stressed as fundamentals to the understanding of promotional techniques. Emphasis is placed on the coordination of advertising, personal selling, and sales promotion into a promotional-mix and the integration of this program into the total marketing-mix of the firm.

## 3043 Mass Communications and Advertising

(3-0) 3 hours credit. Prerequisites: MKT 3013 and MKT 3033 or their equivalents. A specialized course covering the theory and practice of advertising. The course stresses planning advertising strategy, developing advertising messages, selecting advertising media, and testing advertising effectiveness. Also, the course explores the theory and history of advertising, the social and economic aspects of advertising, and the problems of ethics and truth in advertising.
3053 Sales Management
(3-0) 3 hours credit. Prerequisite: MKT 3013 or the equivalent.
An examination of managerial strategies, goals, and tools of analysis in the administration of an effective sales force.

## 3063 Salesmanship

(3-0) 3 hours credit. Prerequisite: MKT 3013 or the equivalent.
Professional salesmanship and sales management is the primary focus of this course. Fundamentals of persuasive interpersonal communication and buyer motivation are stressed as the foundation to effective selling.

## 3073 Transportation

(3-0) 3 hours credit. Prerequisite: MKT 3013 or the equivalent.
Analysis of shipper's transportation needs and the transportation systems available; operation and regulation of rates and services by the Interstate Commerce Commission and state commissions.
3093 Product Management
(3-0) 3 hours credit. Prerequisite: MKT 3013 or the equivalent.
Basic product and strategy concepts are examined including the management of innovation and market-product integration; product development, modification and elimination strategies are studied.

## 3113 Retailing

(3-0) 3 hours credit. Prerequisite: MKT 3013 or the equivalent
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.
3133 Distribution
(3-0) 3 hours credit. Prerequisite: MKT 3013 or the equivalent.
An examination of channels of distribution considering behavioral, social, and economic aspects of the distribution system. Also, the course explores such topics as franchising, logistics, power and conflict roles, and trends in distributive costs.

## 4073 International Marketing

(3-0) 3 hours credit. Prerequisite: MKT 3013 or the equivalent.
Comparative analysis of cultural, legal, political, economic, and technological environments as they affect marketing strategy in the international market-place. Special emphasis on problems of the multi-national corporation and its role in the current world economy.

## 4083 Marketing Research

(3-0) 3 hours credit. Prerequisites: MKT 3013 and MAT 1062 or their equivalents.
Practical experience in conducting and interpreting marketing research. Includes problem definition, questionnaire design, sampling procedures, data analysis and presentation of results.

## 4093 Consumer Behavior

(3-0) 3 hours credit. Prerequisite: MKT 3013 or the equivalent.
An interdisciplinary approach to the processes of purchase decisions from the standpoint of both consumers and marketers. Consideration is given to implications for marketing from social science theory and methodology, public policy decisions and the consumerist movement.
4103 Current Topics in Marketing
(3-0) 3 hours credit. Prerequisite: MKT 3013 or the equivalent.
Analysis of current trends in marketing problems and policies. Critical analysis of marketing, consideration of current developments in theory; activities of regulatory agencies; analysis of ethical, social, and public policy aspects of marketing changes.

## 4893 Advanced Marketing

(3-0) 3 hours credit. Prerequisites: MKT 3033, 3113 and MKT 4083, or their equivalents.
Designed to provide a comprehensive understanding of the functional areas of marketing and the integration of these functions into an effective and efficient marketing strategy for the firm.

## 4911-3 Independent Study

$1-3$ hours credit. Prerequisites: Permission in writing (form available) of the instructor, the student's Advisor, and the Division 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 hours of independent study, regardless of discipline, will apply to a bachelor's degree.

## 96 / MARKETING

## 4933 Internship in Marketing

49363 or 6 hours credit. Prerequisite: 12 hours of upper-division marketing.
Knowledge gained 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 developed in consultation with faculty Advisor and Division Director and requires approval of both.

## 4953 Special Studies in Marketing

(3-0) 3 hours credit. Prerequisite: Consent of instructor.
An organized course offering specialized study not normally or not often available as part of the regular course offerings. Special Studies courses may be repeated for credit when the topics vary, but not more than 6 hours within any one discipline will apply to a bachelor's degree.

## COLLEGE OF FINE AND APPLIED ARTS DIVISION OF ART AND DESIGN

## BACHELOR OF FINE ARTS DEGREE IN ART AND DESIGN WITH A CONCENTRATION IN ART

The minimum number of semester hours required for the degree, including 50 hours of General Education Requirements, is 128.11
All candidates for the degree must complete:
A. 48 semester hours in studio art courses.

1. 12 semester hours of required, lower-division art courses are:

ART 1003 Design: Two Dimensional
ART 1013 Design: Three Dimensional
ART 1213 Drawing: Articulation
ART 1223 Drawing: Structure
2. 12 semester hours must be selected from the following lower-division art courses:
ART 2113 Painting: Basic
ART 2213 Drawing: Figure
ART 2313 Color
ART 2513 Photography: Basic
ART 2613 Sculpture: Basic
ART 2713 Ceramics: Basic
3. 24 additional semester hours are required in upper-division Art courses, 12 semester hours of which must be completed in one of the following specializations: Drawing, Painting, Photography, Sculpture, Ceramics, Printmaking.
B. 18 semester hours are required in Art History and Criticism (9) of which must be at the upper-division level.
C. 9 semester hours of electives are required, of which 3 semester hours must be at the upper-division level and 6 may be at the upper- or lower-division level. All electives mut be approved by the student's advisor.
D. 3 semester hours of ART 4923 Bachelor of Fine Arts Degree Project normally taken during the final semester of study prior to graduation are also required.

# COURSE DESCRIPTIONS 

ART
(ART)

## 1003 Design: Two Dimensional

(0-6) 3 hours credit.
Exploration of shape, pattern, texture, organization and structured principles of two dimensional surfaces.

## 1013 Design: Three Dimensional

(0-6) 3 hours credit.
Exploration of shape, pattern, texture, organization and structural principles of multidimensional surfaces.

## 1023 The Arts of Vision and Sound

(3-0) 3 hours credit.
An introduction to the multiple facets of creativity as they apply to the visual and aural arts. The creative process is examined from points of view of the historian, composer artist, performer and architect.

[^24]
## 1153 Painting for Non-Art Majors

(0-6) 3 hours credit.
An introduction to the fundamentals of painting.
1163. Drawing for Non-Art Majors
(0-6) 3 hours credit.
An introduction to the fundamentals of drawing.

## 1173 Photography for Non-Art Majors

(0-6) 3 hours credit.
Techniques and basic methods of creative photography. Students are expected to provide their own cameras.

## 1183 Ceramics for Non-Art Majors

(0-6) 3 hours credit.
An introduction to the techniques and concepts of ceramics.

## 1213 Drawing: Articulation

(0-6) 3 hours credit.
Development of drawing skills for descriptive analysis of objects and modes of form representation. May be repeated once for credit.

## 1223 Drawing: Structure

(0-6) 3 hours credit.
Emphasis on organizing drawing marks, conceptual practices and perceptual principles. May be repeated once for credit.

## 2113 Painting: Basic

(0-6) 3 hours credit. Prerequisites: ART 1003, 1223.
Instruction in basic painting concepts and materials. May be repeated once for credit.

## 2213 Drawing: Figure

$(0-6) 3$ hours credit.
Study of the human figure and its anatomical and structural dynamics. May be repeated once for credit.
2313 Color
(0-6) 3 hours credit.
Exercises in color properties and interactions, including the processes and theories of color perception.

## 2513 Photography: Basic

(0-6) 3 hours credit. Prerequisites: ART 1003, ART 1223.
Introduction to photographic image making, technical principles and laboratory procedures. Students are expected to provide their own cameras. May be repeated once for credit.

## 2613 Sculpture: Basic

(0-6) 3 hours credit. Prerequisites: ART 1003, ART 1223.
Instruction in basic sculptural concepts and materials. May be repeated once for credit.

## 2713 Ceramics: Basic

(0-6) 3 hours credit. Prerequisites: ART 1003, ART 1223.
Instruction in basic ceramic concepts and techniques. May be repeated once for credit.

3113 Painting: Intermediate
(0-6) 3 hours credit. Prerequisites: ART 2113.
Concepts and methods of painting with an emphasis on the synthesis of idea and means. May be repeated once for credit.

## 3213 Drawing: Intermediate

(0-6) 3 hours credit. Prerequisite: ART 1213 and upper-division standing.
Concepts and methods of drawing with an emphasis on the synthesis of idea and means. May be repeated once for credit.

## 3313 Lithography

(0-6) 3 hours credit. Prerequisite: upper-division standing.
Concepts and methods of lithography with emphasis on black and white image formation. May be repeated once for credit.

## 3413 Intaglio

(0-6) 3 hours credit. Prerequisite: upper-division standing.
Concepts and methods of intaglio and relief printmaking with emphasis on black and white image formation. May be repeated once for credit.

## 3513 Photography: Intermediate

(0-6) 3 hours credit. Prerequisite: ART 2513.
Concentration on the concepts and methods of photography and its aesthetic premises. Students are expected to provide their own cameras. May be repeated once for credit.

## 3653 Sculpture: Intermediate

(0-6) 3 hours credit. Prerequisite: ART 2613.
Development of formal concerns using a variety of materials and procedures. May be repeated once for credit.

## 3733 Ceramics: Intermediate

(0-6) 3 hours credit. Prerequisite: ART 2713.
Development of complex formal and technical concerns of firing and glazing. May be repeated once for credit.

## 4133 Painting: Advanced

(0-6) 3 hours credit. Prerequisite: ART 3113.
A continuation of ART 3113 with emphasis on the development of a personal vision and individual approach to the use of the medium. May be repeated once for credit.

## 4233 Drawing: Advanced

(0-6) 3 hours credit. Prerequisite: ART 3213.
A continuation of ART 3213 with emphasis on the development of a personal vision and individual approach to the use of the medium. May be repeated once for credit.

## 4333 Lithography: Advanced

(0-6) 3 hours credit. Prerequisite: ART 3313.
A continuation of ART 3313 with emphasis on the development of a personal vision and individual approach to the use of the medium. May be repeated once for credit.

## 4433 Intaglio: Advanced

(0-6) 3 hours credit. Prerequisite: ART 3413.
A continuation of ART 3413 with emphasis on the development of a personal vision and individual approach to the use of the medium. May be repeated once for credit.

## 4533 Photography: Advanced

(0-6) 3 hours credit. Prerequisite: ART 3513.
A continuation of ART 3513 with emphasis on the development of a personal vision and individual approach to the use of the medium. May be repeated once for credit.

## 4673

## Sculpture: Advanced

(0-6) 3 hours credit. Prerequisite: ART 3653.
A continuation of ART 3653 with emphasis on the development of a personal vision and individual approach to the use of the medium. May be repeated once for credit.

## 4753. Ceramics: Advanced

(0-6) 3 hours credit. Prerequisite: ART 3733.
A continuation of ART 3733 with emphasis on the development of a personal vision and individual approach to the use of the medium. May be repeated once for credit.

### 4911.3 Independent Study

$1-3$ hours credit. Prerequisites: Permission in writing (form available) of the instructor, the student's Advisor, and the Division 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 hours of independent study, regardless of discipline, will apply to a bachelor's degree.

## 4923 Bacheior of Fine Arts Degree Project

3 hours credit.
Must be taken in the term in which the student expects to graduate. An exhibition of selected work and a written project, both to be completed during the last year and submitted to a faculty committee for approval. The project places the work in an aesthetic and historical context.

## 4953 Special Studies in Art

(3-0) 3 hours credit. Prerequisite: Consent of instructor.
An organized course offering specialized study not normally or not often available as part of the regular course offerings. Special Studies courses may be repeated for credit when the topics vary, but not more than 6 hours within any one discipline will apply to a bachelor's degree.

## COURSE DESCRIPTIONS <br> ART HISTORY AND CRITICISM (AHC)

## 1113 Survey of Art I: Ancient to Medieval

(3-0) 3 hours credit.
A study of art and architecture of Egypt, the near East and Europe (Western Civilization) from prehistoric times to 1400 A.D.

## 1123 Survey of Art II: Renaissance to Modern

(3-0) 3 hours credit.
A study of art and architecture in Europe and the U.S. from 1400 to the present.
1213 Survey of Art of the Americas I
(3-0) 3 hours credit
A study of art and architecture in ancient America to European colonization with special emphasis on Mesoamerica.
1223 Survey of Art of the Americas II
(3-0) 3 hours credit.
A study of art and architecture of the Americas from 1500 to the present with special emphasis on Hispanic America.

## 1913 Introduction to the Film

(3-0) 3 hours credit.
A survey of the cinematic art. Creative and technical development of the motion picture, aesthetics of the moving image, and major stylistic and thematic tendencies.

## 2013 Ancient Art

(3-0) 3 hours credit.
A study of art and architecture in Persia, Mesopotamia, Egypt, Greece, Crete, and Roman Italy.

2113 Medieval Art
(3-0) 3 hours credit.
A study of Early Christian, Byzantine, Romanesque and Gothic art and architecture in Europe.

## 3123 Northern European Art: Fifteenth and Sixteenth Centuries

(3-0) 3 hours credit.
A study of fifteenth and sixteenth century art of Northern Europe. Emphasis is placed on the development of the arts primarily in Flanders and Germany.

## 3133 Southern European Art: Fifteenth and Sixteenth Centuries

(3-0) 3 hours credit.
A study of painting, sculpture and architecture in Southern Europe in the fifteenth and sixteenth centuries, with primary emphasis on Renaissance Italy.

## 3143 European Art: Seventeenth to Eighteenth Centuries

(3-0) 3 hours credit.
A study of the Baroque and Rococo art of Europe in the seventeenth and eighteenth centuries.

3213 Islamic Art
(3-0) 3 hours credit.
A study of art and architecture in the Near East, North Africa and Spain.
3223 Spanish Art I: Visigothic to Late Gothic
(3-0) 3 hours credit.
Art and architecture in the Iberian Peninsula from the seventh century to the reign of Fernando and Isabel.

3233 Spanish Art II
(3-0) 3 hours credit.
A study of painting, sculpture, architecture, and other arts in the various regions of Spain from the reign of Charles it to the present.

3323 European and United States Art I: Nineteenth Century
(3-0) 3 hours credit.
A study of painting, sculpture, architecture and the graphic arts in Europe and the United States from 1790 to 1900.

3333 European and United States Art II: Twentieth Century (3-0) 3 hours credit.
Painting, sculpture, architecture and the graphic arts in Europe and the United States since 1900.

3423 Pre-Columbian Art of Mesoamerica
(3-0) 3 hours credit.
A study of art and architecture in ancient Guatemala, Mexico, Belize and Honduras.

## 3443 Native American Art

(3-0) 3 hours credit.
A study of art and architecture in North America prior to European colonization.

## 3453 New World Hispanic Art and Architecture

(3-0) 3 hours credit.
A study of art and architecture from the Colonial periods to the nineteenth century with special emphasis on Mexico and Guatemala.

## 102 / ART HISTORY AND CRITICISM - BACHELOR OF FINE ARTS <br> DEGREE WITH A CONCENTRATION IN ARCHITECTURAL DESIGN

## 3613 History of Modern Architecture

(3-0) 3 hours credit.
A study of modern architecture - its origin and its technological and philosophical evolution from the nineteenth century to the present.

## 3813 History of Photography

(3-0) 3 hours credit.
The history of photography from its inception to the present.

## 3923 History and Art of Film I

(3-0) 3 hours credit. Prerequisite: AHC 1913.
The history of film up to the era of sound.
3933 History and Art of Film II
(3-0) 3 hours credit. Prerequisite: AHC 1913.
The history of film from the beginning of the sound era to the present.
4113 Contemporary Art of the U.S.
(3-0) 3 hours credit.
A study of the major movements in the visual arts in the United States from 1940 to the present.

## 4133 Mexican and Mexican-American Art

(3-0) 3 hours credit.
A study of modern Mexican, Hispano, Mexican-American and Chicano Art.

## 4143 Art and Architecture of the Southwest

(3-0) 3 hours credit.
A study of the art and architecture in the American Southwest and Mexico.

## 4423 Contemporary Art of Latin America

(3-0) 3 hours credit.
A study of twentieth century art and architecture in Latin America.

## 4911-3 Independent Study

1-3 hours credit. Prerequisites: Permission in writing (form available) of the instructor, the student's advisor, and the Division Director and Dean of the College in which the course is offered.
Independent reading, research, discussion, and/or writing under 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.

## 4953 Special Studies in Art History and Criticism

(3-0) 3 hours credit. Prerequisite: Consent of instructor.
An organized course offering specialized study not normally or not often available as part of the regular course offerings. Special Studies courses may be repeated for credit when the topics vary, but not more than 6 hours within any one discipline will apply to a bachelor's degree.

## BACHELOR OF FINE ARTS DEGREE WITH A CONCENTRATION IN ARCHITECTURAL DESIGN

The Bachelor of Fine Arts Degree with a concentration in Architectural Design is a fiveyear professional degree. The University of Texas at San Antonio offers the final three years of the five-year program. ${ }^{12}$
Students are accepted into the degree program at the third-year level after completing a minimum of 41 semester hours of lower-division courses which may be taken at an institution other than The University of Texas at San Antonio distributed as follows: ${ }^{13}$

[^25]8 semester hours of studio drawing or rendering
14 semester hours of architectural design and graphics studies
8 semester hours of construction, including both materials and statics
3 semester hours of calculus
8 semester hours of physics
The minimum number of semester hours required for the BFA Degree with a Concentration in Architectural Design is 164 including the 50 hours of General Education Requirements.

All candidates for the degree must complete:
A. 114 semester hours in the major, 41 semester hours of which must be at the lower-division level.
In addition to the 41 semester hours of lower-division credit, 73 semester credit hours required at the upper division level are:

| ARC | 3115 |
| :--- | :--- |
| ARChitectural Design Studio I |  |
| 3125 | Architectural Design Studio II |

ARC 3125 Architectural Design Studio II
ARC 3234 Construction III
ARC 3244 Construction IV
ARC 3313 Environmental Control Systems I
ARC 3323 Environmental Control Systems II
ARC 3413 Architectural Documents I
ARC 3423 Architectural Documents II
ARC 4135 Architectural Design Studio III
ARC 4145 Architectural Design Studio IV
ARC 4156 Architectural Design Studio V
ARC 4166 Architectural Design Studio VI
ARC 4513 Architectural Practice
ARC 4613 Construction Management
ARC 4623 Historic Preservation
ARC 4633 Site Planning and Landscaping
ARC 4653 Architectural Marketing and Management
AHC 3613 History of Modern Architecture:"
AHC 4143 Art and Architecture of the Southwest
B. 9 semester hours of elective courses in Environmental Management
C. 6 semester hours of free electives.

## COURSE DESCRIPTIONS ARCHITECTURAL DESIGN (ARC)

## 3115 Architectural Design Studio I

( $0-10$ ) 5 hours credit. Prerequisite: Required Iower-division Architectural Design courses.
The study of the process of researching, programming and developing physical design solutions.

## 3125 Architectural Design Studio II

( $0-10$ ) 5 hours credit. Prerequisite: ARC 3115.
Continuation of the study of the process of researching, programming and developing physical design solutions.

## 3234 Construction III

(3-3) 4 hours credit. Prerequisites: MAT 1213, PHY 1903 or PHY 1803 or concurrent registration, and required lower-division Architectural Design courses or consent of instructor.
The study of the design and behavior of structural steel and timber systems, including the application of building specifications.

## 3244 Construction IV

(3-3) 4 hours credit. Prerequisites: PHY 1923 or PHY 1823 or concurrent registration and ARC 3234.
The study of the design and behavior of structural concrete systems, including the application of building and specifications.

## 3313 Environmental Control Systems I

(3-0) 3 hours credit. Prerequisite: Required lower-division Architectural Design courses or consent of instructor.
Qualitative and quantitative study of heating, ventilating, cooling, plumbing and mechanical movement systems, and their integration into a building system.

## 3323 Environmental Control Systems II

(3-0) 3 hours credit. Prerequisite: ARC 3313.
A qualitative and quantitative study of acoustical, electrical and illumination systems, and their integration into a building system.

## 3413 Architectural Documents I

(3-0) 3 hours credit. Prerequisite: Upper-division standing.
An introduction to the technical documents of building construction, their preparation and use in communication between the architect and other professional consultants.

## 3423 Architectural Documents II

(3-0) 3 hours credit. Prerequisite: ARC 3413.
A continuation of the study of technical documents of building construction, their preparation and use in communication between the architect and other professional consultants, with emphasis on working drawings, specifications and building codes.

## 4135 Architectural Design Studio III

( $0-10$ ) 5 hours credit. Prerequisite: ARC 3125.
Further development of design problems integrating structural and mechanical systems for complete design solutions to various building types.

## 4145 Architectural Design Studio IV

(0-10) 5 hours credit. Prerequisite: ARC 4135.
Continuation of the development of design problems integrating structural and mechanical systems for complete design solutions to various building types.
4156 Architectural Design Studio V
(1-10) 6 hours credit. Prerequisite: ARC 4145.
A comprehensive study of the planning and designing of large-scale urban development projects in collaboration with other disciplines and with emphasis on social, political and economic systems that influence the physical environment.
4166 Architectural Design Studio VI (1-10) 6 hours credit. Prerequisite: ARC 4156.
A continuation of the study of the planning and designing of large-scale urban development projects in collaboration with other disciplines and with emphasis on social, political and economic systems that influence the physical environment.

## 4513 Architectural Practice

(3-0) 3 hours credit. Prerequisite: ARC 4135.
A study of the standards of architectural practice, professional responsibilities, contracts, bonds and ordinances, architectural partnerships, and other considerations of professional practice.

## 4613 Construction Management

(3-0) 3 hours credit. Prerequisite: ARC 3244.
The study of the process of construction and its management.

## 4623 Historic Preservation

(3-0) 3 hours credit. Prerequisite: Upper-division standing.
A study of the preservation of old structures and their adaptive re-use in terms of legal, technical and aesthetic factors, with special emphasis on regional architecture.

## 4633 Site Planning and Landscaping

(3-0) 3 hours credit. Prerequisite: ARC 3125.
A study of the form and organization of natural and constructed sites with emphasis on landscaping and the placement of buildings, and other site considerations.

## 4643 Interior Design

(3-0) 3 hours credit. Prerequisite: ARC 3125.
The theory and application of interior architectural programming and design processes with emphasis on graphics, furnishings and accessories, and methods of selection.

## 4653 Architectural Marketing and Management

(3-0) 3 hours credit. Prerequisite: ARC 3125.
A study of the business and economics of marketing and management in architectural practice.

## 4911-3 Independent Study

1-3 hours credit. Prerequisites: Permission in writing (form available) of the instructor, the student's Advisor, and the Division 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 hours of independent study, regardiess of discipline, will apply to a bachelor's degree.

## 4953 Special Studies in Architectural Design

(3-0) 3 hours credit. Prerequisite: Consent of instructor.
An organized course offering specialized study not normally or not often available as part of the regular course offerings. Special Studies courses may be repeated for credit when the topics vary, but not more than 6 hours within any one discipline will apply to a bachelor's degree.

## DIVISION OF MUSIC

The Division of Music is authorized to award a Bachelor of Music Education Degree. Students may select one of three emphases in the Bachelor of Music program: music literature, music performance or music theory-composition and students may select one of four emphases in the Bachelor of Music Education program: Secondary Choral, All-level Choral, Secondary Instrumental or All-level Instrumental.
Examinations in music theory and music history are given to music majors entering UTSA for the first time. These examinations are given at the beginning of each semester and are used as an aid in counseling.
A student may be awarded Honors in Music in special recognition of outstanding achievement in his or her area of specialization. The award is made for either (1) the successful completion of MUS 4983, Honors Seminar, or (2) an outstanding record or performances culminating in a superior Senior Recital and an overall grade-point average of at least 3.0.

## BACHELOR OF MUSIC DEGREE

The minimum number of semester hours required for this degree, including the 50 hours of General Education Requirements, is 128. ${ }^{14}$
All candidates for the Bachelor of Music degree, regardless of emphasis, must complete the following 33 semester hours of required music courses:

| MUS 1101 | Aural Skills I |
| :--- | :--- |
| MUS 1113 | Basic Skills I |
| MUS 1121 | Aural Skills II |
| MUS 1133 | Basic Skills II |
| MUS 2101 | Aural Skills III |
| MUS 2121 | Aural Skills IV |
| MUS 2314 | Theoretical Studies in Music Literature I |
| MUS 2325 | Theoretical Studies in Music Literature II |
| MUS 2402 | Conducting I |
| MUS 2412 | Conducting II |
| MUS 3112 | Analysis I |
| MUS 3122 | Analysis II |
| MUS 3213 | Music in Western Civilization I |
| MUS 3223 | Music in Western Civilization II |

In addition, a candidate for the Bachelor of Music degree must complete the course requirements for the emphasis declared by the candidate.
Additional Bachelor of Music Degree Requirements for the music literature emphasis are:
A. 16 semester hours of music performance are required from the following courses which may be repeated for credit to fulfill the 16 hour requirement.
MUS 1511 Music Performance-Secondary Instrument or
MUS 1522 Class Piano
MUS 1542 Music Performance-Private Instruction I
MUS 2542 Music Performance-Private Instruction II
MUS 3532 Music Performance-Private Instruction III

[^26]B. 15 semester hours of music literature are required from the following:

MUS 3253 Special Studies in Music Literature (3 sections required)
MUS 3623 Music of the Americas
MUS 4913 Independent Study or
MUS 4958 Special Studies in Music
or
MUS 4983 Honors Seminar
C. 5 additional semester hours of music theory are required and may be fulfilled by selecting from the following courses:
MUS 2141 Composition I
MUS 2151 Composition II
MUS 3132 Orchestration
MUS 3161 Composition III
MUS 3171 Composition IV
MUS 4142 Composition V
MUS 4112 18th Century Counterpoint
MUS 4122 16th Century Counterpoint
D. 9 semester hours of electives.
E. Special degree requirements. All students majoring in music are required (a) to make one recital appearance during the last semester of study on their principal instrument; (b) to perform in a university ensemble each term in residence including summer terms; (c) to meet music performance proficiency standards established for principal and secondary instruments; (Students who do not meet these standards are required to repeat music performance courses until the proficiency standards have been met.) (d) to register in MUS 2001 Concert Music each semester in residence.
Additional Bachelor of Music degree requirements for the music performance emphasis are:
A. 28 semester hours of music performance are required for the following courses which may be repeated for credit to fulfill the 28 hour requirement.
MUS 1511 Music Performance-Secondary Instrument
MUS 1522 Class Piano
MUS 1542 Music Performance-Private Instruction I
MUS 2542 Music Performance-Private Instruction II
MUS 3554 Music Performance-Private Instruction IV
MUS 4554 Music Performance-Private Instruction V
B. 4 additional semester hours of music theory are required and may be fulfilled by selecting from the following courses: (Exception: a student whose principal instrument is an orchestral instrument is required to take MUS 3132 Orchestration).
MUS 3132 Orchestration
MUS 3142 Band Arranging
MUS 3152 Choral Arranging
MUS 4112 18th Century Counterpoint
MUS 4122 16th Century Counterpoint
C. 3 semester hours of music literature are required as follows:

MUS 3253 Special Studies in Music Literature
Section 3 required of voice principals.

Section 4 required of orchestral instrument principals.
Section 5 required of classical guitar principals.
Section 9 required of piano principals.
Section 10 required of organ principals.
D. 2 semester hours of accompanying are required of each student whose principal instrument is piano. MUS 2501 Accompanying may be repeated for credit to fulfill this requirement.
E. 2 semester hours of pedagogy are required. Depending on the student's principal instrument one of the following pedagogy courses will fulfill this requirement:
Classical guitar, organ, piano and voice - MUS 4562 Pedagogy Of Solo Instruments.
Orchestral instruments - MUS 4532 Pedagogy of Orchestral Instruments
F. 4 semester hours of diction courses (MUS 3512 Diction: English and French, and MUS 3522 Diction: Italian and German) are required of students whose principal instrument is voice.
G. MUS 4561 Senior Recital is required of all students whose emphasis is music performance.
H. Electives are as follows:

Piano emphasis - 5 semester hours
Voice emphasis - 3 semester hours
Other emphasis - 7 semester hours
I. Special Degree Requirements: All students majoring in music are required (a) to make one recital appearance during the last semester of study on their principal instrument; (b) to perform in a university ensemble each term in residence including summer terms; (c) to meet music performance proficiency standards established for principal and secondary instruments; (Students who do not meet these standards are required to repeat music performance courses until the proficiency standards have been met.) (d) to register in MUS 2001 Concert Music each semester in residence.
A qualifying recital of no more than 30 minutes in length must be presented and approved by the Division of Music before the student can be admitted to upper-division level courses in music performance. A senior recital of approximately one hour in length must be presented and approved by the Division of Music.
Additional Bachelor of Music degree requirements for the music theorycomposition emphasis are:
A. 16 semester hours of music performance courses are required from the following courses which may be repeated for credit to fulfill the 16 hour requirement.
MUS 1511 Music Performance-Secondary Instrument
or
MUS 1522 Class Piano
MUS 1542 Music Performance-Private Instruction I
MUS 2542 Music Performance-Private Instruction II
MUS 3532 Music Performance-Private Instruction III
B. 16 additional semester hours of music theory and composition are required. This requirement may be fulfilled by the following:
MUS 2141 Composition I
MUS 2151 Composition II

| MUS 3132 | Orchestration |
| :--- | :--- |
| MUS 3161 | Composition III |
| MUS 3171 | Composition IV |
| MUS 4112 | 18th Century Counterpoint |
| MUS 4122 | 16th Century Counterpoint |
| MUS 4132 | Special Studies in Compositional Analysis (2 sections re- |
|  |  |
| MUS 4142 | quired) |
| Composition V |  |

C. 3 additional semester hours of music literature are required.
D. MUS 4561 Senior Recital is required of all students in the theorycomposition emphasis.
E. 9 semester hours of electives.
F. Special degree requirements. All students majoring in music are required (a) to make one recital appearance during the last semester of study on their principal instrument; (b) to perform in a university ensemble each term in residence including summer terms; (c) to meet music performance proficiency standards established for principal and secondary instruments; (Students who do not meet these standards are required to repeat music performance courses until the proficiency standards have been met.) (d) to register in MUS 2001 Concert Music each semester in residence.
The student's Senior Recital (MUS 4561) shall include a selection of his/ her compositions totaling a minimum of 20 minutes. The student will submit completed scores representing a majority of the programs to an examining committee the semester prior to that of the recital.
The examining committee shall determine the acceptability of the recital program.

## BACHELOR OF MUSIC EDUCATION DEGREE

The minimum number of semester hours required for this degree, including the 50 hours of General Education Requirements, is $132^{15}$ for the choral emphasis and $135^{16}$ for the instrumental emphasis.
Candidates for the Bachelor of Music Education Degree with a secondary choral emphasis must complete:
A. 58 semester hours in music.

1. 42 semester hours of required music courses are:

MUS 1101 Aural Skills I
MUS 1113 Basic Skills of Music I
MUS 1121 Aural Skills II
MUS 1133 Basic Skills of Music II
MUS 2101 Aural Skills III
MUS 2121 Aural Skills IV
MUS 2314 Theoretical Studies in Music Literature I
MUS 2325 Theoretical Studies in Music Literature II
MUS 2402 Conducting I
MUS 2412 Conducting II
MUS 3112 Analysis I
MUS 3122 Analysis II
MUS 3213 Music in Western Civilization I
MUS 3223 Music in Western Civilization II

[^27]| MUS 3442 | Intermediate Conducting and Rehearsal Techniques: |
| :--- | :--- |
| MUS 3452 | Secondary School |
| Advanced Conducting and Rehearsal Techniques: Sec- |  |
| MUS 3463 | ondary School |
| GUerall Music in the Junior High School |  |
| MUS 3512 | Diction: English and French or |
| MUS 3522 | Diction: Italian and German |

2. 16 semester hours of applied music performance are required from the following courses which may be repeated for credil to fulfill the 16-hour requirement:
MUS 1511 Music Performance-Secondary Instrument or
MUS 1522 Class Piano
MUS 1542 Music Performance-Private Instruction I
MUS 2542 Music Performance-Private Instruction II
MUS 3532 Music Performance-Private Instruction III
B. 20 semester hours in professional education (including 6 hours of student teaching) are required.
C. 4 additional semester hours of general education for certification (3 hours of speech electives and EDU 2001) are required.
D. Special degree requirements. All students majoring in music are required (a) to make one recital appearance during the last semester of study on their principal instrument; (b) to perform in a university ensemble each term in residence including summer terms; (c) to meet music performance proficiency standards established for principal and secondary instruments; (Students who do not meet these standards are required to repeat music performance courses.) (d) to register in MUS 2001 Concert Music each semester in residence.
Candidates for the Bachelor of Music Education Degree with an all-level choral emphasis must complete:
A. 58 semester hours in music.
3. 42 semester hours of required music courses are:

MUS 1101 Aural Skills I
MUS 1113 Basic Skills of Music I
MUS 1121 Aural Skills II
MUS 1133 Basic Skills of Music II
MUS 2101 Aural Skills III
MUS 2121 Aural Skills IV
MUS 2314 Theoretical Studies in Music Literature I
MUS 2325 Theoretical Studies in Music Literature II
MUS 2402 Conducting I
MUS 2412 Conducting II
MUS 3112 Analysis I
MUS 3122 Analysis II
MUS 3213 Music in Western Civilization I
MUS 3223 Music in Western Civilization II
MUS 3413 Music in The Elementary School
MUS 3463 General Music in the Junior High School
MUS 4423 Creative Music Experiences in the Elementary School
2. 16 semester hours of applied music performance are required from the following courses which may be repeated for credit to fulfill the 16 -hour requirement:

| MUS 1511 | Music Performance-Secondary Instrument |
| :--- | :--- |
| MUS 1522 | Or |
| Class Piano |  |
| MUS 1542 | Music Performance-Private Instruction I |
| MUS 2542 | Music Performance-Private Instruction II |
| MUS 3532 | Music Performance-Private Instruction III |

B. 20 semester hours in professional education (including 6 hours of student teaching) are required.
C. 4 additional semester hours of general education for certification ( 3 hours of speech electives and EDU 2001) are required.
D. Special degree requirements. All students majoring in music are required (a) to make one recital, appearance during the last semester of study on their principal instrument; (b) to perform in a university ensemble each term in residence including summer terms; (c) to meet music performance proficiency standards established for principal and secondary instruments; (Students who do not meet these standards are required to repeat music performance courses.) (d) to register in MUS 2001 Concert Music each semester in residence.
Candidates for the Bachelor of Music Education Degree with a secondary instrumental emphasis must complete:
A. 61 semester hours in music

1. 45 semester hours of required music courses are:

MUS 1101 Aural Skills I
MUS 1113 Basic Skills of Music I
MUS 1121 Aural Skills II
MUS 1133 Basic Skills in Music II
MUS 2101 Aural Skills III
MUS 2121 Aural Skills IV
MUS 2314 Theoretical Studies in Music Literature I
MUS 2325 Theoretical Studies in Music Literature II
MUS 2402 Conducting I
MUS 2412 Conducting II
MUS 3112 Analysis I
MUS 3122 Analysis II
MUS 3132 Orchestration or
MUS 3142 Band Arranging
MUS 3213 Music in Western Civilization I
MUS 3223 Music in Western Civilization II
MUS 3431 Class Instrument Techniques: Elementary School (to be repeated for a total of 4 semester credit hours)
MUS 3442 Intermediate Conducting and Rehearsal Techniques: Secondary School
MUS 3452 Advanced Conducting and Rehearsal Techniques: Secondary School
MUS 4452 Marching Band Techniques
2. 16 semester hours of music performance are required from the following courses which may be repeated for credit to fulfill the 16 -hour requirements:
MUS 1511 Music Performance: Secondary Instrument or
MUS 1522 Class Piano
MUS 1542 Music Performance-Private Instruction I
$\begin{array}{ll}\text { MUS } 2542 & \text { Music Performance-Private Instruction II } \\ \text { MUS } 3532 & \text { Music Performance-Private Instruction III }\end{array}$
B. 20 semester hours in professional education (including 6 hours of student teaching) are required.
C. 4 additional semester hours of general education for certification (3 hours of speech electives and EDU 2001) are required.
D. Special degree requirements. All students majoring in music are required (a) to make one recital appearance during the last semester of study on their principal instrument; (b) to perform in a university ensemble each term in residence including summer terms; (c) to meet music performance proficiency standards established for principal and secondary instruments; (Students who do not meet these standards are required to repeat music performance courses.) (d) to register in MUS 2001 Concert Music each semester in residence.
Candidates for the Bachelor of Music Education degree with an all-level instrumental emphasis must complete:
A. 61 semester hours in music

1. 45 semester hours of required music courses are:

MUS 1101 Aural Skills I
MUS 1113 Basic Skills of Music I
MUS 1121 Aural Skills II
MUS 1133 Basic Skills of Music II
MUS 2101 Aural Skills III
MUS 2121 Aural Skills IV
MUS 2314 Theoretical Studies in Music Literature I
MUS 2325 Theoretical Studies in Music Literature II
MUS 2402 Conducting I
MUS 2412 Conducting II
MUS 3112 Analysis I
MUS 3122 Analysis II
MUS 3213 Music in Western Civilization I
MUS 3223 Music in Western Civilization II
MUS 3413 Music in the Elementary School
MUS 3431 Class Instrument Techniques: Elementary School (to be repeated for a total of 3 semester credit hours)
MUS 3442 Intermediate Conducting and Rehearsal Techniques: Secondary School
MUS 3452 Advanced Conducting and Rehearsal Techniques: Secondary School
MUS 3463 General Music in the Junior High School or
MUS 4452 Marching Band Techniques
2. 16 semester hours of music performance are required from the following courses which may be repeated for credit to fulfill the 16 -hour requirement:
MUS 1511 Music Performance: Secondary Instrument or
MUS 1522 Class Piano
MUS 1542 Music Performance-Private Instruction I
MUS 2542 Music Performance-Private Instruction II
MUS 3532 Music Performance-Private Instruction III
B. 20 semester hours in professional education (including 6 hours of student teaching) are required.
C. 4 additional semester hours of general education for certification (3 hours of speech electives and EDU 2001) are required.
D. Special degree requirements. All students majoring in music are required (a) to make one recital appearance during the last semester of study on their principal instrument; (b) to perform in a university ensemble each term in residence including summer terms; (c) to meet music performance proficiency standards established for principal and secondary instruments; (Students who do not meet these standards are required to repeat music performance courses.) (d) to register in MUS 2001 Concert Music each semester in residence.

## COURSE DESCRIPTIONS <br> MUSIC <br> (MUS)

1101 Aural Skills I
(1-1) 1 hour credit.
Provides training in sight-singing, aural skills, and keyboard application. Should be taken concurrently with MUS 1113.

## 1113 Basic Skills of Music I

(3-0) 3 hours credit.
A survey of basic 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 1101.
1121 Aural Skills II
(1-1) 1 hour credit. Prerequisite: MUS 1101 or the equivalent.
Continued training in sight singing, aural skills and keyboard with emphasis on harmonic skills and twentieth century materials. Should be taken concurrently with MUS 1133.
1133 Basic Skills of Music II
(3-0) 3 hours credit. Prerequisite: MUS 1113 or the equivalent.
Development of harmonic, analytical and writing skills. Analytical techniques applied to music from a variety of style periods.
1511 Music Performance-Secondary Instrument
1 hour credit.
Private instruction for students desiring or required to study as secondary instruments the following: baritone, bassoon, clarinet, contrabass, cornet, flute, classical guitar, harpsichord, horn, oboe, organ, percussion, piano, saxophone, trombone, trumpet, tuba, viola, violin, violoncello, voice. May be repeated for credit.

## 1522 Class Piano

(2-1) 2 hours credit. Prerequisite: Placement examination.
Keyboard skills and sight reading ability developed. May be repeated for credit.

## 1531 Class Voice

(1-0) 1 hour credit. Prerequisite: Placement examination.
For students with no previous vocal training. Fundamentals of voice technique developed includirg in-class performances of suitable songs. May be repeated for credit.

## 1542 Music Performance-Private Instruction I

2 hours credit. Prerequisite: Placement by examination.
Private instruction for students desiring or required to study the following instruments: baritone, bassoon, clarinet, contrabass, cornet, flute, classical guitar, horn, oboe, organ, percussion, piano, saxophone, trombone, trumpet, tuba, viola, violin, violoncello, voice. May be repeated for credit.
2001 Concert Music
(1-0) 1 hour credit. Enrollment limited to students enrolled in a music degree program.

Required attendance at a selected number of approved music concerts and recitals as determined by the Division of Music. May be repeated for credit.

## 2101 Aural Skills III

(1-1) 1 hour credit. Prerequisite: MUS 1121 or the equivalent.
Sight singing, aural skills and keyboard techniques applied to literature and theoretical skills drawn from MUS 2314.

## 2121 Aural Skills IV

(1-1) 1 hour credit. Prerequisites: MUS 2101 and MUS 2314 or the equivalents.
Application of skills to materials drawn from MUS 2325. Should be taken concurrently with MUS 2325.

## 2122 Improvisation

(2-0) 2 hours credit. Prerequisite: MUS 1133 or consent of instructor.
Development of creative skills applied to melodic, rhythmic and harmonic elaboration techniques adapted to the student's instrument. Stylistic elements according to the section offered. Section 1: Jazz Improvisation, Section 2: Improvisation in Traditional Styles.

## 2141 Composition I

(1-0) 1 hour credit. Prerequisites: MUS 1101, 1113, and consent of instructor. Fundamentals of composition.

## 2151 Composition II

(1-0) 1 hour credit. Prerequisites: MUS 2141 and consent of instructor. Fundamentals of composition in small forms.

## 2314 Theoretical Studies in Music Literature I

(4-0) 4 hours credit. Prerequisite: MUS 1121, 1133.
A team-taught course involving theoretical analysis of harmony, melody, and form; stylistic identity; performance practice; biography; historical perspective; and writing techniques of music. Organized principally by performance media.
2325 Theoretical Studies in Music Literature II
(5-0) 5 hours credit. Prerequisite: MUS 2314.
A continuation of MUS 2314, but with more emphasis on theoretical aspects and skills.

## 2402 Conducting 1

(2-0) 2 hours credit. Prerequsite: MUS 1133 or the equivalent.
Fundamentals of beat patterns, baton use, score reading, and practical experience.

## 2412 Conducting II

(2-0) 2 hours credit. Prerequisite: MUS 2402 or the equivalent.
Fundamentals of beat patterns, full score reading, choral and instrumental rehearsal techniques.

## 2501 Accompanying

(0-2) 1 hour credit. The study of skills and aesthetic principles needed to accompany vocal and instrumental music. May be repeated for credit.

## 2542 Music Performance-Private Instruction II

2 hours credit. Prerequisite: MUS 1532 or placement by examination.
Private instruction for students desiring or required to study the following instruments: baritone, bassoon, clarinet, contrabass, cornet, flute, classical guitar, horn, oboe, organ, percussion, piano, saxophone, trombone, trumpet, tuba, viola, violin, violoncello, voice. May be repeated for credit.

## 2603 Beginning Guitar

(3-0) 3 hours credit.
An introductory course primarily for the non-music major. Tuning, hand positions, chords, accompaniment patterns, strumming, finger-picking, bar technique, and introductory music reading.

## 2613 Intermediate Guitar

(3-0) 3 hours credit. Prerequisite: MUS 2603 or equivalent.
Primarily for the non-music major, the course includes development of accompaniment style, scales, music reading, melody playing, and solo guitar techniques.

## 2623 Music Reading and Notation for the Non-Music Major <br> (3-0) 3 hours credit. <br> Basic elements of reading pitch, rhythm and meter in traditional music notation. Application of these principles to writing melodic lines and harmonizations.

## 2643 Music in Contemporary Life

(3-0) 3 hours credit.
Designed to increase the non-music major's awareness of the varied functions of music in our society. Film and television music; environmental music; the recording industry; the publishing industry; musical theater; music in the schools; ceremonial music; and concert life.
2653 Jazz and Rock Music
(3-0) 3 hours credit.
A survey of the evolution of style, contributions of important performers, and techniques involved in creating these American art forms.

## 3112 Analysis I

(2-0) 2 hours credit. Prerequisites: MUS 2121 and MUS 2325 or the equivalents.
Analytical techniques applied to all parameters in selected works from a variety of style periods. Structural analysis of smaller musical forms.

## 3122 Analysis II

(2-0) 2 hours credit. Prerequisite: MUS 3112 or the equivalent.
Analysis of structures and other parameters applied to larger musical forms selected from a variety of style periods.
3132 Orchestration
(2-0) 2 hours credit. Prerequisites: MUS 2121, 2325.
Applied instrumentation, emphasizing idiomatic scoring for various orchestral combinations with an approach to writing for full orchestra.
3142 . Band Arranging
(2-0) 2 hours credit. Prerequisite: MUS 2121, 2325 or the equivalents.
A practical approach to planning and writing arrangements for band.
3152 Choral Arranging
(2-0) 2 hours credit. Prerequisite: MUS 2325 or the equivalent.
Practical studies in arranging for choral ensembles with emphasis on successful writing for secondary school choirs.
3161 Composition III
(1-0) 1 hour credit. Prerequisites: MUS 2121, 2151, 2325; and consent of instructor.
Private study in applied composition with emphasis on expansion of musical materials.
3171 Composition IV
(1.0) 1 hour credit. Prerequisite: MUS 3161; consent of instructor. Private study in applied composition with emphasis on expansion of musical materials leading to larger forms.

## 3213 Music in Western Civilization I

(3-0) 3 hours credit. Prerequisite: MUS 2325 or the equivalent.
A study of musical styles and literature in the Medieval, Renaissance, and Baroque periods.

## 3223 Music in Western Civilization II <br> (3-0) 3 hours credit. Prerequisite: MUS 2325 or the equivalent. <br> A study of musical styles and literature in the Classic, Romantic and Contemporary periods.

## 3253 Special Studies in Music Literature

(3-0) 3 hours credit. Prerequisite: Upper-division standing.
Topics include: String Chamber Music; Wind Chamber Music; History of Song; Orchestral Literature; History and Literature of the Guitar; Choral Literature from 1400 to 1825; Choral Literature from 1825 to Present; History and Literature of the Keyboard Up to 1750; Literature of the Pianoforte; Organ Literature; The Operatic

Tradition; Music Since 1950; and The Instrumental Concerto. Two or more topics may be taken concurrently. May be repeated for credit when topics vary.

## 3413 Music in the Elementary School

(3-1) 3 hours credit. Prerequisites: MUS 2325 or the equivalent and upper-division standing in music.
Methods of instruction, organization, and presentations of appropriate content in music for the elementary school.
3431 Class Instrument Techniques: Elementary School
(2-0) 1 hour credit. Prerequisite: MUS 1133 or the equivalent.
A class to gain the knowledge necessary for instrumental teachers in the public schools in the following areas: Strings, Brass, Woodwinds, and Percussion. Two or more areas may be taken concurrently.
3442 Intermediate Conducting and Rehearsal Techniques: Secondary School (2-0) 2 hours credit. Prerequisite: MUS 2412 or the equivalent.
Baton study, introduction of major works. Further study of regular and asymmetric meters, and polymeters. Individual sections for choral and instrumental.
3452 Advanced Conducting and Rehearsal Techniques: Secondary School
(2-0) 2 hours credit. Prerequisite: MUS 3442 or the equivalent.
Continuation of MUS 3442 with emphasis on expressive conducting, score interpretation and artistic ensemble performance. Individual sections for choral and instrumental.
3463 General Music in the Junior High School
(3-0) 3 hours credit. Prerequisite: Upper-division standing in music.
The objectives, contents and methods in the teaching of general music in the middie or junior high school. Special attention is also given to problems related to the changing voice.
3512 Diction: English and French
(2-0) 2 hours credit.
Study of French and English pronunciation for singers; the pronunciation of both languages as it applies to public performance.
3522 Diction: Italian and German
(2-0) 2 hours credit.
Study of Itatian and German pronunciation for singers; the pronunciation of both languages as it applies to public performance.
3532 Music Performance-Private Instruction III
2 hours credit. Prerequisite: MUS 2542 or placement by examination.
Private instruction for students desiring or required to study the following instruments: baritone, bassoon, clarinet, contrabass, cornet, flute, classical guitar, horn, oboe, organ, percussion, piano, saxophone, trombone, trumpet, tuba, viola, violin, violoncello, voice. May be repeated for credit.
3554 Music Performance-Private Instruction IV
4 hours credit. Prerequisite: Upper-division standing and consent of instructor. 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 baritone, bassoon, clarinet, contrabass, cornet, flute, classical guitar, horn, oboe, organ, percussion, piano, saxophone, trombone, trumpet, tuba, viola, violin, violoncello, voice. May be repeated for credit.
3623 Music of the Americas
(3-0) 3 hours credit.
Study of the indigenous and borrowed traditions in the music of the Americas from the Colonial period to the present.

## 3643 Masterpieces of Music

(3-0) 3 hours credit.
A study of individual works selected from and representative of the musical traditions of the Western world. Background information on social setting and function, historical importance, aesthetics, and composer's biographies.

3653 Music for the Classroom Teacher
(3-1) 3 hours credit.
Development of the classroom music program in the elementary school, including techniques and materials.

## 3701 Madrigal Singers

(0-3) 1 hour credit. 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; touring is required of all members. May be repeated for credit.

## 3712 Concert Choir

(0-5) 2 hours credit. Prerequisite: Consent of instructor by audition.
An ensemble whose repertoire is chosen from both sacred and secular literature. Serious music is emphasized. May be repeated for credit.

## 3721 UTSA Chorus

(0-2) 1 hour credit.
This choral ensemble is open to all students without audition. UTSA Chorus sings serious music, folk music and popular music. The ensemble performs for campus and civic activities. May be repeated for credit.
3731 Women's Concert Choir
(0-3) 1 hour credit. Open to all women by audition. Repertoire includes works from all periods of music including lighter and popular styles. May be repeated for credit.
3742 UTSA Wind Ensemble
(0-5) 2 hours credit. Prerequisite: Consent of instructor.
The wind ensemble studies, rehearses and performs the repertoire for various combinations of wind instruments. May be repeated for credit.

## 3751 Symphonic Band

$(0-3) 1$ hour credit. Open to all students by audition.
Ensemble performs traditional repertoire for the full symphonic band. May be repeated for credit.
3761 Chamber Orchestra
(0-3) 1 hour credit. Open to all students by audition.
The Chamber Orchestra studies, rehearses and performs the repertoire from all periods for small orchestral combinations. May be repeated for credit.

## 3771 Jazz Ensemble

(0-3) 1 hour credit. Open to all students by audition.
An ensemble specializing in the performance of the various streams of jazz and other music appropriate to stage bands and jazz ensembles. May be repeated for credit.
4112 18th Century Counterpoint.
$(2 \cdot 0) 2$ hours credit. Prerequisites: MUS 2121, 2325.
Contrapuntal techniques of the 18th Century approached through development of writing skills.

## 4122 16th Century Counterpoint

(2-0) 2 hours credit. Prerequisites: MUS 3122 and consent of instructor.
A study of individual scores showing compositional approaches to the subject.

## 4132 Topics in Compositional Analysis

(2-0) 2 hours credit. Prerequisite: Upper-division standing.
A course designed for students whose emphasis is theory-composition. May be repeated for credit when topics vary. 1. Evolution of notation as a compositional tool. 2. Principles of musical development applied by Beethoven. 3. Coherence in the atonal music of A. Schoenberg. 4. Orchestration as a compositional element. 5. Setting of text; word painting. 6. Structure and form in the "new music".

## 4142 Composition V

(2-0) 2 hours credit. Prerequisites: MUS 3122, 3161, 3171 and consent of instructor.
Writing for small and large ensembles in the larger forms. May be repeated for credit.
4423 Creative Music Experiences in the Elementary School
(3-1) 3 hours credit. Prerequisite: MUS 3653 or MUS 3413.
Study of music activities for the elementary schools: rhythm, singing, making and playing of simple instruments, accompanying instruments, listening, and bodily movement. Examination of current trends by music education.

## 4452 Marching Band Techniques

(2-0) 2 hours credit. Prerequisite: MUS 2325.
Techniques for the development of a marching band are presented for prospective band directors.

## 4532 Pedagogy of Orchestral Instruments

(2-0) 2 hours credit. Prerequisite: Upper-division standing in music.
Survey of techniques, practices and materials of teaching the orchestral instru-
ments. Review of materials for beginning, intermediate, and advanced students.
Topics include: Strings, Brass, Woodwinds, and Percussion. May be repeated for credit when topics vary.

## 4554 Music Performance-Private Instruction V

4 hours credit. Prerequisite: MUS 3554 or equivalent and consent of instructor. 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 baritone, bassoon, clarinet, contrabass, cornet, flute, classical guitar, horn, oboe, organ, percussion, piano, saxophone, trombone, trumpet, tuba, viola, violoncello, voice. May be repeated for credit.
4561 Senior Recital
1 hour credit. Prerequisite: Consent of instructor.
A public performance presented as a culmination of the student's private instruction.
4562 Pedagogy of Solo Instruments
(2-0) 2 hours credit. Prerequisite: Upper-division standing in music.
Survey of techniques, practices and materials of teaching the solo instrument studied. Review of materials for beginning, intermediate and advanced students. Section 1. Classical Guitar; Section 2. Piano; Section 3. Organ; Section 4. Voice.

## 4581 Chamber Music

(1-0) 1 hour credit. Prerequisite: Upper-division standing in music.
Designed to provide students with knowledge of chamber music literature and to perform this repertoire.

## 4911-3 Independent Study

1-3 hours credit. Prerequisites: Permission in writing (form available) of the instructor, the student's Advisor, and the Division Director and Dean of the Coliege 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.

## 4953 Special Studies in Music

(3-0) 3 hours credit. Prerequisite: Consent of instructor.
An organized course offering specialized study not normally or not often available as part of the regular course offerings. Special Studies courses may be repeated for credit when the topics vary, but not more than 6 hours within any one discipline will apply to a bachelor's degree.

## 4983 Honors Seminar

3 hours credit. Prerequisite: Overall university GPA of 3.0 and GPA of 3.5 in music courses, and consent of instructor.
An undergraduate seminar limited to music majors in one of their last two semesters who qualify to gradaute with Division honors in Music. Intensive analytical/ historical study of a topic to be designated by the instructor.

## COLLEGE OF HUMANITIES AND SOCIAL SCIENCES <br> DIVISION OF ENGLISH, CLASSICS, AND PHILOSOPHY

## BACHELOR OF ARTS DEGREE IN ENGLISH

The minimum number of semester hours required for this degree, including the 50 hours of General Education Requirements, is $120 .{ }^{17}$
All candidates for the degree must complete:
A. 30 semester hours in English (in addition to the 9 hours of English in the General Education Requirements), 21 of which must be at the upperdivision level.

1. 15 semester hours of required courses are:

ENG 2223 Major British Writers I
ENG 2233 Major British Writers II
ENG 2253 The American Renaissance
ENG 3223 Shakespeare: The Early Plays or
ENG 3233 Shakespeare: The Later Plays
ENG 4973 Seminar For English Majors or
ENG 4983 Honors Seminar
2. 15 additional semester hours are required in English.
B. 12 semester hours of support work, at least 6 hours of which must be in a single field at the upper-division level and must be chosen from the following: 1) foreign languages, literature (including foreign literatures in translation), and culture and civilization; 2) linguistics (including linguistics courses designated ENG provided that they have not been counted toward the required 30 semester hours in English); 3) communications; 4) history, anthropology, and political science; 5) classics, philosophy, and humanities; 6) history and theory of art and of music; 7) other subjects as may be individually justified by the student and approved by the undergraduate advisor and Division Director. Students who select a support area other than number 5 may apply 6 hours of upper-division humanities courses or classics courses toward the English major.
C. 28 semester hours of free electives.

A student whose grade-point average in English prior to the beginning of his or her final year at UT San Antonio is 3.5 or above may petition the Division for permission to work for honors in English. A student seeking honors in English must complete ENG 4983 during his or her final year. To graduate with honors in English, a student must have a final grade-point average of 3.5 or above in the major.

[^28]
## COURSE DESCRIPTIONS <br> ENGLISH <br> (ENG)

## 1013 Freshman Composition

(3-0) 3 hours credit. Intensive study of the fundamentals of expository English prose. Emphasis on syntax, paragraph development, and organization of themes. Frequent practice in writing expository themes. (This course or the equivalent is required of all undergraduates in partial fulfillment of the General Education Requirements and must be taken during the first semester of the freshman year.)
1023 Introduction to the Humanitios I
(3-0) 3 hours credit. Prerequisite: ENG 1013 or the equivalent.
Close reading and discussion of thematically selected texts in literature and philosophy. (This course or the equivalent is required of all undergraduates in fulfilling the General Education Requirements and should be taken as the continuation of ENG 1013.)

## 1033 Introduction to the Humanities II

(3-0) 3 hours credit. Prerequisite: ENG 1023 or the equivalent.
Close reading and discussion of thematically selected texts in literature and philosophy. A continuation of ENG 1023. (Required of all students whose majors are in the College of Humanities and Social Sciences.)

## 1043 Introductlon to Communication

(3-0) 3 hours credit.
Survey of communication theory including intrapersonal, small group, and mass media. Practice in oral communication through classroom exercises in public speaking and small group discussion.
2213 Introduction to the Study of Literature
(3-0) 3 hours credit. Prerequisite: ENG 1023 or the equivalent.
A study of critical principles and literary concepts through an investigation of poetry, drama, and fiction.

## 2223 Major British Writers I

(3-0) 3 hours credit. Prerequisite: ENG 1023 or the equivalent.
A study of representative works of at least six major writers from Chaucer to Johnson.

## 2233 Major British Writers II

(3-0) 3 hours credit. Prerequisite: ENG 2223 or the equivalent.
A study of representative works of at least six major writers from Blake to T. S. Eliot.

## 2253 The American Renalssance

(3-0) 3 hours credit. Prerequisite: ENG 1023 or the equivalent.
An intensive study of the major forms and traditions of American literature from 1820 to 1860 with emphasis on Poe, Hawthorne, Melville, Emerson, Thoreau, Whitman, and Dickinson.

## 2273 Topics in Popular Literature

(3.0) 3 hours credit. Prerequisite: ENG 1023 or the equivalent. Critical readings in one of the following popular modes: Science Fiction, Gothic Fiction, Western Fiction, and Detective Fiction. May be repeated for credit when topics vary.

## 2323 Creative Writing: Prose

(3.0) 3 hours credit. Prerequisite: ENG 1023 or the equivalent.

Intensive practice and development of techniques in the writing of creative prose.

## 2333 Creative Writing: Poetry

(3-0) 3 hours credit. Prerequisite: ENG 1023 or the equivalent.
Intensive practice and development of techniques in the writing of poetry.

## 2413 Technical Writing

(3-0) 3 hours credit. Prerequisite: ENG 1023 or the equivalent.
Techniques of expository writing, particularly adapted to students in technological and scientific subjects.
3033 Contemporary American Literature
(3-0) 3 hours credit. Prerequisite: ENG 1023 or the equivalent.
An intensive study of verse and prose fiction of the last two decades as it relates to American literary traditions and thought.

## 3043 Black Literature in America

(3-0) 3 hours credit. Prerequisite: ENG 1023 or the equivalent.
A comprehensive survey of the works of Black writers in America from the eighteenth century to the present; imaginative literature, and folk literature will be studied.

## 3113 Studies in Individual Authors

(3-0) 3 hours credit. Prerequisite: ENG 1023 or the equivalent.
A comprehensive study of the works of an individual English or American author, or of several authors studied in relation to one another. The writers studied may be selected from the following: Spenser, Marlowe, Milton, Pope, Hardy, Joyce, and Faulkner. May be repeated for credit when authors vary.

## 3123 Modern Fiction

(3-0) 3 hours credit. Prerequisite: ENG 1023 or the equivalent.
A critical survey of American, British, and Continental fiction of the twentieth century studied intensively in relation to the development of characteristically modern techniques.

## 3133 Women in Literature

(3-0) 3 hours credit. Prerequisite: ENG 1023 or the equivalent.
A study of the presentation of women and feminist issues in verse, fiction, and non-fiction prose of the nineteenth and twentieth centuries. Both men and women writers will be read.

## 3213 Chaucer

(3-0) 3 hours credit. Prerequisite: ENG 2223 or the equivalent.
Critical study of the Canterbury Tales and other poems read in Middle English.

## 3223 Shakespeare: The Early Plays

(3-0) 3 hours credit. Prerequisite: ENG 1023 or the equivalent.
Critical study of at least ten comedies, histories, and tragedies from the earlier period (1590-1601).

## 3233 Shakespeare: The Later Plays

(3-0) 3 hours credit. Prerequisite: ENG 1023 or the equivalent.
Critical study of at least ten comedies, tragedies, and romances from the later period (1602-1613). ENG 3223 is not prerequisite to ENG 3233.

## 3243 The English Novel

(3-0) 3 hours credit. Prerequisite: ENG 1023 or the equivalent.
A critical survey of selected novels of the eighteenth and nineteenth centuries with emphasis on the literary qualities of the works.

## 3253 The American Novel

(3-0) 3 hours credit. Prerequisite: ENG 1023 or the equivalent.
Reading and discussion of representative American novels from the beginnings to the present.

## 3313 Advanced Composition

(3-0) 3 hours credit. Prerequisite: ENG 1023 or the equivalent. Extensive practice in the writing of expository and argumentative prose.

## 3323 History of the English Language

(3-0) 3 hours credit. Prerequisite: ENG 1023 or the equivalent.
A historical survey of the development of the sounds and grammatical structure of the English language.

## 3333 Structure of Modern English

(3-0) 3 hours credit. Prerequisite: ENG 1023 or the equivalent.
Description of English syntax; the concept of Standard English; the variety (both regional and social) of modern English. Attention to the pedagogical and social questions raised concerning bidialectalism.

## 3343 Introduction to English Linguistics

(3-0) 3 hours credit. Prerequisite: ENG 1023 or the equivalent.
Introduction to linguistics and to the history of language study. Consideration of the differences between traditional grammar and current linguistic theory. Description of English phonology and semantics; discussion of such topics as language acquisition and the teaching of reading.
3353 The Latin and Greek Element in English
(3-0) 3 hours credit. Prerequisite: ENG 1023 or the equivalent.
Study of the Latin and Greek origins of English vocabulary, including common Latin and Greek prefixes, suffixes, and roots. Attention to semantic evolution of selected words.
3373 Children's Literature
(3-0) 3 hours credit. Prerequisite: ENG 1023 or the equivalent.
A survey from a literary perspective of the kinds of reading available for children and young adolescents; poetry, drama, fairy tale, myth, biography, science fiction, mystery, fantasy, modern realism. Both the traditional "classics" and the current trends in children's literature will be considered.
4003 The Restoration and Eighteenth-Century Poets
(3-0) 3 hours credit. Prerequisite: ENG 2213 or 2223 or the equivalent.
An intensive study of the chief Restoration and eighteenth-century poets with emphasis on Dryden, Pope, Thomson, and Burns.
4013 The Metaphysical Poets
(3-0) 3 hours credit. Prerequsite: ENG 2213 or 2223 or the equivalent.
An intensive study of the chief metaphysical poets with emphasis on Donne, Herbert, Crashaw, Marvell, and Vaughan.
4023 The Romantic Poets
(3-0) 3 hours credit. Prerequisite: ENG 2213 or 2223 or the equivalent.
An intensive study of the chief British romantic poets with emphasis on Blake, Wordsworth, Coleridge, Byron, Keats, and Shelley.
4033 Literary Genres
(3-0) 3 hours credit. Prerequisite: ENG 2213 or 2223 or the equivalent.
An intensive study of a single genre such as comedy, tragedy, allegory, satire, or epic. May be repeated for credit when topics vary.

## 4043 The Victorian Poets

(3-0) 3 hours credit. Prerequisite: ENG 2213 or 2223 or the equivalent.
An intensive study of the chief Victorian poets with emphasis on Tennyson, Browning, Arnold, and Hopkins.

## 4053 Modern British and American Poetry

(3-0) 3 hours credit. Prerequisite: ENG 2213 or 2223 or the equivalent.
An intensive study of the chief modern poets with emphasis on Yeats, Eliot, Pound, Auden, Stevens, Williams, and Lowell.

## 4911-3 Independent Study

1.3 hours credit. Prerequisite: Permission in writing (form available) of the instructor, the student's advisor, and the Division 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 hours of independent study, regardless of discipline, will apply to a bachelor's degree.

## 4953 Special Studies in English

(3-0) 3 hours credit. Prerequisite: Consent of instructor.
An organized course offering specialized study not normally or not often available as part of the regular course offerings. Special Studies courses may be repeated
for credit when the topics vary, but not more than 6 hours within any one discipline will apply to a bachelor's degree.

## 4973 Seminar for English Majors

(3-0) 3 hours credit. Prerequisite: ENG 2223 or the equivalent.
An undergraduate seminar limited to English majors in their final year. Intensive study of a genre, topic, or a period in English or American literature; content varies with each instructor.

## 4983 Honors Seminar

(3-0) 3 hours credit. Prerequisite: Acceptance into English Honors program.
An undergraduate seminar limited to English majors in their final year who wish to graduate with honors in English. Intensive study of a genre, topic, or a period in English or American literature; content varies with each instructor.

## BACHELOR OF ARTS DEGREE IN HUMANITIES

The Bachelor of Arts Degree in Humanities is an interdisciplinary degree program consisting of courses drawn from a number of academic disciplines.
The minimum number of semester hours required for this degree, including the 50 hours of General Education Requirements, is $120 .{ }^{18}$
All candidates for the degree must complete:
A. 33 semester hours in an interdisciplinary major, consisting of:

1. 9 semester hours of core courses:

CLA 2013 Introduction to Ancient Greece or
CLA 2023 Introduction to Ancient Rome
HUM 2013 Theory of Literature
HUM 3413 Man and the Cosmos
2. 12 semester hours of upper-division work in Humanities, including HUM 4973, Seminar for Humanities Majors or HUM 4983, Honors Seminar.
3. 12 hours of upper-division work, 6 hours each in any two of the following: (a) classics, (b) philosophy, (c) a modern literature (Spanish, French, German, Russian, or English), including foreign language literature courses in translation, and culture and civilization courses.
B. 9 semester hours of support work in the form of an interdisciplinary course of studies, developed in conjunction with the Humanities advisor, and designed to aid the student's integration of his or her program in terms of central themes, focal problems, or areas of historical interest. Normally courses are selected in history, history and theory of art and music, a second modern literature, classics, and philosophy.
C. 28 semester hours of free electives.

A student whose grade-point average in the Interdisciplinary Humanities major prior to the beginning of his or her final year is 3.5 or above may petition the Humanities advisor for permission to work for honors. A student seeking honors must complete HUM 4983 during his or her final year. To graduate with honors in Humanities, a student must have a final grade-point average of 3.5 or above in the major.

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# COURSE DESCRIPTIONS HUMANITIES (HUM) 

## 1053 Fine Arts - Humanities

(3-0) 3 hours credit. Prerequisite: ENG 1023 or the equivalent.
A study of art in terms of form, meaning, and function and a review of the literature on the arts by artists, aestheticians, art critics, and art historians to enable the student to write as well as speak about viewing, understanding, and evaluating works of art and architecture.

## 2013 Theory of Literature

(3.0) 3 hours credit. Prerequisite: ENG 1023 or the equivalent.

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.

## 3013 History of Ideas

(3-0) 3 hours credit. Prerequisite: ENG 1023 or the equivalent.
A survey of the development and influence of major philosophical, ethical, and aesthetic conceptions in Western civilization from ancient times to the present.

## 3023 The Medieval World

(3-0) 3 hours credit. Prerequisite: ENG 1023 or the equivalent.
An interdisciplinary investigation of medieval thought and culture as exemplified in major works of literature, philosophy, theology, and history.

## 3033 The Renaissance Idea of Man

(3-0) 3 hours credit. Prerequisite: ENG 1023 or the equivalent.
An interdisciplinary investigation of Renaissance thought and culture as exemplified in major works of literature, philosophy, theology, and history; emphasis on the fundamental changes in the Western man's view of his world and of himself.

## 3053 The Romantic Age

(3-0) 3 hours credit. Prerequisite: ENG 1023 or the equivalent.
An interdisciplinary investigation of the development of ideas in literature, philosophy, art, politics, and society at the end of the eighteenth and beginning of the nineteenth century. Such figures as Rousseau, Kant, Wordsworth, Goethe, and Goya will be considered.

## 3073 Oriental Literature

(3-0) 3 hours credit. Prerequisite: ENG 1023 or the equivalent.
A study of classic literary works of the Near and Far East, with emphasis on China, India, and Japan. Readings will be supplemented by some study of corresponding representations in the fine arts.

## 3113 The Hero in Fiction

(3-0) 3 hours credit. Prerequisite: ENG 1023 or the equivalent.
Critical study of the changing conception of the hero from classical antiquity to modern times; the impact of society on the metamorphosis of the hero as archetype, image, and symbol.

## 3213 The Christian Classics

(3-0) 3 hours credit. Prerequisite: ENG 1023 or the equivalent.
An intensive survey of selected works of such writers as Augustine, Dante, Milton, Bunyan, Pascal, Hopkins, and Eliot, studied in the context of Christian thought.

## 3263 Modern European Novel

(3-0) 3 hours credit. Prerequisite: ENG 1023 or the equivalent.
Critical study of selected Continental novelists of the last hundred years; emphasis on works which treat social or philosophical problems.

## 3313 The Humanistic Impact of Sclentific Revolution

(3-0) 3 hours credit. Prerequisite: ENG 1023 or the equivalent.
Critical, interdisciplinary study of one or more major scientific revolutions - e.g.,
the Copernican, Galilean-Newtonian, Darwinian, or Einsteinian Revolutions - and
of humanistic responses to such emergent scientific world-views. May be repeated for credit when topics vary.

## 3413 Man and the Cosmos

(3-0) 3 hours credit. Prerequisite: ENG 1023 or the equivalent. Critical interdisciplinary study of man's search for his place in the universe; the impact of scientific and philosophical inquiry on man's world-view as expressed in literature.

## 3423 Intercultural Humanities Perspectives

(3-0) 3 hours credit. Prerequisite: ENG 1023 or the equivalent.
Interdisciplinary study of differing visions of human nature and human values; emphasis upon questions of cultural diversity and cross-cultural influences. Topics include traditions in Far Eastern, Indic, African, Semitic, Pre-Columbian, and Western societies. May be repeated for credit when topics vary.
3433 The Popular Arts
(3-0) 3 hours credit. Prerequisite: ENG 1023 or the equivalent.
Interdisciplinary study of the popular arts of particular historical periods and cultural traditions. Topics include specific trends, issues, or forms of popular culture. May be repeated for credit when topics vary.

## 3513 Fiction, Drama, and Film

(3-0) 3 hours credit. Prerequisite: ENG 1023 or the equivalent.
Interdisciplinary study of thematic, stylistic, technical, and formal interactions and correlations in literary, dramatic, and cinematic art.
3523 Interactions in the Arts
(3-0) 3 hours credit. Prerequisite: ENG 1023 or the equivalent.
Interdisciplinary study of historical or thematic interactions and correlations in the literary, visual, and performing arts. Topics include specific themes in art within a national artistic expression, across cultural traditions and within particular periods. May be repeated for credit when topics vary.
3623 National Cultures and Civilizations
(3-0) 3 hours credit. Prerequisite: ENG 1023 or the equivalent.
The cultural life of the respective geographic regions and social strata of individual nations of Europe and America as reflected in, and interpreted by, its literary production. Individual topics include: France, Germany, Spain, Russia, the nations of Spanish-America. May be repeated for credit when topics vary.

### 4911.3 Independent Study

1-3 hours credit. Prerequisite: Permission in writing (form available) of the instructor, the student's advisor, and the Division 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 hours of independent study, regardless of discipline, will apply to a bachelor's degree.
4953 Special Studies in Humanities
( $3-0$ ) 3 hours credit. Prerequisite: Consent of instructor.
An organized course offering specialized study not normally or not often available as part of the regular course offerings. Special Studies courses may be repeated for credit when the topics vary, but not more than 6 hours within any one discipline will apply to a bachelor's degree.
4973 Seminar for Humanities Majors
(3-0) 3 hours credit.
An undergraduate seminar limited to Humanities majors in their final year. Content varies with each instructor.
4983 Honors Seminar
(3-0) 3 hours credit. Prerequisite: Acceptance into Humanities Honors program. An undergraduate seminar limited to Humanities majors in their final year who wish to graduate with honors in Humanities. Content varies with each instructor.

# COURSE DESCRIPTIONS CLASSICS (CLA) 

## 2013 Introduction to Ancient Greece

(3-0) 3 hours credit. Prerequisite: ENG 1023 or the equivalent.
An introduction to the civilization and cultural achievements of ancient Greece, including highlights of history, religion, philosophy, literature, and art.
Credit cannot be earned for both CLA 2013 and CLA 2113.

## 2023 Introduction to Ancient Rome

(3-0) 3 hours credit. Prerequisite: ENG 1023 or the equivalent.
An introduction to the civilization and cultural achievements of ancient Rome, including highlights of history, religion, philosophy, literature, and art.
Credit cannot be earned for both CLA 2023 and CLA 2113.

## 3023 Classical Mythology

(3-0) 3 hours credit. Prerequisite: ENG 1023 or the equivalent.
Critical survey of ancient Greek and Roman mythology, both religious and secular; attention to current theories of myth and to the use of myth in ancient literature.

## 3033 Homer and the Tragic Vision

(3-0) 3 hours credit. Prerequisite: ENG 1023 or the equivalent.
Critical study of the tragic literature of ancient Greece with emphasis on the lliad and the dramas of Aeschylus, Sophocles, and Euripides.

## 3043 Classical Comedy

(3-0) 3 hours credit. Prerequisite: ENG 1023 or the equivalent.
Critical study of the comic literature of ancient Greece and Rome with emphasis on the works of Aristophanes, Menander, Plautus and Terence, Petronius, and Apuleius.

## COURSE DESCRIPTIONS COMMUNICATION (COM)

## 2113 Public Speaking

(3-0) 3 hours credit. Prerequisite: ENG 1043 or consent of instructor. Theory and practice of speaking in formal settings. Exercises in preparation, adaptation and delivery of oral presentations.

## 2801 Forensic Activities

(1-0) 1 hour credit. Prerequisite: consent of instructor.
Preparation and presentation of oral argument or speaking in competitive situations. May be repeated for credit. Does not count toward major requirements.
3013 Oral Interpretation
(3-0) 3 hours credit.
Theory and practice of oral delivery of readings. Selection and organization of materials for various audiences and consideration of presentational techniques.

## 3083 Language and Communication Theory

(3-0) 3 hours credit. Prerequisite: ENG 1043 or consent of instructor.
An overview of concepts, literature, and research concerning the role of language as approached from general semantics, information theory, psycho- and sociolinguistics with emphasis on the interpretive and motivational effects of language.
3113 Argumentation and Debate
(3-0) 3 hours credit. Prerequisite: ENG 1043 or consent of instructor.
Training in the preparation, construction, and critical analysis of argumentation. Exercises in oral communication in adversary situations.

## 3213 Relational Communication

(3-0) 3 hours credit. Prerequisite: ENG 1043 or consent of instructor. A focus on research and theory concerning the role and effects of communication in the creation and maintenance of human relationships such as friendships, marriage, family, etc.

## 3243 Persuasion

(3-0) 3 hours credit. Prerequisite: ENG 1043 or consent of instructor. The study of the use of oral communication to secure social cooperation through change of belief, attitude, and opinion with emphasis on application of theory to message construction and design and execution of persuasive campaigns.

## 3423 Rhetorical Theory

(3-0) 3 hours credit. Prerequisite: ENG 1043 or consent of instructor.
An overview of concepts, literature, and research methods utilized in rhetorical scholarship from classical times with emphasis on the contemporary rhetorical tradition.

## 3873 Speech Communication Pedagogy

(3-0) 3 hours credit. Prerequisite: COM 3083 or the equivalent. Fundamentals of communication, with emphasis on the effective presentation of speech communication concepts for classroom teachers. Objectives, materials, and procedures in directing class and co-curricular activities.

## 4953 Special Studies in Communication

(3-0) 3 hours credit. Prerequisite: ENG 1043 or consent of instructor.
An organized course offering 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 within any one discipline will apply to a bachelor's degree.

## COURSE DESCRIPTIONS PHILOSOPHY (PHI)

## 2013 Basic Philosophical Problems I

(3-0) 3 hours credit. Prerequisite: ENG 1023 or the equivalent.
An 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.

## 2023 Introduction to Ancient Phllosophy

(3-0) 3 hours credit. Prerequisite: ENG 1023 or the equivalent. An introduction to ancient philosophy through the study of Plato, Aristotie, Epicurus, and others; emphasis on the Greek contribution to the moral and political ideas of the Western world.

## 2033 Introduction to Modern Philosophy

(3-0) 3 hours credit. Prerequisite: ENG 1023 or the equivalent.
An introduction to modern philosophy, from the Renaissance to the present, through the study of Descartes, Locke, Hume, Leibniz, Kant, Kierkegaard, and others; emphasis on the relations of philosophy to the development of modern science, the social and political history of the Western world, and man's attempt to achieve a satisfactory world-view.

## 2043 Introductory Logic

(3-0) 3 hours credit. Prerequisite: ENG 1023 or the equivalent.
Study of the principles of valid argument: definition, deductive and inductive inference, fallacies.

## 3003 Basic Philosophical Problems II

(3-0) 3 hours credit. Prerequisite: PHI 2013 or PHI 2043 or the equivalent.
A continuation of PHI 2013 Basic Philosophical Problems; reinforces and extends the analytic and critical skills fostered in the introductory course through the study
of problems in metaphysics, epistemology, ethics, political philosophy, and philosophy of religion, especially as these problems are dealt with in primary sources.

## 3013 Philosophy of Religion

(3-0) 3 hours credit. Prerequisite: ENG 1023 or the equivalent.
Examination of traditional religious beliefs and such concepts as faith and knowledge, mysticism and theology, existence and the nature of God, and the relation of religion to experience and social life.

## 3033 Philosophy of Science

(3-0) 3 hours credit. Prerequisite: PHI 2013 or PHI 2043 or the equivalent.
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.

## 3053 Philosoph; of Art

(3-0) 3 hours credit. Prerequisite: ENG 1023 or the equivalent.
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.

## 3063 World Religions

(3-0) 3 hours credit. Prerequisite: ENG 1023 or the equivalent. An examination of the origins, teachings, and development of the world's chief religious movements, including Hinduism, Buddhism, Shinto, Confucianism, Taoism, Sikhism, Jainism, Islam, Zoroastrianism, Judaism, and Christianity.
3073 Oriental Philosophy
(3-0) 3 hours credit. Prerequisite: ENG 1023 or PHI 2013 or the equivalent.
Examination of the philosophical and religious traditions of the East, with emphasis on China, India, and Japan.

## 3213 Ethics

(3-0) 3 hours credit. Prerequisite: ENG 1023 or PHI 2013 or the equivalent. Examination of ethical theory and of the nature and scope of ethical discourse with emphasis upon the concepts of the good, human happiness, self-realization, virtue, duty, responsibility, and the means-ends relationship; reading of selected classical and contemporary texts.

## 3223 Approaches to Knowledge and Reality

(3-0) 3 hours credit. Prerequisite: PHI 2013 or PHI 2043 or the equivalent.
Examination of the interrelations between 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, meaning and existence; reading of selected classical and contemporary texts.
3313 Contemporary Philosophy
(3-0) 3 hours credit. Prerequisite: PHI 2013 or PHI 2043 or the equivalent.
An intensive study of one or more of the major branches of twentieth-century thought: analytic philosophy, phenomenology, existentialism, and process philosophy. May be repeated for credit when topics vary.

## 3323 Studies in Individual Philosophers

(3-0) 3 hours credit. Prerequisite: PHI 2013 or PHI 2043 or the equivalent.
Critical reading and comparison of the chief works of two or more major philosophers. The philosophers studied vary from semester to semester and may be selected from one or more of the following: Plato, Aristotle, Augustine, Aquinas, Descartes, Spinoza, Locke, Hume, Kant, Hegel, and Marx. May be repeated for credit when topics vary.

## 3343 Issues in Contemporary Philosophy

(3-0) 3 hours credit. Prerequisite: PHI 2013 or the equivalent.
In-depth study of contemporary works which focus on specific issues in one or more of the following areas: philosophy of language; philosophy of mind; logic; philosophy of religion; philosophy of science; epistemology; political philosophy; or ethics, including medical and legal ethics. May be repeated for credit when topics vary.

## DIVISION OF FOREIGN LANGUAGES

## BACHELOR OF ARTS DEGREE IN FRENCH

The minimum number of semester hours required for this degree, including the 50 hours of General Education Requirements, is $120 .{ }^{10}$
All candidates for the degree must complete:
A. 30 semester hours in the major, all of which must be at the upperdivision level,

1. 15 semester hours of required courses are:

LNG 3813 Introduction to Linguistics
FRN 3023 Advanced Composition and Conversation
FRN 3313 Introduction to French Literary Studies
FRN 3413 French Literature and Culture, 1000-1700
FRN 3423 French Literature and Culture, 1700-Present
2. 15 additional semester hours are required in French.
B. 18 semester hours of support work, 12 of which must be at the upperdivision level, in a specific support area or in selected areas to be chosen in consultation with the student's advisor, and of which 3 must be chosen, upon prior approval of the Advisor of Record, from:

GER 3333 German Literature in English Translation
RUS 3333 Russian Literature in English Translation
SPN 3333 Hispanic Literature in English Translation
C. 22 semester hours of free electives.

# COURSE DESCRIPTIONS <br> FRENCH (FRN) 

## 1013 Elementary French I

(2-2) 3 hours credit.
Fundamentals of French, aimed at developing abilities in understanding, speaking, reading, and writing. Students receiving credit for 1013 may not receive credit for 1113.

1023 Elementary French II
(2-2) 3 hours credit. Prerequisite: FRN 1013 or the equivalent.
Fundamentals of French, aimed at developing abilities in understanding, speaking, reading, and writing. A continuation of FRN 1013. Students receiving credit for 1023 may not receive credit for 1123.

## 1113 Reading French for Beginners I

(3-0) 3 hours credit.
Development of reading techniques; stress on syntactical structures and vocabulary acquisition. Progression through various forms of written expression. Students receiving credit for 1113 may not receive credit for 1013.

## 1123 Reading French for Beginners II

(3-0) 3 hours credit. Prerequisite: FRN 1113 or the equivalent.
Development of reading techniques; stress on syntactical structures and vocabulary acquisition. Progression through various forms of written expression. A continuation of FRN 1113. Students receiving credit for 1123 may not receive credit for 1023.

[^30]
## 2013 Intermediate French I

(2-2) 3 hours credit. Prerequisite: FRN 1023 or the equivalent.
Continued skill development in comprehension, speaking, reading and writing French. Review of French grammar, and development of reading techniques. Additional exposure to French culture. Increased vocabulary, oral practice and readings in areas such as the humanities and social sciences, health, business, communication, education and the natural sciences. Students receiving credit for 2013 may not receive credit for 2113.

## 2023 Intermediate French II

(2-2) 3 hours credit.Prerequisite: FRN 2013 or the equivalent.
Continued skill development in comprehension, speaking, reading and writing French. Review of French grammar, and development of reading techniques. Additional exposure to French culture. Increased vocabulary, oral practice and readings in areas such as the humanities and social sciences, health, business, communication, education and the natural sciences. A continuation of FRN 2013. Students receiving credit for 2023 may not receive credit for 2123.

## 2113 Intermediate French Reading I

(3-0) 3 hours credit. Prerequisite: FRN 1123 or the equivalent.
Readings in various disciplines aimed at familiarity with different types of vocabulary and language structure. Students receiving credit for 2113 may not receive credit for 2013.

## 2123 Intermediate French Reading II

(3-0) 3 hours credit. Prerequisite: FRN 2113 or the equivalent.
Readings in various disciplines aimed at familiarity with different types of vocabulary and language structure. Further study of lexical and syntactical matters aimed at increased speed and comprehension in reading. A continuation of FRN 2113. Students receiving credit for 2123 may not receive credit for 2023.

## 3013 Applled French LInguistics and Phonetics

(3-1) 3 hours credit. Prerequisite: LNG 3813.
Practical application of linguistic principles to the teaching of French. Attention given to problems involving the contrasting structures of French and English. Exercises in sound discrimination and phonetic transcription based on the articulatory description of standard French.

## 3023 Advanced Composition and Conversation

(3-0) 3 hours credit. Prerequisite: FRN 2023 or FRN 2123 or consent of instructor. Selected grammar review. Theme writing and diagnosis of the grammatical problems of individual students. Conversation correlated with readings and reports, aimed at increasing oral fluency by vocabulary expansion and the active formation and use of grammatical sentences.

## 3113 Introduction to French Linguistics

(3-0) 3 hours credit. Prerequisite: FRN 2023 or FRN 2123, and LNG 3813 or consent of instructor.
Application to French of the basic principles of analysis and description of language structure. Attention given to structural regularities at the levels of sound, word formation, and syntax; also to the relationship between some irregularities and historical change and to dialectal variation.
3313 Introduction to French Literary Studies
(3-0) 3 hours credit.Prerequisite: FRN 2023 or FRN 2123 or consent of instructor.
An introduction to the concept and functions of literature through representative masterpieces of epics, poetry, drama, and fiction written in French. Critical terminology, general literary principles and theory. Plot, design, pattern, character and type, image and archetype, metrics and prosody. Traditional literary genres and their structure. Emphasis on the traits, problems and solutions common to the discipline of literary studies.

[^31]
## 3413 French Literature and Culture, $1000 \cdot 1700$

(3-0) 3 hours credit. Prerequisite: FRN 2013 or FRN 2113 or consent of instructor. Selected masterpieces from the Middle Ages to 1700 are studied as examples of central moments in French culture and literary history. The course presents the shape of French civilization emphasizing the major periods, styles, literary movements, generations, the political, social and philosophical trends in each epoch and the major figures.

## 3423 French Literature and Culture, 1700-Present

(3-0) 3 hours credit. Prerequisite: FRN 2013 or FRN 2113 or consent of instructor. Selected masterpieces from 1700 to the present are studied as examples of central moments in French culture and literary movements, generations, the political, social and philosophical trends in each epoch and the major figures.

## 3513 Medieval French Literature

(3-0) 3 hours credit. Prerequisite: FRN 3313.
Poetic genres and poetic languages. The Song of Roland and epic poetry. Chretien de Troyes and the "Roman Courtois." Origin and development of lyrical forms from Provencal poetry to Villon. Romance of the Rose and the love romance. Aucassin and Nicolette and narrative prose. Origins and development of the theater.

## 3523 French Renaissance and Baroque

(3-0) 3 hours credit. Prerequisite: FRN 3313.
Definition of terms. Examination of the Renaissance ideal. The thinkers: Bude, Lefevre d'Etaples, Rabelais, Montaigne. The poets: Marot, Ecole Lyonnaise, the Pleiade. The Religious Question. D'Aubigne and the poets of the Baroque. The theater and the Baroque: from Garnier to Rotrou. The Memoires: Brantome, de Retz.
3533 The Classical Moment - The Generation of $\mathbf{1 6 6 0}$
(3-0) 3 hours credit. Prerequisite: FRN 3313.
Definition of French classicism. Examination of its style and major themes. Study of major and minor genres. Role of the court and salon life. Major texts of: Moliere, Racine, La Fontaine, Bossuet, Pascal, La Bruyere, Fenelon, etc.

## 3543 The French Enilightenment

(3-0) 3 hours credit. Prerequisite: FRN 3313.
Literature and philosophy. The encyclopedists. The key figures and their major works: Montesquieu, Voltaire, Diderot, Rousseau.
3553 French Nineteenth Century: Romanticism, Realism, Naturalism
(3-0) 3 hours credit.Prerequisite: FRN 3313.
Definition of each literary and cultural movement. The history, intellectual positions, central themes, key figures. Analysis of the major representative works in all genres: Chateaubriand, Lamartine, Hugo, Balzac, Flaubert, Zola, etc.
3563 The Belle Epoque: 1885-1914
(3-0) 3 hours credit. Prerequisite: FRN 3313.
The fin de siecle aesthetic and Art Nouveau. Cosmopolitanism versus nationalism. The Dreyfus Affair. The role of Paris. The inter-relations of the arts. The divergence between Right Bank and Left Bank literature. The sense of the modern era: renewal and nostalgia. Writers: Huysmans, Barres, Gide, Peguy, Valery-Larbaud, Proust. Poets and dramatists: Verhaeren, Mallarme, Claudel, Valery, Segalen, St. John Perse, Apollinaire.

## 3573 The Francophonic World

(3-0) 3 hours credit. Prerequisite: FRN 3313.
Negritude in Africa and the Caribbean, Haiti, Quebec and Louisiana. The study of major literary-cultural movements, the major writers and the masterpieces. Senghor, Cesaire, Damas, Ouologuem, Roumain, Saint-Denys-Garneau, Anne Hebert.

## 4413 The French Novel

(3-0) 3 hours credit. Prerequisite: FRN 3313.
The rise and growth of the chanson de geste and its passage from the novel in verse to the novel in prose. Narrative techniques, topoi, thematics, narrative strategies, point of view, character analysis, philosophical and social commentary.

## 4423 The French Lyric

(3-0) 3 hours credit. Prerequisite: FRN 3313.
Basic fixed forms in French verse: ballad, rondeau, sonnet, etc. The rise, flowering, fall and rebirth of these forms in French. Emphasis on French verse from Baudelaire to the present. Prosody, grammar and syntax, rhetorical usages and traditional myths and metaphors. The prose poem and vers libre.

## 4433 The French Theater

(3-0) 3 hours credit. Prerequisite: FRN 3313.
A critical examination of the various theories of tragedy and comedy. The different genres within French comedy and tragedy. History and growth of the French comic and tragic traditions from the Middle Ages to the present. Stagecraft. Production. Textual analysis from both literary and theatrical points of view.

## 4443 The French Short Narrative

(3-0) 3 hours credit. Prerequisite: FRN 3313.
A critical survey of the growth, transmutation and variety of short fiction in French: fabliaux, lais, contes and nouvelles. Investigation of the roles of oral tradition and humanistic tradition in nurturing the emergence of the modern short story with Merimee. The significance of the supernatural in the short story.
4513 Contemporary French Culture and Literature from 1945-Present
(3-0) 3 hours credit. Prerequisite: FRN 3313.
From the existential novel of Camus to the New Novel of Butor and Robbe-Grillet, etc., to the New Novel of Sollers, Wittig, etc. The prose poetry of Ponge, Char, St.John-Perse. The new poetic movements: poesie concrete, poesie lettriste. The theater of the Absurd and its aftermath (Ionesco, Genet, Beckett, Arrabal). The new critical wave from Barthes to Kristeva: Communications, Tel Quel, Semiotica.

## 4813 Masterpieces in French Literature

(3-0) 3 hours credit.Prerequisite: FRN 3313.
Only the supreme masterpiece is analyzed, studied and discussed per semester. Emphasis is placed on the use of various contemporary critical methodologies to examine and interpret the text. Examples: The Essais of Montaigne, the Roman de la Rose, The Grail Cycle, Rabelais, Les Tragiques of d'Aubigne, the Memories of Saint-Simon, Les Fleurs du Mal of Baudelaire, A La Recherche Du Temps Perdu of Proust. May be repeated for credit when topics vary.

## 4823 Great Themes in French Literature

(3-0) 3 hours credit.Prerequisite: FRN 3313.
This course brings together important texts about some central theme. Examples: love, evil, utopias, the vision of society, the role of women, the spiritual quest, etc. May be repeated for credit when topics vary.

## 4911-3 Independent Study

1.3 hours credit. Prerequisites: Permission in writing (form available) of the instructor, the student's advisor, and the Division 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 hours of independent study, regardless of discipline, will apply to a bachelor's degree.

## 4953 Special Studies In French

(3-0) 3 hours credit. Prerequisite: Consent of instructor.
An organized course offering specialized study not normally or not often available as part of the regular course offerings. Special Studies courses may be repeated for credit when the topics vary, but not more than 6 hours within any one discipline will apply to a bachelor's degree.

## BACHELOR OF ARTS DEGREE IN GERMAN

The minimum number of semester hours required for this degree, including the 50 hours of General Education Requirements, is $120 .{ }^{20}$

[^32]All candidates for the degree must complete:
A. 30 semester hours in the major, all of which must be at the upperdivision level,

1. 15 semester hours of required courses are:

GER 3023 Advanced Composition and Conversation
GER 3313 Introduction to German Literary Studies
GER 3413 German Literature and Culture I:
Middle Ages to 1700
GER 3423 German Literature and Culture II: 1700 to the Present
LNG 3813 Introduction to Linguistics
2. 15 additional semester hours are required in German, 6 of which must be at the 4000 level, exclusive of Independent Study.
B. 18 semester hours of support work, 12 of which must be at the upperdivision level, in a specific support area or in selected areas to be chosen in consultation with the student's advisor, and of which 3 must be chosen, upon prior approval of the Advisor of Record, from:

FRN 3333 French Literature in English Translation
RUS 3333 Russian Literature in English Translation
SPN 3333 Hispanic Literature in English Translation
C. 22 semester hours of free electives.

## COURSE DESCRIPTIONS GERMAN (GER)

## 1013 Elementary German I

(2-2) 3 hours credit.
Fundamentals of German aimed at developing abilities in speaking, understanding, reading and writing. Students receiving credit for 1013 may not receive credit for 1113.

## 1023 Elementary German II

(2-2) 3 hours credit. Prerequisite: GER 1013 or the equivalent.
Fundamentals of German, aimed at developing abilities in speaking, understanding, reading and writing. A continuation of GER 1013. Students receiving credit for 1023 may not receive credit for 1123.

## 1113 Reading German for Beginners I

(3-0) 3 hours credit.
Development of reading techniques; stress on syntactical structures and vocabulary acquisition. Progression through various forms of written expression. Students receiving credit for 1113 may not receive credit for 1013.

## 1123 Reading German for Beginners II

(3-0) 3 hours credit. Prerequisite: GER 1113 or the equivalent.
Development of reading techniques; stress on syntactical structures and vocabulary acquisition. Progression through various forms of written expression. A continuation of GER 1113. Students receiving credit for 1123 may not receive credit for 1023.

2013 Intermediate German I
(2-2) 3 hours credit. Prerequisite: GER 1023 or the equivalent.
Continued skill development in comprehension, speaking, reading and writing German. Review of German grammar, and development of reading techniques. Additional exposure of Germanic culture. Increased vocabulary, oral practice and readings in areas such as the humanities and social sciences, health, business, com-
munication, education and the natural sciences. Students receiving credit for 2013 may not receive credit for 2113.

## 2023 Intermediate German II

(2-2) 3 hours credit. Prerequisite: GER 2013 or the equivalent.
Continued skill development in comprehension, speaking, reading and writing German. Review of German grammar, and development of reading techniques. Additional exposure to Germanic culture. Increased vocabulary and oral practice and readings in areas such as the humanities and social sciences, health, business, communication, education and the natural sciences. A continuation of GER 2013. Students receiving credit for 2023 may not receive credit for 2123.

## 2113 Intermediate German Reading I

(3-0) 3 hours credit. Prerequisite: GER 1123 or the equivalent.
Readings in various disciplines aimed at familiarity with different types of vocabulary and language structure. Students receiving credit for 2113 may not receive credit for 2013.

## 2123 Intermediate German Reading II

(3-0) 3 hours credit. Prerequisite: GER 2113.
Readings in various disciplines aimed at familiarity with different types of vocabulary and language structure. Further study of lexical and syntactical matters aimed at increased speed and comprehension in reading. A continuation of GER 2113. Students receiving credit for 2123 may not receive credit for 2023.

## 3013 German Phonetics and Phonology

(3-1) 3 hours credit. Prerequisite: GER 2023 or GER 2123, and LNG 3813, or consent of instructor.
Articulatory description of the sounds of standard German. Exercises in sound discrimination, pronunciation, intonation and phonetic transcription. Description of the phonological grammar of German. Problems in analysis.

## 3023 Advanced Composition and Conversation

(3-0) 3 hours credit. Prerequisite: GER 2023, GER 2123 or consent of instructor. Conversation correlated with readings, reports and expository writing, aimed at increasing oral and written fluency by vocabulary expansion and formation of grammatical sentences. Attention given to individual student's pronunciation, word choice and syntax. Readings deal with contemporary social, political, intellectual and artistic interests and issues. May be repeated once for credit.

## 3053 Advanced Grammar and Stylistics

(3-0) 3 hours credit. Prerequisite: GER 3023.
A study of selected syntactic characteristics of the language with special attention to grammatical categories, subordination and verb systems including verbal aspects.

## 3113 Introduction to German Linguistics

(3-0) 3 hours credit. Prerequisite: GER 2023 and LNG 3813, or consent of instructor.
Analysis of ambiguity and paraphrase relations leading to description of underlying structures for simple and complex sentences with identification of principles of derivation. News Value rules; time phrases and tense usage. General emphasis on questions of syntax.

## 3123 Applied German Linguistics

(3-0) 3 hours credit. Prerequisite: GER 2023 and LNG 3813, or consent of instructor.
Contrastive analysis of underlying representations and derivational principles of English and German phonology and syntax. Techniques for pedagogical presentation and drill. Resource materials and associations for the professional German teacher.

## 3313 Introduction to German Literary Studies

(3-0) 3 hours credit. Prerequisite: GER 2023, GER 2123, or consent of instructor.
An introduction to the basic concepts and issues of literary history, theory and criticism in conjunction with a reading of selected works from the German literary
tradition. Genre and period concepts, the literary canon and evaluation, and conceptions of the nature and function of literature. Practice in writing a coherent literary essay in German.
3333 German Literature in English Translation
(3-0) 3 hours credit.
May not be applied to a major in German, and does not fulfill language requirement. Major works of German literature. Themes, genres, and movements.

## 3413 German Literature and Culture I: Middle Ages to $\mathbf{1 7 0 0}$

(3-0) 3 hours credit. Prerequisite: GER 3313, or consent of instructor.
Selected works from the medieval period to 1700 are studied as examples of central moments in German culture and literary history. The course presents the shape of German civilization emphasizing the major periods, styles, literary movements and generations, the economic, social, political and philosophical trends in each epoch and the major figures.
3423 German Literature and Culture II: $\mathbf{1 7 0 0}$ to the Present
(3-0) 3 hours credit. Prerequisite: GER 3313, or consent of instructor.
Selected works from 1700 to the present are studied as examples of central moments in German culture and literary history. The course presents the shape of German civilization emphasizing the major periods, styles, literary movements and generations, the economic, social, political and philosophical trends in each epoch, and the major figures.
3513 Medieval German Studies
(3-0) 3 hours credit. Prerequisite: GER 3313, or consent of instructor.
Critical survey of medieval German literature in the context of feudal society in Central Europe. The Nibelungenlied and oral tradition, Minnesang and other varieties of lyric poetry, the romances. Readings in modern translation.
3523 Renaissance, Reformation and Baroque Studies
(3-0) 3 hours credit. Prerequisite: GER 3313, or consent of instructor.
German literary, religious, philosophical and polemical writings from 1400 to 1700 in the European framework of transition from the feudal to the earliest bourgeois structures of society. Selected humanists, Luther and his critics, Meistersang, the Faust chapbook, the emblem books, religious poetry and drama of the Reformation and Counterreformation.
3533 Eighteenth Century Studies
(3-0) 3 hours credit. Prerequisite: GER 3313, or consent of instructor.
Presentation of the literature and related writings of the eighteenth century in their artistic and ideological diversity. Discussion of the concepts of Pietism, Rococo, Enlightenment, Empfindsamkeit, Sturm and Drang, and Classicism. Emphasis on literary debates, and reception of English and French literature, rise of national consciousness, reponses to the French Revolution.
3543 Nineteenth Century Studies I
(3-0) 3 hours credit. Prerequisite: GER 3313, or consent of instructor.
German literature and related writings from 1800 to 1830. Emphasis on literary theory and the ideological implications of literary practice in the Romantic schools.
3553 Nineteenth Century Studies II
(3-0) 3 hours credit. Prerequisite: GER 3313 , or consent of instructor.
Vormarz, Realism and Naturalism as literary and sociopolitical phenomena. Epigones and literary rebels. Major figures from Buchner and Griliparzer to Meyer and Fontane.
3563 Twentieth Century Studies I: Modernism, 1890-1918
(3-0) 3 hours credit. Prerequisite: GER 3313 , or consent of instructor.
Study of such major figures of German literary modernism at the turn of the century as Thomas Mann, Kafka, Musil, George, Hofmannsthal, Rilke, Trakl. Impressionism, symbolism, expressionism as literary historical concepts.

## 3573 Twentieth Century Studies II: Between the Wars

(3-0) 3 hours credit. Prerequisite: GER 3313, or consent of instructor.
Study of the major figures and movements developing in the German language
area between World War I and World War II, such as Benn, Brecht, Thomas Mann, Heinrich Mann, Horvath, Broch. Neue Sachlichkeit, exile literature, fascist literature and the beginnings of a socialist literary tradition.
3583 Twentieth Century Studies III: Contemporary Culture
(3-0) 3 hours credit. Prerequisite: GER 3313, or consent of instructor.
Selected works of post-war German literature by Austrian, East and West German, and Swiss authors are read in the context of the economic, social, political, artistic and ideological developments in the four countries of the German-speaking world. Trummerliteratur, Gruppe 47, Bitterfeld Weg, Gruppe 61, Wiener Gruppe, other groups and major figures.

## 4013 Literary Genres

(3-0) 3 hours credit. Prerequisite: GER 3313, or consent of instructor.
An intensive study of a single genre or subgenre in German literature such as lyric, drama, novel, short narrative, essay, comedy, tragedy, allegory, satire, romance.
4123 The German Film
(3-0) 3 hours credit. Prerequisite: GER 3313, or consent of instructor.
History, theory and criticism of the German cinema, especially of the 20's, 30's, 60 's and 70 's. Film as art form, entertainment, propaganda, social criticism. The adaptation of literary texts to film. Viewing the critical interpretation of representative films.
4133 Major German Authors
(3-0) 3 hours credit. Prerequisite: GER 3313, or consent of instructor.
Intensive study of a particular German literary or intellectual figure, such as Luther, Goethe, Nietzsche, Brecht.
4213 German Studies
(3-0) 3 hours credit. Prerequisite: GER 3313, or consent of instructor.
Course focuses on selected topics of literary and cultural history such as the rise of aesthetic theory in the 18th century, Vienna 1890-1914, Expressionism in literature and the plastic arts.
4911-3 Independent Study
1-3 hours credit. Prerequisites: Permission in writing (form available) of the instructor, the student's advisor, and the Division Director and Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of 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.

## 4953 Special Studies in German

(3-0) 3 hours credit. Prerequisite: Consent of instructor.
An organized course offering specialized study not normally or not often available as part of the regular course offerings. Special Studies courses may be repeated for credit when the topics vary, but not more than 6 hours within any one discipline will apply to a bachelor's degree.

## BACHELOR OF ARTS DEGREE IN RUSSIAN ${ }^{21}$

The minimum number of semester hours required for this degree, including the 50 hours of General Education Requirements, is $120 .{ }^{22}$
All candidates for the degree must complete:
A. 30 semester hours in the major, all of which must be at the upperdivision level, to be distributed as follows:

1. 15 semester hours of required courses are:

RUS 3023 Advanced Composition and Conversation
RUS 3313 Introduction to Russian Literary Studies

[^33]RUS 3613 Contemporary Russia
RUS 3623 Russia-Culture and Civilizations
LNG 3813 Introduction to Linguistics
2. 15 additional semester hours are required in Russian.
B. 18 semester hours of support work, 12 of which must be at the upperdivision level, in a specific support area or in selected areas to be chosen in consultation with the student's advisor, and of which 3 must be chosen, upon prior approval of the Advisor of Record, from:

FRN 3333 French Literature in English Translation
GER 3333 German Literature in English Translation
SPN 3333 Hispanic Literature in English Translation
C. 22 semester hours of free electives.

## COURSE DESCRIPTIONS RUSSIAN (RUS)

## 1013 Elementary Russian I

(2-2) 3 hours credit.
Fundamentals of Russian, aimed at developing abilities in speaking, understanding, reading, and writing.

## 1023 Elementary Russian II

(2-2) 3 hours credit. Prerequisite: RUS 1013 or the equivalent.
Fundamentals of Russian, aimed at developing abilities in speaking, understanding, reading and writing. A continuation of RUS 1013.

## 2013 Intermediate Russian I

(2-2) 3 hours credit. Prerequisite: RUS 1023 or the equivalent.
Continued skill development in comprehension, speaking, reading and writing Russian. Review of Russian grammar, and development of reading techniques. Additional exposure to Russian culture. Increased vocabulary, oral practice and readings in areas such as the humanities and social sciences, health, business, communication, education and the natural sciences.

## 2023 Intermediate Russian II

(2-2) 3 hours credit. Prerequisite: RUS 2013 or the equivalent.
Continued skill development in comprehension, speaking, reading and writing Russian. Review of Russian grammar, and development of reading techniques.
Expansion of reading and writing capabilities. Additional exposure to Russian culture. Increased vocabulary and oral practice and readings in areas such as the humanities and social sciences, health, business, communication, education and the natural sciences. A continuation of RUS 2013.

## 3013 Phonetics and Pronunciation

(3-1) 3 hours credit. Prerequisite: RUS 2023 and LNG 3813 or consent of instructor.
Intensive patterned pronunciation drills and exercises in sound discrimination and transcription, based on detailed articulatory description of various dialects of Russian.

## 3023 Advanced Composition and Conversation

(3-0) 3 hours credit. Prerequisite: RUS 2023 or RUS 2123, or consent of instructor. Selected grammar review. Theme writing and diagnosis of the grammatical problems of individual students. Conversation correlated with readings and reports, aimed at increasing oral fluency by vocabulary expansion and the active formation and use of grammatical sentences.

## 3113 Introduction to Russian Linguistics

(3-0) 3 hours credit. Prerequisite: RUS 2023, and LNG 3813 or consent of instructor.

Application to Russian of the basic principles of analysis and description of language structure. Attention given to structural regularities at the levels of sound, word formation, and syntax; also the relationship between some irregularities and historical change and to dialectal variation.

## 3313 Introduction to Russian Literary Studies

(3-0) 3 hours credit. Prerequisite: RUS 2023 or consent of instructor.
The concept of literature. Function of literature. Literary genres and their structure. Literary periodification and literary history. Stylistics and linguistics.
3323 Introductory Readings in Russian Literature
(3-0) 3 hours credit. Prerequisite: RUS 2023 or consent of instructor.
An elementary sampling of a number of literary masterpieces through periods, genres and styles.
3333 Russian Literature in English Translation
(3-0) 3 hours credit.
May not be applied to a major in Russian and does not fulfill language requirements. Major works of Russian literature: themes, genres, movements.

## 3613 Contemporary Russia

(3-0) 3 hours credit. Prerequisite: RUS 2023 or consent of instructor.
Problems and conflicts determining the cultural development of contemporary Russia. Ethnic, social, political, economic and cultural characteristics as seen mainly through the essay. Intellectual currents and the role of the intellectual leaders in forming the cultural expression of Russia.

## 3623 Russia: Culture and Civilizations

(3-0) 3 hours credit. Prerequisite: RUS 2023 or consent of instructor.
The cultural life of the respective geographic regions and social strata of Russia as reflected in and interpreted by its literary production, especially the novel.
4323 The Russian Folktale and the Russian Ballad
(3-0) 3 hours credit. Prerequisite: RUS 3313.
A study of two main literary forms in oral tradition. Their themes and structures.
Their influence on non-traditional written literature. Survey of the critical theories, from Romantic philology to Modern Formalism, attempting an analysis of the folktale and the ballad.

## 4333 Nineteenth Century Russian Literature

(3-0) 3 hours credit. Prerequisite: RUS 3313.
Periods, genres, styles and authors. Literature and social structure: bourgeois and antibourgeois undercurrents. Literary creation and social status in a caste society. Selected readings from Fet, Pushkin, Tolstoy, Dostoyevski, Chekhov, Beli, and Lermontov.

## 4911-3 Independent Study

1-3 hours credit. Prerequisite: Permission in writing (form available) of the instructor, the student's advisor, and the Division 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 hours of independent study, regardless of discipline, will apply to a bachelor's degree.

## 4953 Special Studies in Russian

(3-0) 3 hours credit. Prerequisite: Consent of instructor.
An organized course offering specialized study not normally or not often available as part of the regular course offerings. Special studies courses may be repeated for credit when the topics vary, but not more than 6 hours within any one discipline will apply to a bachelor's degree.

## BACHELOR OF ARTS DEGREE IN SPANISH

The minimum number of semester hours required for this degree, including the 50 hours of General Education Requirements, is $120 .{ }^{23}$ All candidates for the degree must complete:
A. 30 semester hours in the major, all of which must be at the upperdivision level,

1. 21 semester hours of required courses are:

LNG 3813 Introduction to Linguistics and
SPN 3113 Introduction to Spanish Linguistics
or
SPN 3013 Phonetics and Pronunciation and
SPN 3123 Applied Spanish Linguistics
SPN 3023 Advanced Composition and Conversation
SPN 3313 Introduction to Hispanic Literary Studies
SPN 3323 Introductory Readings in Hispanic Literatures
SPN 3613 Spanish Culture and Civilization or
SPN 3623 Spanish-American Culture and Civilization
SPN 3653 Contemporary Spain or
SPN 3663 Contemporary Spanish America
2. 9 additional semester hours are required in Spanish.
B. 24 semester hours of support work, 12 of which must be at the upperdivision level, in a specific support area or in selected areas to be chosen in consultation with the student's advisor, and of which 3 must be chosen upon prior approval of the Undergraduate Advisor of Record, from:

FRN 3333 French Literature in English Translation
GER 3333 German Literature in English Translation
RUS 3333 Russian Literature in English Translation
C. 16 semester hours of free electives.

# COURSE DESCRIPTIONS SPANISH (SPN) 

## 1013 Elementary Spanish I

(2-2) 3 hours credit.
Fundamentals of Spanish, aimed at developing abilities in understanding, speaking, reading, and writing. Students receiving credit for 1013 may not receive credit for 1213.

1023 Elementary Spanish II
(2-2) 3 hours credit. Prerequisite: SPN 1013 or the equivalent.
Fundamentals of Spanish, aimed at developing abilities in understanding, speaking, reading, and writing. A continuation of SPN 1013. Students receiving credit for 1023 may not receive credit for 1213.

## 1213 Spanish for Spanish Speakers I

(2-2) 3 hours credit.
Development of the language proficiency of Spanish speakers building on existing abilities through in-depth practice in speaking, reading, and writing Spanish. Students receiving credit for 1213 may not receive credit for SPN 1013 and/or SPN 1023.

[^34]
## 1223 Spanish for Spanish Speakers II

(2-2) 3 hours credit. Prerequisite: SPN 1213.
Development of the language proficiency of Spanish speakers building on existing abilities through in-depth practice in speaking, reading, and writing Spanish. A continuation of SPN 1213. Students receiving credit for 1223 may not receive credit for 2013.

## 2013 Intermedlate Spanish I

(2-2) 3 hours credit. Prerequisite: SPN 1023 or the equivalent.
Continued skill development in comprehension, speaking, reading and writing Spanish. Review of Spanish grammar and development of reading techniques. Additional exposure to Hispanic cultures. Increased vocabulary, oral practice and readings in areas such as the humanities and social sciences, health, business, communication, education and the natural sciences. Students receiving credit for 2013 may not receive credit for 1223.

## 2023 Intermediate Spanish II

(2-2) 3 hours credit. Prerequisite: SPN 2013 or the equivalent.
Continued skill development in comprehension, speaking, reading and writing Spanish. Review of Spanish grammar and development of reading techniques. Additional exposure to Hispanic cultures. Increased vocabulary and oral practice and readings in areas such as the humanities and social sciences, health, business, communication, education and the natural sciences. A continuation of SPN 2013. Students receiving credit for 2023 may not receive credit for 2213.

## 2213 Spanish for Spanish Speakers III

(2-2) 3 hours credit. Prerequisite: SPN 1223.
Development of the language proficiency of Spanish speakers building on existing abilities through in-depth practice in speaking, reading and writing Spanish. Increased emphasis on language variation: stylistic (i.e., formal vs. colloquial) and geographical (Southwest United States vs. other dialects, such as Mexico, the rest of Spanish America, and Spain). A continuation of SPN 1223. Students receiving credit for 2213 may not receive credit for 2023.
3013 Phonetics and Pronunciation
(3-1) 3 hours credit. Prerequisite: SPN 2023 or SPN 2213 or consent of instructor. Intensive patterned pronunciation drill and exercises in sound discrimination and transcription, based on detailed articulatory description of various dialects of Spanish.

## 3023 Advanced Composition and Conversation

(3-0) 3 hours credit. Prerequisite: SPN 2023 or consent of instructor.
The development and articulation of ideas through oral and written expression. Emphasis on the lexical, syntactical and stylistic subtleties of Spanish. Essays and written stylistic exercises, discussions and oral presentations.

## 3043 Elements of Spanish Rhetoric

(3-0) 3 hours credit. Prerequisite: SPN 3023 or consent of instructor.
An introduction to the art of orderly and persuasive discourse. Description of figures of speech, topoi and general structure of the oration. Exercises in Spanish oratory.

## 3053 Creative Writing: Poetry

(3-0) 3 hours credit. Prerequisite: SPN 3023 or consent of instructor. Basic fundamentals and extensive practice in creative writing in poetry in Spanish.

## 3063 Creative Writing: Prose

(3-0) 3 hours credit. Prerequisite: SPN 3023 or consent of instructor.
Basic fundamentals and extensive practice in creative writing in prose in Spanish.
3113 Introduction to Spanish Lingulstics
(3-0) 3 hours credit. Prerequisite: SPN 2023 or SPN 2213 or consent of instructor. Application to Spanish of the basic principles of analysis and description of language structure. Attention given to structural regularities at the levels of sound, word formation, and syntax; also to the relationship between some irregularities and historical change and to dialectal variation.

## 3123 Applied Spanish Linguistics

(3-0) 3 hours credit. Prerequisite: SPN 2023 or SPN 2213 or consent of instructor. Practical application of linguistic principles to the teaching of Spanish. Attention given to problems involved with the contrast between the structures of Spanish and English.
3313 Introduction to Hispanic Literary Studies
(3-0) 3 hours credit. Prerequisite: SPN 2023 or SPN 2213 or consent of instructor. The concept and function of literature. Special emphasis given to periods, genres and metric forms which characterize literature in Spanish, as well as to techniques of analysis.

## 3323 Introductory Readings in Hispanic Literatures

(3-0) 3 hours credit. Prerequisite: SPN 2023 or SPN 2213 or consent of instructor. An introduction to the Hispanic Literary tradition through the reading and discussion of literary masterpieces through periods, genres and styles.

## 3333 Hispanic Literature in English Translation

(3-0) 3 hours credit.
May not be applied to a major in Spanish and does not fulfill language requirement. Major works in Hispanic literatures: themes, genres, movements.

## 3613 Spanish Culture and Civilization

(3-0) 3 hours credit. Prerequisite: SPN 2023, SPN 2123 or SPN 2213 or consent of instructor.
Emergence of the Spanish peoples from pre-Roman times to the present. The reflection in literature of cultural traditions, myths, values, and life-view.

## 3623 Spanish-American Culture and Civilization

(3-0) 3 hours credit. Prerequisite: SPN 2023 or SPN 2213 or consent of instructor. The cultural life of the respective geographic regions and social strata of Spanish America from before the Conquest to the present as reflected in and interpreted by its literature and arts.

## 3653 Contemporary Spain

(3-0) 3 hours credit. Prerequisite: SPN 2023 or SPN 2213 or consent of instructor. Problems and conflicts determining the cultural development of contemporary Spain. Social, political, economic and cultural characteristics as seen through intellectual currents and the role of intellectual leaders in forming Spain's cultural expression.

## 3663 Contemporary Spanish America

(3-0) 3 hours credit. Prerequisite: SPN 2023 or SPN 2213 or consent of instructor. Problems and conflicts determining the cultural development of contemporary Spanish America. Ethnic, social, political, economic and cultural characteristics. Intellectual currents and the role of the intellectual leaders in forming the cultural expression of Spanish America.

## 4113 Spanish Dialects

(3-0) 3 hours credit. Prerequisite: SPN 3113 or consent of instructor. Survey of the development and the salient characteristics of the dialects of Spain and Spanish America with emphasis on the Spanish of Mexico.

## 4123 The Spanish of The Mexican American

(3-0) 3 hours credit. Prerequisite: SPN 3113 or consent of instructor.
A description of the Spanish language as used by Mexican Americans. Particular attention placed on its historical ties with other Hispanic dialects and its own varieties within the United States. Special emphasis on the issues of language maintenance and its use as a standard language.
4133 Advanced Spanish Grammar
(3-0) 3 hours credit. Prerequisite: SPN 3023.
A study of selected syntactic characteristics of the language with special attention to grammatical categories, subordination and verb systems including verbal aspects.

## 4313 Medieval Hispanic Literature

(3-0) 3 hours credit. Prerequisite: SPN 3313.
Literary languages, genres and themes in Medieval Spain from the Romanesque to the Gothic. Particular attention to Poema del Cid, Libro de Buen Amor and the romances.

## 4323 Cervantes' Don Quijote

(3-0) 3 hours credit. Prerequisite: SPN 3313.
A reading of Don Quijote; analysis of the novel's structure and themes with special consideration of its stylistic patterns, ideological framework and symbolic meanings.
4333 Spanish Renalssance and Baroque Literature (3-0) 3 hours credit. Prerequisite: SPN 3313.
Medieval tradition and Italian innovations and their influence on Spanish poetry, drama and narrative. Special attention to the poetry of Garcilaso de la Vega and Gongora, to the drama of Lope de Vega, Tirso de Molina, and Calderon, and to the Lazarillo de Tormes and the narrative.
4343 Spanish Literature of the Nineteenth Century
(3-0) 3 hours credit. Prerequisite: SPN 3313.
Major movements and authors. Themes, genres, relationships to other European literatures. Includes "costumbrismo," Romanticism, Realism and Naturalism.
4353 The Generation of 1898 to the 1936 Civil War
(3-0) 3 hours credit. Prerequisite: SPN 3313.
Generation of 1898: the concept, the authors, the themes, the works. Unamuno, Azorin, Machado, Benavente, Baroja, and Valle-Inclan. Influence on Spanish literature to the beginning of the Civil War: Ortega and Garcia Lorca.

## 4363 Spanish Literature From the Civil War (1936) to the Present

(3-0) 3 hours credit. Prerequisite: SPN 3313.
Spanish Civil War and its effect on literature. The emergence of the writer-in-exile. Stagnation and innovation. The great literary themes of post-war Spain in poetry, drama and narrative.
4423 Spanish-American Renalssance and Baroque
(3-0) 3 hours credit. Prerequisite: SPN 3313.
Repetition and innovation in the literature originating in the New World. Its themes, forms, style and functions. Particular emphasis on the "cronistas," on Ercilla's La Araucana and on Sor Jauna Ines de la Cruz.
4433 Spanish-American Literature of the 19th Century
(3-0) 3 hours credit. Prerequisite: SPN 3313.
Its roots in eighteenth century ideology and life. European influences and SpanishAmerican responses in poetry, including "poesia gauchesca," drama, novel, and essay.
4443 Spanish-American Modernism
(3-0) 3 hours credit. Prerequisite: SPN 3313.
The modernist movement as begun by Marti and Dario, and continued by other Latin American authors. French influences and contacts with Spanish and other literatures.
4453 Spanish-American Prose and Poetry After Modernism to 1940
(3-0) 3 hours credit. Prerequisite: SPN 3313.
Literary movements, authors, and works. Focus on "vanguardista" poetry and early twentieth century novel, short story, and essay.

4463 Contemporary Spanish-American Poetry and Drama
(3-0) 3 hours credit. Prerequisite: SPN 3313.
Literary themes and structures, poets (Neruda, Borges, Paz) and dramatists (Usigli, Gorotiza, Heiremans).
4473 Contemporary Spanish-American Prose
(3-0) 3 hours credit. Prerequisite: SPN 3313.
The novel, short story, and essay: Asturias, Carpentier, Cortazar, Fuentes, GarcíaMárquez, Paz, Reyes, Rulfo, Sábato, Vargas-Llosa, and Yáñez.

4483 National Literatures of Spanish America
(3-0) 3 hours credit. Prerequisite: SPN 3313.
Representative works from the national literatures of Spanish America. May be repeated for credit when topics vary.

## 4493 Mexican-American Literature

(3-0) 3 hours credit.
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.

## 4911-3 Independent Study

1-3 hours credit. Prerequisites: Permission in writing (form available) of the instructor, the student's advisor, and the Division 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 hours of independent study, regardless of discipline, will apply to a bachelor's degree.
4953 Special Studies in Spanish
( $3-0$ ) 3 hours credit. Prerequisite: Consent of instructor.
An organized course offering specialized study not normaliy 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 within any one discipline will apply to a bachelor's degree.

## COURSE DESCRIPTIONS COMPARATIVE STUDIES IN THE HUMANITIES (CSH)

3013 America Seen Through European Eyes
(3-0) 3 hours credit. Prerequisite: Upper-division standing.
Credit may not be applied to a major in foreign languages when taken in English. A study of European impressions of North America (Canada, United States, particularly Louisiana, Texas and California) and South America from the early travels and exploration to the present. An examination of the central themes and concerns of selected European authors.
3343 Masterpieces of Oral Tradition
(3-0) 3 hours credit.
An introduction to the literary masterpieces of the oral traditions in Africa, North and South American Indian literatures. Topics may focus on any one of the geographic areas.
3353 Opera as Drama
(3-0) 3 hours credit. Prerequisite: Upper-division standing.
An examination of the relationships between theater and music as it is developed in different countries. Topics include the Hispanic zarzuelas, Viennese operettas, the French opera comique tradition and musical comedies from throughout the world.

## 4013 Principles of Literary Theory <br> (3-0) 3 hours credit. Prerequisite: Completion of FRN, GER, RUS, OR SPN 3313. Concept and functions of literature in the Western World through representative masterpieces of epics, poetry, drama and fiction. The necessary critical language, principles and general theory. Plot, design, pattern, character and type, image and archetype. Traditional literary genres and their structure. Problems in literary history: periodization, generations, movements and styles.

4513 Iconography in Foreign Literatures and Arts
(3-0) 3 hours credit. Prerequisite: Consent of instructor.
A study of the relationships between French, German, Spanish and Russian literatures and arts through the reading of selected texts and the study of analogous
works in the plastic arts in the respective nations. Themes, motifs, techniques. Individual topics focus on the relationships between literature and art in a particular tradition, in several countries during a given period or, in relationship to a common theme. May be repeated for credit when topics vary.

## 4523 The Forelgn Film

(3-0) 3 hours credit. Prerequisite: FRN, GER, RUS, or SPN 3313.
A critical study of the history of foreign filmic masterpieces. Emphasis on the scenario in conjunction with the narrative function of the sequential frames. The problems and solutions of adapting one medium to another: from novel to film, from dramatic play to film. Films are shown for critical interpretation. Individual topics focus on films identifiable by a national focus or a series of films with a particular thematic orientation. May be repeated for credit when topics vary.

## 4953 Special Studies in Comparative Studies in the Humanities

(3-0) 3 hours credit. Prerequisite: Consent of instructor.
An organized course offering specialized study not formally 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 within any one discipline will apply to a bachelor's degree. May be used to fulfill language requirement.

# COURSE DESCRIPTIONS LINGUISTICS (LNG) 

3813 Introduction to Linguistics
(3-0) 3 hours credit.
Basic principles of analysis and description of the structure of language. Attention given to the various levels: sound, syntax, and semantics.

## 3823 Phonological Analysis

(3-1) 3 hours credit. Prerequisite: LNG 3813 or consent of instructor.
Introduction to the analysis of sound systems in language. Emphasis on the differences between structural and generative approaches. Distinctive feature theory and phonological universals are also explored.
3833 Sociology of Language
(3-0) 3 hours credit.
Societal patterns regarding language variation and their implications for language maintenance and shift. Degree of mutual interrelations between language and culture. The study of language in its social context. Language variation and linguistic change.
3843 Psychology of Language
(3-0) 3 hours credit. Prerequisite: LNG 3813 or consent of instructor.
The acquisition of language and the developmental changes in use, particularly syntax. Topics include the psychological evaluation of Chomsky's theory, the relationship between language and the mind, language disorders.

## 3853 The Languages of The Mexican American <br> (3-0) 3 hours credit. Prerequisite: LNG 3813. <br> A linguistic description of English and Spanish as spoken by bilingual Mexican Americans. Special emphasis on code-switching, linguistic domains, registers, and on the importance of language dominance in educational planning.

## 3863 Introduction to Transformational Analysis

(3-0) 3 hours credit. Prerequisite: LNG 3813 or consent of instructor.
Introduction to the machinery of transformational grammar through syntactic analysis. The development of Chomsky's theory of language and his formulation of transformational generative principles are also examined. Some consideration given to generative semantics.

## 4013 Grammatical Analysis

(3-0) 3 hours credit. Prerequisite: LNG 3813 or consent of instructor.
An examination of the major theories of grammatical analysis, including the tradi-
tional approach, tagmemics, immediate constituent analysis, phrase structure grammar, transformational grammar, and case grammar.
4023 Historical Linguistics
(3-0) 3 hours credit. Prerequisite: LNG 3813 or consent of instructor.
Introduction to the study of change in language. An examination of important theories of change, including Prague School, Generative, and Sociolinguistic. Consideration of the comparative method of phonological reconstruction with particular reference to the Indo-European language family (Latin, Greek, Germanic, Sanskrit, Hittite, etc.).

## 4213 The Contribution of Linguistics to Literary Studies

(3-0) 3 hours credit. Prerequisites: Completion of required foreign language courses for a major in French, German, or Spanish.
Background and application of linguistics to literature. Definitions, terminology, etc., of linguistics are compared and contrasted. The functions of phonology, semantics, stylistics and semiology. Readings from: Saussure, Hjelmslev, Chomsky, Jakobson, Greimas, Beneviste, Eco and others.

## 146 / DIVISION OF SOCIAL SCIENCES - BACHELOR OF ARTS DEGREE IN AMERICAN STUDIES

## DIVISION OF SOCIAL SCIENCES

The Division of Social Sciences offers bachelor of arts degrees in anthropology, geography, history, political science, psychology and sociology.
At least 36 credit hours of course work are required to fulfill a social science major. The 36 -hour total is considered a minimum, and students are encouraged to deepen and broaden their control of their field through careful allocation of some of their elective credit hours.
All social science majors require the student to complete six semester hours of support work. These courses, which require the advisor's advance approval, should serve to introduce the student to aspects of the social sciences in addition to those entailed in the course work within the student's major discipline.
At some point in the student's junior or senior year, one of the several social science (SSC) courses is completed. These interdisciplinary courses typically involve intensive examination of some topic from the perspectives offered by two or more disciplines within the social sciences.
The Division of Social Sciences designates certain of its outstanding students as Honors students and provides the opportunity for advanced study under close faculty supervision.
Admission to the Divisional Honors program is based on performance on a comprehensive examination in the major discipline and recommendation by the faculty of the student's major discipline. The honors examination, which must be taken prior to the student's registration for the last two semesters in residence, is open only to students with a minimum grade-point average of 3.50 . This minimum grade point average must be maintained for the student to receive Honors. Students admitted to the Honors program are expected to enroll in the appropriate Honors Thesis course during the final two semesters in residence. The completed thesis must be approved by the supervising faculty sponsor and another Divisional faculty member. Students interested in this program should contact their faculty advisors for additional information.

## BACHELOR OF ARTS DEGREE IN AMERICAN STUDIES

The Bachelor of Arts Degree in American Studies is an interdisciplinary degree offered jointly by the Divisions of Social Sciences and English, Classics, and Philosophy. Students in the American Studies program will use materials and methodologies from several disciplines to explore the interrelationships among the diverse elements of American culture. With prior approval students choose courses from those offered by many Divisions in The University, as well as specialized American Studies courses; in this curriculum, students work out an area of interest (e.g., Minorities in the Southwest, Modernism in America, Comparative Culture, etc.) with an AMS advisor and submit it to the American Studies Committee of the College for approval.
The minimum number of semester hours required for this degree, including the 50 hours of General Education Requirements, is 120. ${ }^{24}$
All candidates for the degree must complete:
A. 39 semester hours in courses approved by the American Studies Committee, 21 of which must be at the upper-division level.

1. 18 semester hours of required courses are:
a. AMS 2013 Basic Issues in American Culture

[^35]b. AMS 3013 Main Currents in Pre-Industrial Culture
c. AMS 3023 Main Currents in Industrial American Culture
d. 9 semester hours of AMS 4953 Special Studies in American Culture
2. 21 semester hours of elective courses offered in other disciplines approved by the American Studies Committee.
B. 31 semester hours of free electives.

## COURSE DESCRIPTIONS <br> AMERICAN STUDIES (AMS)

2013 Basic Issues in American Culture
(3-0) 3 hours credit. Prerequisites: Minimum of two of the foliowing: ENG 1013, 1023, 1033; HIS 1013, 1023, 1033.
Introduces students to the concept of American culture. Alternative definitions of culture will be examined, ranging from aesthetic uses (culture as the refinement of sensibilities through art, music, and literature) to the more inclusive usages of the term among social scientists.
3013 Main Currents in Pre-Industrial Culture
(3-0) 3 hours credit. Prerequisites: AMS 2013 or consent of instructor.
Examines the major influences which shaped American culture in the pre-industrial era. Topics will include the impact of colonialism, the enlightenment, the frontier and other factors upon the development of a distinctive society.
3023 Main Currents in Industrial American Culture
(3-0) 3 hours credit. Prerequisites: AMS 3013 or consent of instructor.
Examines major trends in American culture during and after the industrial revolution, with special attention to the consequences of urbanization, industrialization, and secularization upon American society.

## 4911-3 Independent Study

$1-3$ hours credit. Prerequisites: Permission in writing (form available) of the instructor, the student's advisor, and the Division 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 hours of independent study, regardless of discipline, will apply to a bachelor's degree.
4933 Internship In American Studies
(3-0) 3 hours credit. Prerequisite: Permission of Internship Coordinator.
Supervised experience in institutions which provide an opportunity to integrate the theory and materials of American culture.

## 4953 Special Studies in American Studies

(3-0) 3 hours credit.
Topics vary, and may include: Popular Culture; Science and Technology in American Life; Ethnic Contributions to American Culture; Religion and American Culture; Myth, Symbols, and Ideology in American Culture; Western Americana. Two or more topics may be taken concurrently. Special Studies courses may be repeated for credit when topics vary, but not more than six hours within any one discipline will apply to a bachelor's degree, except for American Studies majors who will be required to take this course for a total of nine semester hours.

## BACHELOR OF ARTS DEGREE IN ANTHROPOLOGY

Anthropology is the study of man's cultural behavior - that body of customs and ideas which continues from generation to generation, serves the same function that instinctual patterns do in lower animals, and varies markedly from one
human population to another. Among the subfields of anthropology are archaeology, the reconstruction and explanation of man's cultural past; cultural anthropology, the study of cultural and linguistic variation among contemporary peoples; and physical anthropology, the study of fossil man and the physiological bases of cultural behavior.
The minimum number of semester hours required for this degree, including the 50 hours of General Education Requirements, is $120 .{ }^{25}$
All candidates for the degree must complete:
A. 30 semester hours in the major, 21 of which must be at the upperdivision level.

1. 12 semester hours of required courses are:
a. ANT 1013 Man in Adaptation
b. ANT 2013 Anthropological Inquiry: Archaeology and Physical Anthropology or
ANT 2023 Anthropological Inquiry: Cultural Anthropology and Linguistics
c. ANT 4973 Anthropology Senior Seminar
d. 3 semester hours chosen from social science (SSC) courses.
2. 9 semester hours are required in cultural anthropology, physical anthropology, and archaeology, with at least 3 hours in each, chosen in consultation with the student's advisor.
3. 9 additional semester hours of anthropology electives are required, to be chosen in consultation with the student's advisor. Some or all of these hours may be applied to the major from:
HIS 3113 The American Indian
LNG 3833 Sociology of Language
MAT 3013 Statistical Methods in the Life and Social Sciences II
PSY 3053 Cross-Cultural Psychology
PSY 3633 Aggression
SOC 3013 Social Stratification
SOC 3133 Sociology of Pluralism in the Southwest
SSC 3003 Social Research Methods
SSC 3103 Major Theories of the Social Sciences
B. 6 semester hours of social science courses outside the major chosen with the consent of the advisor.
C. 34 semester hours of free electives.

## COURSE DESCRIPTIONS ANTHROPOLOGY (ANT)

## 1013 Man In Adaptation

(3-0) 3 hours credit.
The study of man's culture, past and present; its origins, development, and contemporary change; and the explorations of man's physical and cultural differences, using the paradigm of adaptation.

[^36]2013 Anthropological Inquiry: Archaeology and Physical Anthropology
(3-0) 3 hours credit. Prerequisite: ANT 1013.
A problem-solving approach to classic and contemporary questions in archaeology and physical anthropology. Stress is on the nature of anthropological inquiry as reflected in these two fields.
2023 Anthropological Inquiry: Cultural Anthropology and Linguistics
(3-0) 3 hours credit. Prerequisite: ANT 1013.
A problem-solving approach to classic and contemporary questions in cultural anthropology and linguistics. Stress is on the nature of anthropological inquiry as reflected in these two fields.

## 2113 World Enthnography

(3-0) 3 hours credit. Prerequisite: ANT 1013.
A survey of peoples and cultures around the world, selected to illustrate the range of human social variation.

## 3103 Social Organization

(3-0) 3 hours credit. Prerequisite: ANT 1013.
Comparative analysis of family and social organization, primarily among nonliterate peoples.

## 3133 Native Peoples of North America

(3-0) 3 hours credit. Prerequisite: ANT 1013 recommended.
Native cultures of the North American continent, the effects of European expansion, and contemporary problems of American Indians.

## 3143 Peoples and Societies of Latin America

(3-0) 3 hours credit. Prerequisite: ANT 1013 recommended.
Contemporary peoples of indigenous, Mediterranean, and African origin inhabiting the Caribbean, Middle and South America.

## 3163 Anthropological Approaches to Medicine and Nursing

(3-0) 3 hours credit. Prerequisite: ANT 1013 recommended.
The implications of selected core concepts for medicine, nursing, and health care research. For students intending to enter the health professions.

## 3173 Ethnomedicine, Theory and Applications

(3-0) 3 hours credit. Prerequisite: ANT 1013.
Integration of socio-cultural and medical approaches to health maintenance based on cross-cultural and contemporary urban research. Evidence for the efficacy of non-Western medical practices, the interaction of medical systems in bi-ethnic social situations, cross-cultural studies of mental health and the analysis of crossethnic programs of medical care receive attention.

## 3183 Peasant Societies and Modernization

(3-0) 3 hours credit. Prerequisite: ANT 1013 or consent of instructor.
Anthropological theory, models, and findings relative to peasants distributed worldwide and viewed as a social type. Particular attention is given to the structure of stratified plural societies and to the role of power in modernization.

## 3223 Cultural Ecology

(3-0) 3 hours credit. Prerequisite: ANT 1013 recommended.
Man's adaptation to environment and his interaction with it, comparing simple and complex societies in various environmental contexts.

## 3253 The Archaeology of South America

(3-0) 3 hours credit. Prerequisite: ANT 1013.
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 will be discussed.

## 3263 Archaeology of North America

(3-0) 3 hours credit. Prerequisite: ANT 1013.
Survey of prehistoric cultures in North America from earliest times to historic contact; chronology; settlement and subsistence patterns; technology.

## 3273 Archaeology of Mesoamerica

(3-0) 3 hours credit. Prerequisite: ANT 1013.
Examination of the development of the ancient civilizations of Mexico and Central America: Olmec, Teotihuacan, Maya, Toltec, Aztec.
3283 Native Cultures of the American Southwest
(3-0) 3 hours credit. Prerequisite: ANT 1013.
The native American Indian cultures of the Southwestern United States are studied from various perspectives: prehistoric development; ethnography; current status.

## 3404 Field Course in Archaeology

(5-35) 4 hours credit. Prerequisite: Upper-division standing, consent of instructor, and at least one previous anthropology or archaeology course.
Intensive training in archaeological field methods: excavation, site survey, mapping, sampling, interpretation. Additional fees are required. May be repeated for credit with advisor's permission, but not more than 4 hours may be applied to the major.

## 3503 Early Man

(3-0) 3 hours credit. Prerequisite: ANT 1013 recommended.
The fossil record of sapien emergence and the development of races.

## 3513 Human Populations

(3-0) 3 hours credit. Prerequisite: ANT 2013.
The physical anthropology of human populations including human genetics, functional anatomy, evolution, demography, phenotypic diversity applied to both prehistoric and contemporary populations.

## 3613 Cross-Cultural Studies of Socialization

(3-0) 3 hours credit. Prerequisite: ANT 1013.
Examination and evaluation of anthropological and psychological comparative studies of child-rearing and enculturation in selected cultures.

## 3623 Primate Behavior

(3-2) 3 hours credit. Prerequisite: ANT 1013 or consent of instructor.
Analysis of learning, development, social and abnormal behavior among the various primate species. Observational projects at the San Antonio Zoo are part of this course.
3643 Archaeometry
(3-0) 3 hours credit. Prerequisite: ANT 1013.
Application of the physical and chemical sciences to archaeological problems; examination of selected topics: trade, technology, dating, settlement patterns, seasonality of occupations.
3653 Primitive Technology
(3-0) 3 hours credit. Prerequisite: ANT 1013.
Lectures and demonstrations illustrating the technology of ancient and contemporary pre-industrial peoples: tool manufacture and use; making artifacts of wood, stone, and metals; social and economic aspects of primitive technologies; craft specialization; subsistence and settlement technology.

## 3663 Hunters and Gatherers

(3-0) 3 hours credit. Prerequisite: ANT 1013.
A study of the lifeways of hunting and gathering peoples around the world. Emphasis is placed on prehistoric hunters and gatherers, leading to an examination of archaeological data, and problems in interpretation. Contemporary hunting and gathering populations are also studied.

## 3673 Origins of Civilization

(3-0) 3 hours credit. Prerequisite: ANT 1013.
Development of agriculture and village life; beginnings of civilization in the Near East and Mediterranean; comparisons with Mesoamerica, India, and China; rise of civilization in the Nile Valley.
4113 Archaeology of Texas
(3-0) 3 hours credit. Prerequisite: ANT 3263.
Detailed review of prehistoric and historic aboriginal cultures of Texas and adja-

## ANTHROPOLOGY - BÀCHELOR OF ARTS DEGREE IN GEOGRAPHY/151

cent areas: current trends in Texas archaeology; examination of artifacts and field trips to local prehistoric sites.

## 4163 The City as Artifact

(3-0) 3 hours credit. Prerequisite: SSC 3213 or consent of instructor.
The physical and material aspects of the city are examined as responses to, and influences upon, individual and group behavior in urban centers. Attention given to deliberate attempts to shape the urban environment to effect change in urban society.

## 4403 Laboratory Analysis in Anthropology

(2-4) 3 hours credit. Prerequisites: ANT 3404 or the equivalent and consent of instructor.
Supervised analysis of field data; methods of analysis; research techniques; preparation of reports. May be repeated for an additional three hours of credit with consent of instructor and Dean.

## 4911-3 Independent Study

$1-3$ hours credit. Prerequisites: Permission in writing (form available) of the instructor, the student's advisor, and the Division 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 hours of independent study, regardless of discipline, will apply to a bachelor's degree.

## 4953 Special Studies in Anthropology

(3-0) 3 hours credit. Prerequisite: Consent of instructor.
An organized course offering specialized study not normally or not often available as part of the regular course offerings. Special Studies courses may be repeated for credit when the topics vary, but not more than 6 hours within any one discipline will apply to a bachelor's degree.

## 4973 Anthropology Senior Seminar

(3-0) 3 hours credit. Prerequisite: Senior standing as an anthropology major.
A seminar reserved to anthropology majors during their senior year. Areas of significant new research in each subfield of the discipline will be reviewed in conjunction with individualized research projects.

## 4993 Honors Thesis

3 hours credit. Prerequisite: Enrollment limited to candidates for honors in anthropology during their 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.

## BACHELOR OF ARTS DEGREE IN GEOGRAPHY

At the core of geography are the systems that link man to environment. Some systems are physical; for example, the carrying capacity of regions for the support of human populations, the environmental consequences of pollution, and man's proclivity to distribute his activities according to features of the natural landscape. Some systems are cultural; for example, the spatial layout of cities, cultural attitudes toward time, space and environment, and the role of environment in the founding of civilizations. The primary variable for geography is space; techniques for measuring its range from cartography to attitude surveys to stochastic models and locational theory. The major examines the field of geography and its implications for the use of physical and social space.
The minimum number of semester hours required for this degree, including the 50 hours of General Education Requirements, is $120 .{ }^{26}$

[^37]All candidates for the degree must complete:
A. 30 semester hours in the major, 21 of which must be at the upperdivision level.

1. 12 semester hours of required courses are:
a. 6 semester hours from:

GRG 2612 Physical Geography
GRG 2623 Human Geography
GRG 2633 Economic Geography
b. 6 semester hours from:

GRG 3113 Geography of America North of Mexico
GRG 3123 Geography of Latin America
GRG 3133 Geography of Western Europe and the Mediterranean
GRG 3143 Geography of Africa South of the Sahara
2. 3 semester hours chosen from social science (SSC) courses.
3. 15 semester hours of geography electives are required, to be chosen in consultation with the student's advisor. Up to six of these hours may be applied to the major from:

ANT 4163 The City as Artifact
GEO 3103 Structural Geology: Map and Photo Analysis
GEO 3111 Structural Geology: Map and Photo Analysis Laboratory
ECO 4493 Economics of the Transportation Industry
ENV 3023 Man and His Natural Resources
ENV 3033 Elements of Urban Systems Management
HIS 4173 History and Evolution of the City
POL 3413 The Politics of Urbanizing Societies
PSY 3123 Attitudes
PSY 4223 Environmental Psychology
SOC 4103 Survey Research Methods
SOC 4113 Social Indicators and Social Planning
B. 6 semester hours of social science courses outside the major, chosen with the consent of the advisor.
C. 34 semester hours of free electives.

1. The following sequence in statistics is recommended for students considering graduate or professional work in geography:

MAT 1051 Probability and Finite Math
MAT 1062 Statistics
MAT 2013 Statistical Methods in the Life and Social Sciences I
MAT 3013 Statistical Methods in the Life and Social
Sciences II
2. Students contemplating careers in the areas of natural resources or urban systems may wish to take, as electives, one of the following sequences of courses in the Division of Environmental Studies:
a. Natural Resources

ENV 2013 Introduction to Environmental Systems
ENV 3023 Man and His Natural Resources
ENV 4023 Environment, Energy, and Society
ENV 4203 Environmental Impact Analysis
ENV 4953 Special Problems in Environmental Management

b. Urban Systems<br>ENV 3033 Elements of Urban Systems Management<br>ENV 3523 The Contemporary City<br>ENV 4503 Alternative Urban Futures<br>ENV 4513 Problems of Urban Change<br>ENV 4663 The Latin American City<br>ENV 4953 Special Problems in Environmental Management<br>\section*{COURSE DESCRIPTIONS GEOGRAPHY<br><br>(GRG)}

## 1013 Fundamentals of Geography

(3-0) 3 hours credit.
Introduction to the study of man's environment, the distribution of physical and cultural variations, and the nature of the interaction between physical features of the environment and social/economic structures.

## 2613 Physical Geography

(3-0) 3 hours credit.
Origin of the earth's major geological and climatic patterns and their influence upon the characteristics of landforms, vegetation, and soils. Problems relating to the interrelationships between physical factors in the principal natural regions of the earth.

## 2623 Human Geography

(3-0) 3 hours credit.
Cross-cultural analysis of environmental behavior and environmental cognition, of the system of resource use in which these processes are embedded, and of their relationship to cultural change and economic growth.

## 2633 Economic Geography

(3-0) 3 hours credit.
A spatial analysis of world patterns of economic activity; appraisal of resources, production, circulation, and consumption; principles, models and planning of economic behavior.
3023 Map Conception and Development
(3-0) 3 hours credit. Prerequisite: GRG 1013.
The design, construction and reproduction of maps, charts, and geographic diagrams, with an emphasis on the evolution of concepts concerning the nature, scope, and methodology of geography.
3113 Geography of America North of Mexico
(3-0) 3 hours credit.
Selected geographic aspects of the principal human activities in each of the major regions of the United States and Canada from the standpoint of their relations to the natural environment and linkages to other regions.

## 3123 Geography of Latin America

(3-0) 3 hours credit.
Selected aspects of regional geography including physical regions of Middie and South America, economic resources and political alignments.
3133 Geography of Western Europe and the Mediterranean
(3-0) 3 hours credit.
Geographic aspects of the cultural, economic and political development of the people of Western Europe and the Mediterranean in relation to the physical elements of land relief, climate, soil and natural resources.
3143 Geography of Africa South of the Sahara
(3-0) 3 hours credit.
Selected geographic aspects of the economic and cultural development of African nations, with emphasis on their economic resources and political alignments.

## 3323 Spatial Analysis

( $3 \cdot 0$ ) 3 hours credit. Prerequisite: GRG 1013 or consent of instructor.
Application of concepts of scaling and spatial measurement to geographic problems. Topics to be covered may include spatial aspects of decision-making, areal classification, and analysis of networks.

## 3513 Urban Geography

(3-0) 3 hours credit. Prerequisite: GRG 1013 or consent of instructor.
The spatial patterns of urbanization, city growth and functioning, seen crossculturally and comparatively; geographic considerations of contemporary urban issues; the development and use of urban information systems.
4113 Information Circulation and Diffusion of Innovation
(3-0) 3 hours credit. Prerequisite: GRG 1013 or consent of instructor.
The geographic spread of information under different technologies and stages of economic development; processes underlying the diffusion of cultural and economic innovations will be examined in reference to major models of communication.
4123 Geography of International Affairs
(3-0) 3 hours credit. Prerequisite: GRG 1013 or POL 2503 or consent of instructor. Geographic factors influencing the relations between nations. Topics include the development and expansion of borders, migration and colonization, natural resources and developing nations, and the exploration of space.

## 4513 Location Theory

(3-0) 3 hours credit. Prerequisite: GRG 2633 or consent of instructor.
Formal analysis and empirical tests of spatial distributions of human economic and social activity; methods of development and derivation of locational patterns in agriculture, manufacturing and mining.

## 4911-3 Independent Study

1-3 hours credit. Prerequisites: Permission in writing (form available) of the instructor, the student's advisor, and the Division 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 hours of independent study, regardless of discipline, will apply to a bachelor's degree.

## 4953 Special Studies in Geography

(3-0) 3 hours credit. Prerequisite: Consent of instructor.
An organized course offering specialized study not normally or not often available as part of the regular course offerings. Special Studies courses may be repeated for credit when the topics vary, but not more than 6 hours within any one discipline will apply to a bachelor's degree.

## 4993 Honors Thesis

3 hours credit. Prerequisite: Enrollment limited to candidates for honors in geography during their 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.

## BACHELOR OF ARTS DEGREE IN HISTORY

History is the study of the past of human society, as that past is revealed mainly through the analysis of written and oral records. The foundation of historical study is a set of methods for evaluating and interpreting historical sources and a set of attitudes toward the past, whereby non-contemporary societies are regarded as objects of investigation in themselves, as products or prior history, and as the bases from which subsequent change developed. The vastness of the discipline precludes a single standard internal division of the subject; the branches of history may be categorized by geographical region (e.g., American,

European), by era (e.g., medieval, modern), and by the type of human activity upon which the historian focuses (e.g., political, intellectual).
The minimum number of semester hours required for this degree, including the 50 hours of General Education Requirements is $120 .{ }^{27}$
All candidates for the degree must complete:
A. 30 semester hours in the major, 21 of which must be at the upperdivision level.

1. 27 semester hours of required courses are:
a. 6 semester hours from courses numbered HIS 2503-2593 covering different continental areas.
b. 18 semester hours of history electives, 15 hours of which must be at the upper-division level. 6 semester hours may be applied to the major from:
ANT 3673 Origins of Civilization
ECO 3163 Development of Economic Thought
ECO 3183 Economic Development of the United States
ECO 3303 Theories of Economic Progress
POL 3133 Political Philosophy: Ancient and Medieval
POL 3143 Political Philosophy: Modern
POL 3323 Constitutional Law
PSY 4003 History of Psychology
SOC 3173 Economy and Society
SOC 3363 The Sociology of Knowledge
c. HIS 4973 Seminar in History
2. 3 semester hours chosen from social science (SSC) courses.
B. 6 semester hours of courses outside the major, chosen with the consent of the advisor.
C. 34 semester hours of free electives.

## COURSE DESCRIPTIONS <br> HISTORY (HIS)

## 1013 United States History 1607-1789

(3-0) 3 hours credit.
American history from colonization through the Constitution, with emphasis on the development of political and social systems and the impact of social change on political events. Applies to the legislative requirement for United States history.
1023 United States History 1789-1896
(3-0) 3 hours credit.
The social, economic, and political development of the new American nation into a mature industrial society. Applies to the legislative requirement for United States history.

1033 United States History 1896 to the Present
(3-0) 3 hours credit.
Domestic politics and foreign affairs in the twentieth century are examined in relation to socio-economic developments. Topics include the Progressive Reform, World War I and post-war problems, the Twenties, the Depression and the New

[^38]Deal, World War II and the Cold War and the American Society since 1945. Applies to the legislative requirement for United States history.

## 2033 Economic Development and Soclal Change in the United States Since 1850 (3-0) 3 hours credit. <br> American industrialization and the development of modern American society. Special attention is paid to the economic background of industrialization, attendant social problems, immigration, race relations, and the emergence of a massconsumption economy. Applies to the legislative requirement for United States history. <br> 2053 History of Texas Since 1836 <br> (3-0) 3 hours credit. <br> A consideration of the regional history of the Southwest, with particular attention to the history of Texas during the period of independence and afterward, the annexation of the Southwest by the United States, and the political and economic development of the region in the late nineteenth and twentieth centuries. Applies to the legislative requirement for Texas history.

## 2503 European Civilization in the Middle Ages

(3-0) 3 hours credit.
A survey of Western European medieval history and an examination of forces of change in the late Middle Ages which resulted in the emergence of a modern European society.

## 2513 Early Modern Europe 1500-1789

(3-0) 3 hours credit.
Cultural,social and political origins of modern life beginning with the religious conflicts of the Reformation and ending with the eighteenth century vision of a brave new world.

## 2523 Europe Since 1789

(3-0) 3 hours credit.
Significant developments and trends in European politics, society, culture, and economics since the beginning of the French Revolution.
2533 Latin America: The Colonial Era
(3-0) 3 hours credit.
Latin American history from 1492 to independence with emphasis on the formation of Latin American civilization.

## 2543 Latin America: The Republican Era

(3-0) 3 hours credit.
Latin American history since independence with emphasis on major nations, trends, and developments.
2563 The Middle East Since 622 A.D.
(3-0) 3 hours credit.
The history of the Middle East after the rise of Islam.
2573 Survey of African History
(3-0) 3 hours credit.
African history, emphasizing the rise of major African states and civilizations, the colonial period, and independence.
3003 Colonial America and the Formation of American Soclety (3-0) 3 hours credit.
An examination of the development and transformation of colonial societies in the seventeenth and eighteenth centuries, with special emphasis on family and community studies as a measure of social change. Applies to the legislative requirement for United States history.
3023 American Independence and National Unity, 1760-1820 (3-0) 3 hours credit. Prerequisite: HIS 1013 or consent of instructor. Origins of the American Revolution, the Revolutionary War, the struggle for unity, and the early years of nationhood. Applies to the legislative requirement for United States history.

American Reform
(3-0) 3 hours credit.
An analysis and comparison of the origins and development of American reform from 1730 to the New Deal, such as the Great Awakening, anti-slavery, temperance, abolitionism, Populism, Progressivism, and the New Deal. Applies to the legislative requirement for United States history.

## 3063 The Borderlands 1521-1821

(3-0) 3 hours credit.
Spanish exploration and colonization of the northern frontiers of New Spain. The introduction of Hispanic institutions and the development of a frontier society.
3073 The Borderlands Since 1821
(3-0) 3 hours credit.
The American Westward Movement into the Southwest, the settlement and development of the area as well as its political history are considered in relation to national trends. Special attention is given to the area as a meeting place of various European, American and Asian ethnic groups and to their cultural institutions and traditions.

## 3093 United States Constitutional History

(3-0) 3 hours credit.
Constitutional developments from the formation of the state and federal constitutions to Watergate. Particular attention is paid to the context of judicial decisionmaking at the Supreme Court level and the impact of those decisions on American life. Complements POL 3323, Constitutional Law. Applies to the legislative requirement for United States history.

## 3103 History of Labor in the United States

(3-0) 3 hours credit. Prerequisite: HIS 2033 or consent of instructor.
An examination of factors antecedent to the rise of organized labor, the early unionizing efforts and their results, the legalization of collective bargaining, institutionalization of the union movement, and the rise of new labor interest groups.

## 3113 The American Indian

(3-0) 3 hours credit.
A history of the American Indian since European contact to the present. Attention is given to the internal cultural, economic and political developments within the different indian groups as well as to the European and American developments and policies affecting the Indian.
3123 History of Texas: The Colonial and Mexican Periods and the War of Independence
(3-0) 3 hours credit.
Texas history from the seventeenth century through the War of Independence in 1836, emphasizing the Spanish and Mexican backgrounds of Texas and the changes which preceded Texas' independence. Applies to the legislative requirement in Texas history.

## 3133 History of Minorities in the Southwest

(3-0) 3 hours credit.
An interpretation of the historical heritage of minority groups in the Southwest, with attention to the development of ethnic and interethnic social, political, and economic institutions in the region.

## 3143 Women in American Life

(3-0) 3 hours credit.
The changing role of women from colonial times to the present, with particular attention to women's influence on the family, the labor force, economic decisionmaking, and political action.
3153 The City in the Making of America
(3-0) 3 hours credit.
A study of urban growth since 1625. The course examines the social, economic, and political life of three phases in United States urbanization: the colonial city, the industrial city, and the modern metropolis. The effects of urban changes on the
lives of city dwellers and on the ways in which cities have influenced national development.
3163 The Stranger in America
(3-0) 3 hours credit.
An examination of immigrants and their reception in American society from the eighteenth century to the present, including the immigrants' motives for moving to the United States, the problems they encountered in adjusting to their new surroundings, and the contributions they made to the nation's development.

3173 Modern America
(3-0) 3 hours credit.
Modern America since World War I is examined in relation to the socio-economic forces and the political trends of the twentieth century. Topics include social change, evolving political functions and structures and the new American role in the world order. Applies to the legislative requirement for United States history.

## 3183 Law and American Development

(3-0) 3 hours credit.
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. Applies to the legislative requirement for United States history.
3193 The South in American History
(3-0) 3 hours credit.
Development of a southern identity, slavery, Civil War and Reconstruction, Jim Crowism, the Civil Rights Movement, with emphasis on the period since 1815.
3203 Britain Since 1660
(3-0) 3 hours credit.
A survey of modern British history, emphasizing political, social and intellectual factors in Britain's past.

## 3213 France Since 1750

(3-0) 3 hours credit.
Introduction to the culture, politics and life of France. Intensive examination of a central event in European history, the French Revolution, and its role in the formation of modern France.

3223 Russia Since 1682
(3-0) 3 hours credit.
The development of Russia since the accession of Peter the Great, including the Russian Revolution and the establishment of the Soviet state.

## 3233 Germany Since 1806

(3-0) 3 hours credit.
The history of Germany since the Battle of Jena, emphasizing the crisis of the Prussian state, the effects of industrialization, the rise of German culture, Germany's unification and attainment of world power, and Germany's history since World War I.
3243 History of Spain
(3-0) 3 hours credit.
A survey of Iberian history from the evolution of the northern kingdoms to the twentieth century, emphasizing the growth and development of Castile and Aragon, Hapsburg imperialism, the Bourbon reformers, and the modern political alignments that culminated in the Spanish Civil War.

## 3253 The Economic and Social History of Europe Since 1760

(3-0) 3 hours credit.
The technological and social origins of industrialization, its development and spread in the nineteenth century, and its effects on society and culture. Demographic change and the family. "Post-industrial" society.

## 3263 Seventeenth and Eighteenth Century Europe

(3-0) 3 hours credit.
A survey of European history emphasizing France and the impact of the Enlighten-
ment and the French Revolution in shaping modern political ideology, social values and culture.
3303 History of Mexico
(3-0) 3 hours credit.
The development of the Mexican nation and culture from the Aztecs to the present.
3323 Makers of Latin American History
(3-0) 3 hours credit.
A study of Latin American history through the lives of major figures from colonial times to the present.
3503 The Expansion of Europe, 1415-1800
(3-0) 3 hours credit.
A survey of European exploration, cultural and economic expansion, colonization, and imperialism.

## 3513 The European Renaissance

(3-0) 3 hours credit.
Exploration of the life and thought of a dynamic period in European history when the foundations of the modern world were established in religion, politics, economy, art, science, and society.
3523 European Cultural History
(3-0) 3 hours credit. Prerequisite: ENG 1033.
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.
3533 Inter-American Relations
(3-0) 3 hours credit. Prerequisite: HIS 2543 or consent of instructor.
The history of the diplomatic relations between nations of the Americas, and the struggle for political hegemony.
3583 Revolutions in History
(3-0) 3 hours credit.
Using various case studies selected by the instructor, this course will examine the changing goals and methods of revolutionaries from the late eighteenth century to modern times.
3613 Religion and Social Change in Early Modern Europe
(3-0) 3 hours credit.
Comprehensive view of the social, political and intellectual origins of the Reformation and its consequences for European life and values since the eighteenth century.

## 3713 The Middle East in Crisis

(3-0) 3 hours credit.
This course will deal with the historical background to the Arab-Israeli dispute, the Middle East's relations with colonial and other major powers, and the area's problems with industrialization and modernization.
4173 History and Evolution of the City
(3-0) 3 hours credit. Prerequisite: SSC 3213 or consent of instructor.
An examination of the origins of the city, the development and variation of the urban settlement in response to the agricultural, commercial and industrial revolutions, and the city viewed cross-culturally to illustrate its common and diverse functions.

## 4193 Colonialism: A Comparative Approach

(3-0) 3 hours credit.
The colonial experiences of several different areas of the world, analyzed and compared against the historical background of the Third World.
4203 History of Science
(3-0) 3 hours credit.
The emergence of science among alternative explanatory systems from its roots in classical times to the present. Science as an intellectual activity, a social product
and a force for change. Parallels and divergences in the development of social and physical sciences.

## 4303 History of Urban Crime in America

(3-0) 3 hours credit.
This course explores the changing nature of the criminal underworld as it has responded to broad socioeconomic processes in American urban society since 1800. Topics include a consideration of street crime, juvenile delinquency, and professional thieves; an examination of changing perceptions of narcotics use; and an extensive analysis of the origins and development of organized crime.

### 4911.3 Independent Study

$1-3$ hours credit. Prerequisites: Permission in writing (form available) of the instructor, the student's advisor, and the Division 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 hours of independent study, regardless of discipline, will apply to a bachelor's degree.

## 4953 Special Studies in History

(3-0) 3 hours credit. Prerequisite: Consent of instructor.
An organized course offering specialized study not normally or not often available as part of the regular course offerings. Special Studies courses may be repeated for credit when the topics vary, but not more than 6 hours within any one discipline will apply to a bachelor's degree.

## 4973 Seminar in History

(3-0) 3 hours credit. Prerequisite: Consent of instructor. Enrollment limited to juniors and seniors majoring in history.
An intensive study of a selected topic. Primary emphasis on supervised research on various aspects of the topic.

## 4993 Honors Thesis

3 hours credit. Prerequisite: Enrollment limited to candidates for honors in history during their 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.

## BACHELOR OF ARTS DEGREE IN POLITICAL SCIENCE

Political Science is the study of public decisions, the principles and processes by which, and the structures through which, they are made. It is concerned with the conflict among different social values and interests as they influence and are influenced by the behavior of governments and politicians. Traditionally, political science has been associated with the study of history, law, and philosophy; the contemporary discipline is more closely allied with sociology and economics. These influences are reflected in the diversity of approaches and methods used in the field. Among the major subdivisions of political science are American government and politics, comparative politics, international politics, public law, public administration, and political philosophy.
The minimum number of semester hours required for this degree, including the 50 hours of General Education Requirements, is $120 .{ }^{28}$
All candidates for the degree must complete:
A. 30 semester hours in the major, 21 of which must be at the upperdivision level.

1. 15 semester hours of required courses are:

[^39]a. 6 semester hours from courses numbered POL 2503-2693
b. SSC 3003 Social Research Methods
c. One advanced undergraduate seminar, to be chosen from courses numbered POL 4003-4493 or designated sections of POL 4953, or, with approval of the student's advisor, POL 4933, Internship in Political Science, or POL 4914, Independent Study
d. 3 semester hours chosen from Social Science (SSC) courses
2. 15 semester hours of political science electives, 12 of which must be at the upper-division level, are required, to be chosen in consultation with the student's advisor. Up to nine of these hours may be applied to the major from:
ECO 3273 Public Choice and the Public Finances
HIS 3093 United States Constitutional History
HIS 3533 Inter-American Relations
HIS 3583 Revolutions in History
HIS 4193 Colonialism: A Comparative Approach
PSY 3353 Political Socialization
SOC 3103 Corporate Structures
SOC 3163 The Mass Media, Government, and Public Opinion
SOC 4103 Survey Research Methods
SSC 3103 Major Theories of the Social Sciences
Note: No SSC course taken as a POL elective may be used to satisfy requirement A. 1. d. above.
B. 6 semester hours of Social Science courses outside the major chosen with consent of the advisor.
C. 34 semester hours of free electives.

Students contemplating careers in the areas of administration or policy planning in local, regional, state or national government may wish, while meeting the requirements of the political science major, to take the following courses:
POL 2513 Public Administration and Public Policy
One of the following:
POL 3613 Public Budgeting and Taxation
POL 3703 Personnel Administration in the Public Sector
One of the following:
POL 3603 Public Policy Analysis
POL 3723 Ethics in Government
POL 4323 Administrative Law
POL 4933 Internship in Political Science

## COURSE DESCRIPTIONS POLITICAL SCIENCE (POL)

## 1043 Introduction to Texas Politics

(3-0) 3 hours credit.
Constitutional theory and political practice in Texas. Constitutional development, the Governor and the Legislature, the judiciary, parties, pressure groups, county, city, and town government. Fulfills the legislative requirement in Texas government.
1053 Introduction to American Politics
(3-0) 3 hours credit.
Constitutional theory and political practice in the United States. Political behavior, parties and pressure groups, the Presidency and Congress, the judiciary, contem-
porary public policy issues. Fulfills the legislative requirement in United States government.
2013 The Political Systems of the United States and Mexico
(3-0) 3 hours credit.
A comparative examination of the constitutional frameworks, political institutions, and political practice of the United States and Mexico. The two revolutions, the role of the constitution, the power of the executive, Partido Revolucionario Institucional (PRI), Republicans and Democrats, the question of political opposition, federal-state relations, the politics of economic development, etc. Fulfills the legislative requirement in United States government.

## 2023 Civil Liberties in American Law and Practice

(3-0) 3 hours credit.
An examination of the Bill of Rights and its contemporary application in the United States. The theory and history of civil liberties in America. Freedom of expression; privacy; religious freedom; legal due process, etc. Fulfills the legislative requirement in United States government.

## 2033 The Origins of the American Constitutional System

(3-0) 3 hours credit.
The political theory of the Declaration of Independence and the Constitution. The Constitutional Convention. The debate over ratification. The economic theory of the Constitution. Fulfills the legislative requirement in United States government.

## 2043 Contemporary Public Policy in Texas

(3-0) 3 hours credit.
The relationship between the constitutional and legal framework and contemporary policy issues. The power of the state executive office, executive-legislative relations, environmental and energy policy, state-local relations, etc. Fulfills the legislative requirement in Texas government.

## 2053 Federalism in the United States and Mexico

(3-0) 3 hours credit.
A comparitive course on federal-state relations. Special emphasis is placed upon Texas and its relationship to the American national government, as compared to the state-center relationships in Mexico. Both constitutional stipulations and contemporary practice are considered. Fulfills the legislative requirement in Texas government.

## 2063 The Politics of the American Economy

(3-0) 3 hours credit.
The Constitution, the courts and government economic intervention. The new industrial state. Corporations, unions, and government. Consumer politics. Fiscal and monetary policy. The budget. Fulfills the legislative requirement in United States government.
2073 American State and Local Politics
(3-0) 3 hours credit.
A comparative examination of state constitutions, governmental structures, and politics, with special emphasis on Texas. Fulfills the legislative requirement in Texas government.

## 2083 The United States in the World

(3-0) 3 hours credit.
The development of conceptions of the United States' role in the world. The foreign policy decision-making process and its legal and constitutional basis. The relationship of domestic politics to the conduct of foreign policy. Fulfills the legislative requirement in United States government.

## 2503 Introduction to Political Theory

(3-0) 3 hours credit. Prerequisite: 3 credit hours from any course numbered from POL 1013 to POL 2083; or consent of the instructor.
The fundamental concepts and problems of politics, as viewed by the classical political philosophers and contemporary theorists: justice, power, authority, obligation, freedom, equality.

## 2513 Public Administration and Public Policy

(3-0) 3 hours credit. Prerequisite: 3 credit hours from any course numbered from POL 1013 to POL 2083; or consent of the instructor.
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.

## 2523 Political Behavior

(3-0) 3 hours credit. Prerequisite: 3 credit hours from any course numbered from POL 1013 to POL 2083, or consent of the instructor. The study of mass and elite political attitudes and activity from a behavioral perspective. Topics covered may include elections, legislative behavior, public opinion, and political socialization.
2603 International Politics
(3-0) 3 hours credit. Prerequisite: 3 credit hours from any course numbered from POL 1013 to POL 2083, or consent of instructor.
The theory and practice of international relationships. The character of the contemporary international system will be analyzed from several theoretical perspectives and in the light of recent diplomatic history.
2623 Law and Society
(3-0) 3 hours credit. Prerequisite: 3 credit hours from any course numbered from POL 1013 to POL 2083, or consent of instructor. An examination of the role of law in society. Topics examined may include: natural law; legal realism; constitutional, statutory, common, civil, socialist, and administrative law. The structure and functions of the judiciary, police, and legal profession.

## 2633 Comparative Politics

(3-0) 3 hours credit. Prerequisite: 3 credit hours from any course numbered from POL 1013 to POI 2083, or consent of instructor. A comparative examination of the diverse forms, goals, styles, and practices of government in Western, Communist, and developing societies. Several major politics will be studied in detail.

## 3103 Political Ideology

(3-0) 3 hours credit. Prerequisite: 3 credit hours from any course numbered from POL 1013 to POL 2083, or consent of instructor. An examination of ideology as a social phenomenon affecting political behavior, and of the specific doctrines of liberalism, socialism, conservatism, fascism, and Communism.

## 3113 American Political Theory

(3-0) 3 hours credit. Prerequisite: 3 credit hours from any course numbered from POL 1013 to POL 2083, or consent of instructor. The political theory of the Constitution; the Federalist Papers; Adams; Jefferson; Paine; Calhoun; Thoreau; Social Darwinism; Pragmatism; twentieth century political thought.
3133 Political Philosophy: Ancient and Medieval
(3-0) 3 hours credit. Prerequisite: 3 credit hours from any course numbered from POL 1013 to POL 2083, or consent of instructor. The major works of Western Political philosophy from ancient times to the Renaissance. Writers examined may include Plato, Aristotle, Thucydides, Augustine, Machiavelli.

## 3143 Political Philosophy: Modern

(3-0) 3 hours credit. Prerequisite: 3 credit hours from any course numbered from POL 1013 to POL 2083, or consent of instructor. The major works of political philosophy from the Renaissance to the nineteenth century. Writers examined may include Hobbes, Locke, Rousseau, Hebel, Marx, Mill.
3153 Political Philosophy: Contemporary
(3-0) 3 hours credit. Prerequisite: 3 credit hours from any course numbered from POL 1013 to POL 2083, or consent of instructor.
Political thought from the late nineteenth century to the present. Topics examined may include: contemporary Marxism and critical theory; analytic political theory; positivism and social science; phenomenological approaches; existentialism; contemporary ethics.

## 3213 American Community Politics

(3-0) 3 hours credit. Prerequisite: 3 credit hours from any course numbered from POL 1013 to POL 2083, or consent of instructor.
An examination of local governments in the United States and the metropolitan political economies which frame their interactions with each other and with other regional, state, and national governments. Problems of participation, power, political organization, development, and planning.

## 3223 Judicial Politics

(3-0) 3 hours credit. Prerequisite: 3 credit hours from any course numbered from POL 1013 to POL 2083, or consent of instructor.
Political behavior of the major participants in the judicial process: judges, attorneys, juries, defendents, litigants; the political and administrative context of the judicial process; judicial-executive and judicial-legislative relations; the impact of course decisions.

## 3233 Political Campaigns and Elections

(3-0) 3 hours credit. Prerequisite: 3 credit hours from any course numbered from POL 1013 to POL 2083, or consent of instructor.
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.
3243 American Political Culture
(3-0) 3 hours credit. Prerequisite: 3 credit hours from any course numbered from POL 1013 to POL 2083, or consent of instructor.
The enduring patterns of American political behavior examined in light of historical and contemporary politics. The sources of these patterns and the significance of distinct political subcultures.
3293 Ethnic Politics in the Southwest
(3-0) 3 hours credit. Prerequisite: 3 credit hours from any course numbered from POL 1013 to POL 2083, or consent of instructor.
The role of Mexican-American, Indian, and Black minorities in the politics of the Southwest; the responsiveness of existing political structures to ethnic problems; ethnic political organizations and influence.
3303 Executive-Legislative Relations in the United States
(3-0) 3 hours credit. Prerequisite: 3 credit hours from any course numbered from POL 1013 to POL 2083, or consent of instructor.
The constitutional framework and historical development of presidential and congressional powers. Legislation. Foreign policy and war-making power. Executive privelege. Impoundment. Impeachment. Fulfills the legislative requirement in United States government.

## 3313 The American Federal System

(3-0) 3 hours credit. Prerequisite: 3 credit hours from any course numbered from POL 1013 to POL 2083, or consent of instructor.
The political theory of federalism; the constitutional provisions; interstate coordination of policies; local-state-federal relations; the political role of private and public interests within the federal framework. Special emphasis on Texas. Fulfills the legislative requirement in Texas government.

## 3323 Constitutional Law

(3-0) 3 hours credit. Prerequisite: POL 2023, POL 2623, or HIS 3093, or consent of instructor.
An examination of major constitutional issues, past and present, through the intensive study of leading cases. Recommended for pre-law students. Fulfills the legislative requirement in United States government.

## 3343 Political Participation

(3-0) 3 hours credit. Prerequisite: 3 credit hours from any course numbered from POL 1013 to POL 2083, or consent of instructor. The level and modes of political participation in the United States and other societies. The impact of socioeconomic status, ethnicity, context, psychological attributes, rational calculation, regime type, and other influences upon participation.

## 3363 Political Parties and Interest Groups

(3-0) 3 hours credit. Prerequisite: 3 credit hours from any course numbered from POL 1013 to POL 2083, or consent of instructor.
The American political party system is analyzed and compared with those of Great Britain and other democracies as well as within single-party systems in the Communist states and the Third World.

## 3373 The Legislative Process

(3-0) 3 hours credit. Prerequisite: 3 credit hours from any course numbered from POL 1013 to POL 2083, or consent of instructor.
A comparative examination of legislatures in the United States and other industrial societies, their functions, structures, and future prospects.

## 3383 Comparative Communist Politics

(3-0) 3 hours credit. Prerequisite: 3 credit hours from any course numbered from POL 1013 to POL 2083, or consent of instructor.
A comparative examination of government and politics in the Soviet Union, China, Yugoslavia, and other Communist societies. Ideology. The cultural and economic setting of politics. The international relations of Communist states.

## 3393 Latin American Politics

(3-0) 3 hours credit. Prerequisite: 3 credit hours from any course numbered from POL 1013 to POL 2083, or consent of instructor.
An examination of political institutions and their relationship to social and economic change in Latin America. The military in politics. Revolutionary movements. The economic setting.

## 3403 European Politics

(3-0) 3 hours credit. Prerequisite: 3 credit hours from any course numbered from POL 1013 to POL 2083, or consent of instructor.
The interplay of politics with the changing social and economic environment in the advanced industrial societies of Europe. Western and Eastern Europe will be treated comparatively. The Common Market and selected individual countries will be examined.

## 3413 The Politics of Urbanizing Societies

(3-0) 3 hours credit. Prerequisite: 3 credit hours from any course numbered from POL 1013 to POL 2083, or consent of instructor.
A comparative examination of urban governments and politics, and of their capacity to respond to urban issues and problems. Topics examined may include political participation; the politics of finance and intergovernmental relations; urban growth.

## 3423 Social Conflict in the Third World

(3-0) 3 hours credit. Prerequisite: 3 credit hours from any course numbered from POL 1013 to POL 2083, or consent of instructor.
A consideration of conflict situations which may arise in a developing society including conflicts between traditional and modern structures, the development of class conflicts, and the problems of minority populations.

## 3433 Leadership and Modernization in the Third World

(3-0) 3 hours credit. Prerequisite: 3 credit hours from any course numbered from POL 1013 to POL 2083, or consent of instructor.
An examination of political elites and leadership in the modernization process. Topics examined include charisma, military rule, nationalist and revolutionary leadership, and bureaucracy in Asia, Africa, and Latin America.

## 3443 Asian Politics

(3-0) 3 hours credit. Prerequisite: 3 credit hours from any course numbered from POL 1013 to POL 2083, or consent of instructor.
A comparative examination of the political systems of selected Asian nations and their attempts to deal with problems of social, economic, and political change. Nations studied may include Japan, China, India, and Korea.

## 3503 American Foreign Policy Since World War II

(3-0) 3 hours credit. Prerequisite: 3 credit hours from any course numbered from POL 1013 to POL 2083, or consent of instructor.

A critical examination of the principles and practices of American foreign policy as it has developed since World War II.

## 3513 International Organizations

(3-0) 3 hours credit. Prerequisite: 3 credit hours from any course numbered from POL 1013 to POL 2083, or consent of instructor.
An examination of international and regional political, economic, and military organizations, their purposes, operations, and role in the international system. Organizations examined may include: the United Nations, the Common Market, NATO, the Warsaw Pact, the Organization of American States, multinational corporations. The role of international law.

## 3523 Force in International Politics

(3-0) 3 hours credit. Prerequisite: 3 credit hours from any course numbered from POL 1013 to POL 2083, or consent of instructor.
An examination of war, other forms of political violence, and coercion in international relations. Topics considered may include Western thought of war, causes of and justifications for war, foreign military intervention, how wars end, approaches to the reduction of international violence, defense strategy.

## 3603 Public Policy Analysis

$(3-0) 3$ hours credit. Prerequisite: 3 credit hours from any course numbered from POL 1013 to POL 2083, or consent of instructor.
An analysis of public policy formation and implementation in the larger setting of power in the United States. The implications of the policy process for democracy. Case studies will be drawn from a range of problem areas including energy, health, the environment, and the fiscal crisis.

## 3613 Public Budgeting and Taxation

(3-0) 3 hours credit. Prerequisite: 3 credit hours from any course numbered from POL 1013 to POL 2083, or consent of instructor.
An examination of the process and politics of public budgeting and taxation, and of the bureaucratic behavior accompanying it.

## 3703 Personnel Administration in the Public Sector

(3-0) 3 hours credit. Prerequisite: 3 credit hours from any course numbered from POL 1013 to POL 2083, or consent of instructor. POL 2513 recommended.
A survey of personnel management in the public sector. Topics examined may include recruitment, civil service and patronage appointments, career development, manpower utilization, conflict of interest questions, employee organization and relations, affirmative action.

## 3713 Comparative Systems of Public Administration

(3-0) 3 hours credit. Prerequisite: 3 credit hours from any course numbered from POL 1013 to POL 2083, or consent of instructor. POL 2513 recommended.
Administrative goals, structures, processes, and behavior in comparative perspective. Bureaucracies in Western democratic, Communist, and developing political systems will be examined.

## 3723 Ethics in Government

(3-0) 3 hours credit. Prerequisite: 3 credit hours from any course numbered from POL 1013 to POL 2083, or consent of instructor.
An investigation of the philosophical, legal, and practical problems of establishing and maintaining ethical standards in government. The theory and practice of public morality in administration, public policy-making and elective politics will be examined.

## 4113 Models of Democracy

(3-0) 3 hours credit. Prerequisite: 3 credit hours from any course numbered from POL 1013 to POL 2083, or consent of instructor.
The study of important democratic theorists provides a foundation for the critical and comparative analysis of several types of political systems which view themselves as democratic: e.g., U.S. constitutional liberalism, Swiss cantonal federalism, Spanish anarcho-syndicalism, Soviet and Chinese Communism, industrial democracy.

## 4153 Seminar in Jurisprudence

(3-0) 3 hours credit. Prerequisite: 3 credit hours from any course numbered from POL 1013 to POL 2083, or consent of instructor.
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.

## 4323 Administrative Law

(3-0) 3 hours credit. Prerequisite: POL 2023 or POL 2623 or consent of instructor. 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 values in decision making.

## 4353 Political Leadership and Elites

(3-0) 3 hours credit. Prerequisite: 3 credit hours from any course numbered from POL 1013 to POL 2083, or consent of instructor.
A survey of the major theoretical and empirical approaches to the study of political elites and leadership. Sociological, psychological, and historical perspectives are examined along with those of political science.

### 4911.3 Independent Study

1.3 hours credit. Prerequisites: Permission in writing (form available) of the instructor, the student's advisor, and the Division 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 hours of independent study, regardless of discipline, will apply to a bachelor's degree.

## 4933-6 Internship in Political Science

3 or 6 hours credit. Prerequisite: consent of internship coordinator. Provides student with structured experience in a civic, political, or governmental organization. May be repeated once for a total of 6 hours credit.

## 4953 Special Studies in Political Science

(3-0) 3 hours credit. Prerequisite: Consent of instructor.
An organized course offering specialized study not normally or not often available as part of the regular course offerings. Special Studies courses may be repeated for credit when the topics vary, but not more than 6 hours within any one discipline will apply to a bachelor's degree.

## 4993 Honors Thesis

3 hours credit. Prerequisite: Enrollment limited to candidates for honors in political science during their 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.

## BACHELOR OF ARTS DEGREE IN PSYCHOLOGY

Psychology is the study of animal, and particularly human behavior and of cognitive processes and thought. Modern psychology includes a wide variety of subspecialities such as perception, memory, learning, physiological processes, thinking, motivation, emotion, social behavior, personality, child development, and psychopathology. The psychology student is exposed to the varying theoretical and methodological approaches used by psychologists and learns the facts and concepts of several different approaches.
The minimum number of semester hours required for this degree, including the 50 hours of General Education Requirements is $120 .{ }^{29}$

[^40]All candidates for the degree must complete:
A. 30 semester hours in the major, 21 of which must be at the upperdivision level.

1. 15 semester hours of required courses are:
a. PSY 2013 Fundamentals of Psychology
b. 3 semester hours from courses numbered PSY 2503-2533
c. 3 semester hours from courses numbered PSY 2543-2593
d. PSY 3003 Laboratory Methods and Experimental Design in Psychological Research
e. 3 semester hours chosen from Social Science (SSC courses)
2. 15 semester hours of psychology electives are required, to be chosen in consultation with the student's advisor.
Up to nine semester hours may be applied to the major from:
ANT 3613 Cross-Cultural Studies of Socialization
ANT 3623 Primate Behavior
BIO 3213 Animal Ecology
BIO 3463 Human Physiology
BIO 4083 Heredity, Evolution, Race and Society
COM 3083 Language and Communication Theory
LNG 3843 Psychology of Language
MAT 3013 Statistical Methods in the Life and Social Sciences II
MGT 3253 Interpersonal Communication
PHI 3033 Philosophy of Science
SOC 3053 Deviance and Conformity
SOC 3253 Theories of the Individual and Society
SSC 3003 Social Research Methods
Note: No SSC course taken as a PSY elective may be used to satisfy requirement A.1.e. above.
B. 6 semester hours of Social Science courses outside the major chosen with the consent of the advisor.
C. 34 semester hours of free electives.

The student planning a career in Psychology or some related field is strongly urged to discuss his/her professional goals with an advisor as soon after declaring a major as possible. The advisor will recommend a program of elective courses designed to match the student's interests. Generally, the student who anticipates graduate-level education in Psychology will be advised to strengthen his/her background in statistics, computer science, and natural sciences. In addition, certain courses in education, business, and the arts may be recommended.

## COURSE DESCRIPTIONS PSYCHOLOGY (PSY)

## 2013 FUNDAMENTALS OF PSYCHOLOGY

(3-0) 3 hours credit.
Introduction to the study of the mind and behavior with attention to awareness, discrimination, sensation, perception, emotion, motivation, learning, memory, problem-solving, personality, mental and behavioral development, abnormal behavior, and behavior in group settings. Participation in illustrative research required.

## 2503 Developmental Psychology

(3-0) 3 hours credit. Prerequisite: PSY 2013 or consent of instructor. Problems, methods and results in the study of the psychological development of the individual from the prenatal period to old age.

## 2513 Abnormal Psychology

(3-0) 3 hours credit. Prerequisite: PSY 2013 or consent of instructor. Dynamics of abnormal behavior, with attention to neurotic personality, neurotic symptom formation and psychosomatic disorders. Further topics include the effects of brain injuries and the major psychoses.

## 2523 Personality

(3-0) 3 hours credit. Prerequisite: PSY 2013 or consent of instructor. Problems, methods, major theories, and results in the study of development and maintenance of typical modes of behavior and dynamics of adjustment.
2533 Social Psychology
(3-0) 3 hours credit. Prerequisite: SOC 1013 or PSY 2013 or consent of instructor. Problems, methods, major theories, and results in the study of social interaction and interpersonal influence: self-identity, values and attitudes, role behavior, social perception and behavior within groups.

## 2543 Theories of Learning

(3-0) 3 hours credit. Prerequisite: PSY 2013 or consent of instructor.
Alternative theories of the acquisition, elimination and maintenance of behavior and the effects of previous experience on responses to new situations. Varieties of practical applications of laboratory findings and variables influencing applicability are considered.
2553 Perception
(3-0) 3 hours credit. Prerequisite: PSY 2013 or consent of instructor.
Consideration of the various means by which patterns of light and sound are transformed into perception of an environment, with emphasis on vision. Topics include psychophysics, color vision, elementary sensory physiology, perceptual development, illusions, pattern recognition, information processing, and the role of social and cultural factors in perception.
2563 Physiological Psychology
(3-0) 3 hours credit. Prerequisite: PSY 2013 or consent of instructor.
The biological, 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.

## 2573 Thinking and Creativity

(3-0) 3 hours credit. Prerequisite: PSY 2013 or consent of instructor.
The processes of reasoning, concept formation, problem-solving, and creativity. The role of logic in thinking, heuristic and algorithmic methods of problem-solving, cognitive styles, and techniques influencing creativity.

## 3003 Laboratory Methods and Experimental Designs in Psychological Research

(1-4) 3 hours credit. Prerequisite: MAT 1153 or equivalent; prior or concurrent enrollment in MAT 2013 recommended.
This course is designed to familiarize students with representative experimental designs employed in psychological research, to provide experience in data collection and analysis, and to provide exposure to basic equipment and procedures used in the sub-areas of the discipline.

## 3013 Psychological Measurement

(3-0) 3 hours credit. Prerequisite: PSY 2013 and MAT 2013 or consent of instructor. The application of quantitative and qualitative measures to psychological data, interpretational strategies, and assessments of validity and reliability.

## 3023 Social Psychology of Small Groups

(3-0) 3 hours credit. Prerequisite: PSY 2533 or ENG 4043 or consent of instructor.
Theory and modern research in the social psychology of diads, triads, and small groups. Group dynamics, balance theory, non-verbal communication and smali group research design are given particular attention.

## 3043 Comparative Psychology

(3-0) 3 hours credit. Prerequisite: PSY 2013 or consent of instructor.
Comparative study of the social behavior of various species of animals, including man, from a phylogenetic perspective.

## 3053 Cross-Cultural Psychology

(3-0) 3 hours credit. Prerequisite: 1 course each in Psychology and Anthropology or consent of instructor.
Perception, learning, cognition and thinking, personality and social behavior from a cross-cultural perspective.
3103 Cognition
(3-0) 3 hours credit. Prerequisite: 2 Psychology courses or consent of instructor. Consideration of the cognitive processes underlying the acquisition and internal representation of stimulus information and the means by which such information is utilized and modified. Emphasis on the ways in which the major theoretical approaches differ in their analyses of such phenomena as awareness, imagery, problem-solving, and intrinsic motivation.

## 3113 Motivation

(2-2) 3 hours credit. Prerequisite: 2 Psychology courses or consent of instructor.
Examination of causal and purposive accounts of human behavior, and of the biological and learned foundations of motivation. Particular emphasis is given to the causes of volitional behavior.

## 3123 Attitudes

(3-0) 3 hours credit. Prerequisite: PSY 2533 or consent of instructor.
Consistency and learning models of attitude acquisition and change. Theories and research on the relationships between attitudes and behavior with attention to various techniques of attitude measurement.
3143 Psychology of Subjective Experience
(3-0) 3 hours credit. Prerequisite: PSY 3103 or consent of instructor.
Philosophical and methodological problems of analyzing consciousness with special consideration of the determinants of normal and altered states of awareness. Topics include the function of consciousness, the mind-body problem, the nature of affective experience, and the perception of time.
3203 Industrial Psychology
(3-0) 3 hours credit. Prerequisite: 2 Psychology courses or MGT 3023 or consent of instructor.
Applications of psychological knowledge to industrial problems such as personnel selection, employee motivation and satisfaction, and the influence of organizations on behavior. The role of psychology in industry.

## 3283 Socialization

(3-0) 3 hours credit. Prerequisite: PSY 2503 or PSY 2533 or consent of instructor.
The study of how people learn to behave appropriately and to internalize the values of groups. Particular emphasis is given to moral development and to the relationships between children and parents and the outcomes of these relationships for socialization.

## 3353 Political Socialization

(3-0) 3 hours credit.
The acquisition of political attitudes in childhood, adolescence, and adulthood. The impact of the family, school, informal group, job, media. Elite socialization. The sources of political dissent and opposition. Both American and comparative studies are examined.

## 3513 Psychopathology and Childhood

(3-0) 3 hours credit. Prerequisite: PSY 2513 or consent of instructor.
Clinical findings and experimental research regarding chitdhood behavior problems, including hyperkenesis, infantile autism, childhood schizophrenia, and withdrawal reactions. Additional topics include family influences on development of abnormal behavior and various psychotherapeutic techniques.

## 3523 Psychological Problems of the Aged

(3-0) 3 hours credit. Prerequisite: PSY 2503 or consent of instructor.
Traditional and modern approaches to the social, institutional, neurological, and physical bases of aging.

## 3533 Behavior Change and Psychotherapy

(3-0) 3 hours credit. Prerequisite: PSY 2513 or consent of instructor.
Classic and modern theories and related research on the process of behavior and value change, particularly in the contexts of rehabilitation and psychotherapy. Comparison of various models and their empirical support, the definition of progress and cure, and the linkage of attitude and value change to behavior change.

## 3633 Aggression

(3-0) 3 hours credit. Prerequisite: ANT 1013 or PSY 2013 or consent of instructor. Survey of social and psychological data, findings and theory on aggression, both human and non-human.

## 4003 History of Psychology

(3-0) 3 hours credit.
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 nineteenth century.
4103 Prejudice
(3-0) 3 hours credit. Prerequisite: PSY 2533 or consent of instructor.
Consideration of social psychological and personality factors in prejudice and stereotyping, and their interaction with cultural factors in producing racism and other prejudices.
4113 Cognitive Development
(3-0) 3 hours credit. Prerequisite: PSY 2503 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 to the validity of the concept of cognitive stages, particularly Paigetian models.
4123 Personality Development
(3-0) 3 hours credit. Prerequisite: PSY 2503 or consent of instructor.
The development of stable individual differences and personality structures throughout the life span.
4143 Memory
(3-0) 3 hours credit. Prerequisite: PSY 3103 or consent of instructor.
Models for the coding, storage, and retrieval of information in memory. Organization and structure of short-term memory, long-term memory, semantic memory and the role of verbalization and images in memory.

## 4153 Attention

(3-0) 3 hours credit. Prerequisite: PSY 2553 or PSY 3103 or consent of instructor. Mechanisms for selectively attending to only part of the perceptual information available and for simultaneous attention to several perceptual sources. Special consideration of the role of stimulus characteristics, perceptual structures, cognitive skills, and motivational factors.

## 4203 Prosocial Behavior

(3-0) 3 hours credit. Prerequisite: PSY 2533 or consent of instructor; PSY 3003 recommended.
Cooperation, altruism, interpersonal attraction, and the development of relationships, including such underlying mechanisms as empathy, self-presentation and self-disclosure, norms, and trust.

## 4213 Person Perception

(3-0) 3 hours credit. Prerequisite: PSY 2533 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 person perception processes.

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## 4223 Environmental Psychology

(3-0) 3 hours credit. Prerequisite: PSY 2533 or consent of instructor.
Analysis of the ways in which natural, architectural, and social environments structure the behavior of individuals and groups. Topics include environmental perception, spatial behavior, manipulation of environment and the nature of the personenvironment interaction.

## 4233 Freudian Psychology

(3-0) 3 hours credit.
Study of the development of Freud's thought through a chronological survey of some major works and through consideration of Freud's background and life. The influence of Freud on such neo-Freudian schools as Adler, Horney, and Fromm and the impact of Freudian and neo-Freudian ideas on the social sciences.
4243 Individual Differences in Information Processing
(3-0) 3 hours credit. Prerequisite: PSY 2523 and PSY 3103 or consent of instructor. How individuals vary in the encoding and processing of information. Topics include cognitive pathologies and deficits, influence of incentives on cognitive performance, nature of belief systems, and consistency of cognitive style across tasks and skills.

## 4911-3 Independent Study

$1-3$ hours credit. Prerequisites: Permission in writing (form available) of the instructor, the student's advisor, and the Division 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 hours of independent study, regardless of discipline, will apply to a bachelor's degree.
4953 Special Studies in Psychology
(3-0) 3 hours credit. Prerequisite: Consent of instructor.
An organized course offering specialized study not normally or not often available as part of the regular course offerings. Special Studies courses may be repeated for credit when the topics vary, but not more than 6 hours within any one discipline will apply to a bachelor's degree.

## 4993 Honors Thesis

3 hours credit. Prerequisite: Enrollment limited to candidates for honors in psychology during their 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.

## BACHELOR OF ARTS DEGREE IN SOCIOLOGY

Sociology is the study of human social relationships and the products of these relationships. Sociologists investigate the organization and structure of societies, communities, and smaller groups and the manner in which these social units function, change, and affect individuals and groups. Specialized areas of sociological research include social psychology, child-rearing, race relations, criminology, deviance, aging, and urban and medical sociology.
The minimum number of semester hours required for this degree, including the 50 hours of General Education Requirements, is $120 .{ }^{30}$
All candidates for the degree must complete:
A. 30 semester hours in the major, 21 of which must be at the upperdivision level.

1. 21 semester hours of required courses are:
a. SOC 1013 Introduction to the Study of Society

[^41]b. 6 semester hours from courses numbered SOC 2003-2093
c. 3 semester hours from:

SOC 3083 Theories of Social Change
SOC 3253 Theories of the Individual and Society
SOC 4143 Classical Sociological Theory
SOC 4163 Contemporary Sociological Theory
SSC 3103 Major Theories of the Social Sciences
d. 3 semester hours from:

SOC 4103 Survey Research Methods
SSC 3003 Social Research Methods
e. SOC 4973 Sociology Senior Seminar
f. 3 semester hours chosen from Social Science (SSC) courses.
2. 9 semester hours of sociology electives are required to be chosen in consultation with the student's advisor. 6 of these hours may be applied to the major from:

| ANT | 3223 | Cultural Ecology |
| :--- | :--- | :--- |
| ECO | 4293 | Economics of Discrimination and Poverty |
| EDU | 3003 | Educational Sociology |
| HIS | 3033 | American Reform |
| MAT | 3013 | Statistical Methods in the Life and Social |
|  |  | Sciences II |
| MGT | 3023 | Organizational Behavior |
| LNG | 3833 | Sociology of Language |
| PSY | 2533 | Social Psychology |
| PSY | 3023 | Social Psychology of Small Groups |
| PSY | 3283 | Socialization |
| SSC | 3003 | Social Research Methods |
| SSC | 3103 | Major Theories of the Social Sciences |

B. 6 semester hours of Social Science courses outside the major chosen with the consent of the advisor.
C. 34 semester hours of free electives

## COURSE DESCRIPTIONS SOCIOLOGY (SOC)

## 1013 Introduction to the Study of Society

(3-0) 3 hours credit.
An introduction to 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.

## 2023 Urban Sociology

(3-0) 3 hours credit. Prerequisite: SOC 1013 recommended.
Development of modern world cities, the ecology of cities, the organization of ci ties, major social problems, the social psychology of urban life for both more developed and less developed countries.

## 2033 Population Dynamics

(3-0) 3 hours credit. Prerequisite: SOC 1013 recommended.
Trends in mortality, fertility, and migration for selected countries and their projected consequences. Associated population policies and options are considered.

## 2063 Race and Ethnic Relations

(3-0) 3 hours credit. Prerequisite: SOC 1013 recommended.
Dominant-subordinant relations in world societies, with major emphasis on the United States. Models of plural and class society, and uses and consequences of power are examined.

## 3013 Social Stratification

(3-0) 3 hours credit. Prerequisite: SOC 1013.
Theory and research pertaining to inequalities of power, prestige, and economic privilege. Major emphasis upon inequality and social mobility in the United States.
3053 Deviance and Conformity
(3-0) 3 hours credit. Prerequisite: SOC 1013 recommended.
Consideration of sociological and social psychological factors associated with compliant and deviant behavior; the links between deviance and strategies for social control.

## 3063 Collective Behavior

(3-0) 3 hours credit. Prerequisite: SOC 1013; SOC 2063 recommended.
Case studies and associated theory dealing with various forms of collective behavior and social movements, including mobs, revolutions, cults and panics.

## 3073 Migration and Adjustment

(3-0) 3 hours credit. Prerequisite: SOC 1013 and SOC 2033 recommended.
Geographic movement of populations, ties to economic, physical ideological and social features and resultant problems of adjustment. Historical as well as contemporary examples will be examined. Attention will be given to both legal and illegal immigration.

## 3083 Theories of Social Change

(3-0) 3 hours credit. Prerequisite: SOC 1013.
Principal models and theories of social transformation applied to examples of societal change.

## 3093 Religion and Society

(3-0) 3 hours credit. Prerequisite: SOC 1013.
Religious institutions and movements in the United States with comparative data from other countries. The relationship of religious institutions to social stratification, economic institutions, and political and social change.

## 3103 Corporate Structures

(3-0) 3 hours credit. Prerequisite: SOC 1013.
The sociology of public and private bureaucratic organizations, the structure and behavior of management, and patterns of mobility within corporate organizations.
3113 Criminology
(3-0) 3 hours credit. Prerequisite: SOC 1013 recommended.
A study of violent crimes, crimes without victims, property crimes, organized crimes, and drugs. Extent, causes, and methods of analysis. Societal reactions to crime: police, courts, and correctional institutions.

## 3133 Sociology of Pluralism in the Southwest

(3-0) 3 hours credit. Prerequisite: SOC 1013 or consent of instructor.
The principal minority groups in the American Southwest, with emphasis on form and consequences of intergroup relations, social movements, and related social changes, and formal models of Southwestern plural society.

## 3143 Juvenile Delinquency

(3-0) 3 hours credit. Prerequisite: SOC 1013 recommended.
Analysis of the extent, distribution and varieties of juvenile crime, with a survey of classic and contemporary sociological research on its causes, prediction and prevention.

## 3163 The Mass Media, Government, and Public Opinion

(3-0) 3 hours credit.
An examination of the relationships between the press and electronic media and government, and of the role of the media in shaping public opinion. Topics to be
covered may include: investigative reporting; news management; government regulation of the media; shield laws; the concentration of media ownership and control.

## 3173 Economy and Society

(3-0) 3 hours credit. Prerequisite: SOC 1013.
The relationship of the economic system to the social system as a whole in selected societies. The varieties of capitalist and socialist economic organizations, and their social implications.

## 3193 The Sociology of Work and Occupations

(3-0) 3 hours credit. Prerequisite: SOC 1013.
Occupational structures in selected societies. The relationship between occupations and economic rewards, life styles, and world view. Determinants of work satisfaction.

## 3203 Gerontology

(3-0) 3 hours credit. Prerequisite: SOC 1013.
An examination of the role of older persons in selected societies and the distinctive problems which they confront.

## 3213 Medical Sociology

(3-0) 3 hours credit. Prerequisite: SOC 1013.
The identification of social factors in the distribution and cause of disease; relationships between patients and medical professionals; the contribution of lay beliefs to health, illness, treatment and recovery; health institutions; the distribution of medical resources and organization of health care delivery.

## 3253 Theories of the Individual and Society

(3-0) 3 hours credit. Prerequisite: SOC 1013.
An examination of major theories dealing with the effects of culture and social structure on the development and functioning of the personality and the self. Symbolic interaction, exchange theory, conditioning and stimulus response theory, imitation and modeling, role theory, and socialization theories.

## 3283 Poverty

(3-0) 3 hours credit. Prerequisite: SOC 1013.
The causes and consequences of poverty in the United States and selected other societies. An examination of social programs designed to combat poverty.

## 3293 Sex Roles

(3-0) 3 hours credit. Prerequisite: 2 courses in Psychology of Sociology or consent of instructor.
The nature of sex roles in our own and other societies. Consideration of how people learn sex roles and the outcomes of this learning for individuals, families, and societies. Alternatives to conventional sex roles.

## 3303 Women at Work

(3-0) 3 hours credit. Prerequisite: SOC 1013 and SOC 2033 or consent of instructor; SOC 3293 recommended.
Patterns of female labor force participation, their causes and consequences will be discussed. Relationships between women's work roles and their other roles will be considered.
3333 Utopias
(3-0) 3 hours credit. Prerequisite: SOC 1013.
A critical examination of utopian social experiments and the conditions under which they have succeeded or failed.

## 3343 Life Styles

(3-0) 3 hours credit. Prerequisite: SOC 1013.
An analysis of alternative patterns of consumption in contemporary societies, along lines suggested by Max Weber. The relationship between life style and economic resources, region, race and ethnicity, occupation, and world view. Political and other social constraints upon deviant life styles.

## 3363 The Sociology of Knowledge

(3-0) 3 hours credit. Prerequisite: SOC 1013.
The relationship between social structures and modes of thought: theology, ideol-
ogy, science, and other belief systems. The impact of society on science and of science on society. Invention, discovery, and the knowledge explosion.

## 3413 Warfare and the Military

(3-0) 3 hours credit. Prerequisite: SOC 1013 recommended.
A sociological analysis of military organization and military personnel with emphasis on motivation during times of war.
3423 Homicide and Suicide
(3-0) 3 hours credit. Prerequisite: SOC 1013 and SOC 3113 recommended.
An analysis of intentional death. Case studies and associated theory focusing on motives, sequences of events, types of individuals involved, subcultures of violence, and variations over time among nations. Methods of treatment and prevention.

## 3443 Sociology of Death and Dying

(3-0) 3 hours credit. Prerequisite: SOC 1013.
Major emphasis will be on the sociocultural context of death and dying in selected societies. Topics may include: the historical origins of death rites, attitudes toward death and dying, institutional care for the dying and dead, and the social impact of death on survivors and society as a whole.

## 3463 Sociology of Play and Leisure

(3-0) 3 hours credit. Prerequisite: SOC 1013.
This course will examine 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. Topics may include the historical, cultural, economic and psychological dimensions of leisure, the relationship between work and play, and the emergence or demise of selected types of leisure activity.
4103 Survey Research Methods
(3-0) 3 hours credit. Prerequisite: One upper-division course in the social sciences. An advanced course in survey research, including research design, questionnaire construction, sampling, interviewing, control procedures, data processing, analysis and interpretation of results.
4113 Social Indicators and Social Planning
(3-0) 3 hours credit. Prerequisite: A research methods course or consent of instructor.
Techniques for anticipating future trends. Construction and use of social indicators and evaluation of projective techniques.
4143 Classical Sociological Theory
(3-0) 3 hours credit. Prerequisite: SOC 1013.
The transition from social philosophy to sociology, with special emphasis upon European theorists in the nineteenth and early twentieth centuries.

## 4163 Contemporary Sociological Theory

(3-0) 3 hours credit. Prerequisite: SOC 1013.
An examination of current trends in sociological theory: contemporary functionalism, evolutionism, exchange theory, radical criticism, phenomenology and symbolic interactionism, and formal theory construction.

## 4173 Comparative Family Structures

(3-0) 3 hours credit. Prerequisite: SOC 1013 recommended
A review of research comparing major conventional and alternative family structures in industrial countries.

## 4911-3 Independent Study

1-3 hours credit. Prerequisites: Permission in writing (form available) of the instructor, the student's advisor, and the Division 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 hours of independent study, regardless of discipline, will apply to a bachelor's degree.

## 4953 Special Studies in Sociology

(3-0) 3 hours credit. Prerequisite: Consent of instructor.
An organized course offering specialized study not normally or not often available as part of the regular course offerings. Special Studies courses may be repeated for credit when the topics vary, but not more than 6 hours within any one discipline will apply to a bachelor's degree.

## 4973 Sociology Senior Seminar

(3-0) 3 hours credit. Prerequisite: Senior standing in the sociology major.
A capstone course designed to integrate sociological theory and methods and to guide students in the conduct of social research.

## 4993 Honors Thesis

3 hours credit. Prerequisite: Enrollment limited to candidates for honors in sociology during their last two semesters; completion of honors examination and approval by the Honors Program coordinator.
Supervised research and preparation of an honors thesis. May be repeated once with advisor's approval.

## COURSE DESCRIPTIONS SOCIAL SCIENCE (SSC)

## 3003 Social Research Methods

(3-0) 3 hours credit.
An introduction to investigative techniques and methodologies in the social sciences. Topics may include philosophies and theories of social science, modes of analysis, statistical techniques, as applied to research design, problems of operational definition, individual and aggregate data analysis.
3103 Major Theories of the Social Sciences
(3-0) 3 hours credit.
A review of seminal theories in nineteenth and twentieth century social science, illustrated in cases of social behavior. The contributions of Marx, Keynes, Durkheim, Weber, Freud, Malinowski, Skinner, and Chomsky. The relation of these theorists' views of natural science and social science phenomena in both contemporary and historical perspectives.

## 3203 Violence and Society

(3-0) 3 hours credit. Prerequisite: Advance standing in a social science discipline or consent of the instructor.
This course examines the major theories which attempt to explain why violence occurs in society. Certain forms of violence, both legal and illegal, are studied from a variety of perspectives in the social sciences to determine whether present explanations of violent behavior are adequate.

## 3213 Theories of the City

(3-0) 3 hours credit.
A survey of current and classic explanations of the city including the city as polity, the city as plan, the city and the hinterland, and the advent of the metropolis, drawing on the various social sciences, philosophy and the arts.

## 3223 The Family

(3-0) 3 hours credit. Prerequisite: Advanced standing in a social science discipline or consent of instructor.
An examination of the family as a crucial social institution in the past and in more recent times. Topics may include: cross-cultural variation, childhood, adolescence, the aged, demographic change, the slave and modern black family, the birth control movement, sex-role expectations, socialization of the young, and the shifting functions of the family.

## 4203 Formal Theory in the Social Sciences

(3-0) 3 hours credit. Prerequisite: 6 hours of mathematics and 6 hours of upper division courses in the social sciences or consent of the instructor.

A discussion of the role of mathematical theory and computer simulation in the social sciences with an emphasis on the formulation of standard mathematical or other formal descriptions of social events. Topics will include probabilistic and deterministic models from the social sciences.

## 4953 Special Studies in the Social Sciences

(3-0) 3 hours credit. Prerequisite: Advanced standing in a social science discipline or consent of instructor.
An organized course offering 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 within any one discipline will apply to a bachelor's degree.

## COLLEGE OF MULTIDISCIPLINARY STUDIES DIVISION OF BICULTURAL-BILINGUAL STUDIES

The Division does not offer an undergraduate degree in Bicultural-Bilingual Studies. Support courses that may be taken as electives are designed to provide students with training in bilingual and second language learning and teaching, as well as in associated cultural studies. These courses are of particular interest to students in bilingual teacher education at the elementary and secondary levels and to those majoring in business, law, social work, public relations, journalism, etc., who wish to apply cultural knowledge in their careers.
The Division also offers courses in English as a Second Language designed to introduce students to the various strategies and methods of analysis of languages. Courses are designed for students who plan to teach second languages, but they are also of benefit to those who intend to teach in other areas or to enter fields that rely heavily on an understanding of language, such as communications, speech therapy, law, and business. Courses in English as a Second Language are also of value to those whose principal aim is to enlarge their understanding of the role that language plays in society.

## COURSE DESCRIPTIONS BICULTURAL-BILINGUAL STUDIES (BBL)

## 3013 Contrastive Linguistics and Bilingualism

(3-0) 3 hours credit.
A historical and descriptive study of Spanish and English with major emphasis on the phonological and morphological aspects of the two languages. Problems of linguistic interference as applied to the bilingual in the Southwest will be explored along with means of dealing with these problems.
3023 Mexican-American Culture
(3-0) 3 hours credit.
An anthropological assessment of the Mexican in the United Sates. Topics covered may include kinship, society and language, folklore, religion, sex roles, cultural revitalization and cultural history.

## 3033 The Mexican American in the Southwest

(3-0) 3 hours credit.
Historical foundations of U.S.-Mexico biculturalism in the area. Factors in the development of the area during the colonial era are studied as background for the contemporary bicultural Southwest. Mexican-American contributions to politics and economics of the area are considered, with primary emphasis on the political and economic aspects.
3043 Psychological Considerations in a Bicultural Environment
(3-0) 3 hours credit.
An introduction to: stereotyping versus psychological insights as applied in research, education, mental health, the legal system and interpersonal relations; psychological implications of the concept of disadvantagedness; psychological mechanisms in first and second language acquisition; cross-cultural studies in learning styles and their relevance to the bicultural classroom.

[^42]
## 3133 Communicative Competence in a Spanish-English Bilingual Society (3-0) 3 hours credit. <br> An examination of the theories of first and second language acquisition; analysis of the characteristics of the nature of language. Development of strategies for developing bilingualism and application of these strategies to a bicultural-bilingual program.

## 4023 Foundations of Bicultural-Bilingual Education

(3-0) 3 hours credit.
A thorough investigation of the philosophies, research, and theories of biculturalbilingual education as it reiates to the learning process of individual children.

## 4063 Teaching Content in a Bicultural-Bilingual Education Program

 (3-0) 3 hours credit.Investigation and evaluation of curriculum and materials available in different content areas appropriate for teaching children in a bicultural-bilingual program. Directed field experiences and micro-teaching in the target languages.

## 4911-3 Independent Study

1-3 hours credit. Prerequisite: Permission in writing (form available) of the instructor, the student's advisor, and the Division 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 hours of independent study, regardless of discipline, will apply to a bachelor's degree.

## COURSE DESCRIPTIONS ENGLISH AS A SECOND LANGUAGE (ESL)

## 3003 Application of Linguistics

(3-0) 3 hours credit.
A study of the applications of linguistics to the teaching of a second language in English as a Second Language and Bilingual Education programs. Particular attention given to strategies for teaching basic language skills: oral language development, reading, and writing.
3033 Introduction to Teaching English as a Second/Foreign Language (3-0) 3 hours credit.
A study of the various approaches, methods, and techniques available for teaching language in English as a Second Language and Bilingual Education programs.
4033 English as a Second Language in Early Childhood and Elementary Education (3-0) 3 hours credit.
A course designed to examine, adapt, and utilize approaches, methods, and techniques in teaching language in English as a Second Language and Bilingual Education programs at the early childhood and elementary levels.

## DIVISION OF EDUCATION

At the undergraduate level, three degree programs are available, the Bachelor of Arts Degree in Early Childhood and Elementary Education, the Bachelor of Science Degree in Health, and the Bachelor of Science Degree in Physical Education. Although a degree in education and a teaching certificate are two different objectives, students wishing to be certified as elementary teachers or kindergarten teachers as well as students wishing to be certified as teachers of health at the elementary level or health and/or physical education at the secondary level should pursue one of these three degree programs in education. Students majoring in these degree programs should enroll in professional education courses throughout the sophomore, junior, and senior years. In the first semester of their freshman year they should contact the Undergraduate Advisor of the Division of Education to facilitate program planning. Failure to do so may result in a longer degree program than might otherwise be required.
Students wishing to be certified as secondary school teachers follow degree programs in other Divisions of UT San Antonio, according to their major teaching field, and take courses for Teacher Certification in the Division of Education. ${ }^{31}$ Twenty-two semester hours of support work in education are required:
A. 10 semester hours of Pre-Professional Semester courses:

EDU 2001, EDU 3003,
EDP 3013, EDU 4093.
B. 12 semester hours of Professional Semester courses:

EDP 4013, EDU 4072,
EDU 4031, EDU 4056.
All students seeking Texas teaching certificates must apply for admission to the appropriate certificate program. Application forms and brochures describing requirements and procedures are available from the Office of Teacher Certification and Placement in the Division of Education.
Admission to Education Professional Semester courses is contingent upon the written recommendations of three UTSA professors, at least two of whom must be in Education, and approval of the Director of Student Teaching. Students who are not admitted and those who do not seek a teaching certificate may, with approval of the Undergraduate Advisor, substitute appropriate course work equivalent to the number of credit hours in the Professional Semester to earn an undergraduate degree in education without certification.
Any student at UTSA can elect to take Pre-Professional Semester education courses and if later admitted to a teacher education program, can petition to have the courses counted toward that program.

## BACHELOR OF ARTS DEGREE IN EARLY CHILDHOOD AND ELEMENTARY EDUCATION

The minimum number of semester hours required for this degree, including the 50 hours of General Education Requirements, is 126, of which at least 57 must be at the upper-division level.
All candidates for the degree must complete:
A. 24 semester hours in one of the three groups of courses listed below:

[^43]1. Elementary Education

ECE 3213 Language Arts in the Elementary School
ECE 3223 Social Science in the Elementary School
ECE 3233 Mathematics in the Elementary School
ECE 3303 Reading in the Primary Grades
ECE 3313 Reading in the Intermediate Grades
ECE 4133 The Expressive Modes of Children in the Elementary School
ECE 4213 Science in the Elementary School
ECE 4243 Second and Foreign Languages in the Elementary School
3 hours of upper-division electives in elementary education.
2. Early Childhood Education

ECE 3103 Young Children's Literature and Storytelling
ECE 3113 Play and Creative Activities in Early Childhood Education
ECE 3123 Development and Learning in Early Childhood
ECE 3133 Programs in Early Childhood Education
ECE 4103 Guidance of Young Children in Groups
ECE 4113 Language Development and Reading in Early Childhood Education
ECE 4123 Parents and Community Resources in Early Childhood and Elementary Education
3 hours of approved upper-division electives.
3. Reading

ECE 3323 Skill Development in the Reading Program
ECE 4303 Introduction to Reading Problems
ECE 4936 Practicum in Reading
12 hours of approved upper-division electives.
B. 22 semester hours of course work in education, 21 of which are at the upper-division level.
Required courses to be taken early in the sequence are:

$$
\begin{array}{ll}
\text { EDU } 2001 & \text { Introduction to the School Environment } \\
\text { EDU } 3003 & \text { Educational Sociology } \\
\text { EDP } 3013 & \text { Growth, Development and Learning Theories I }
\end{array}
$$

The Professional Semester for Elementary and Early Childhood majors in Education consists of the 15 semester hours below or a substitute program of electives approved by the Undergraduate Advisor.
Courses comprising the Education Professional Semester are required for the teaching certificate ${ }^{32}$ and must be taken concurrently in the first or second semester of the senior year.

EDP 4013 Growth, Development and Learning Theories II
EDU 4013 Classroom Climate in the Elementary School
EDU 4031 Media Technology
EDU 4046 Student Teaching: Elementary ${ }^{33}$
EDU 4072 Individualized Clinical Experiences
C. 30 semester hours of electives, 12 of which must be at the upperdivision level. Students seeking a teaching certificate may use these

[^44]electives to satisfy a 24 -hour approved teaching field. Those interested in teaching handicapped children elect a 24 -hour collateral field in special education. Students interested in teaching reading elect a 24 -hour collateral field in reading instruction. The remaining 6 hours of electives for degree and certificate candidates, or the total 30 semester hours for degree only candidates, may be taken from any division of The University.

## BACHELOR OF SCIENCE DEGREE IN HEALTH EDUCATION

The minimum number of semester hours for this degree, including the 50 hours of General Education Requirements, ${ }^{34}$ is 126 , of which at least 57 must be at the upper-division level.
All candidates for the degree must complete:
A. 24 semester hours in Health Education from the following:

HPE 3503 The Foundations of Health Education
HPE 3513 The Elementary School Health Program
HPE 3523 The Secondary School Health Program
HPE 3533 Drug Education
HPE 3543 Physical Growth and Development
HPE 4503 Personal and Family Health
HPE 4513 Consumer Health
HPE 4523 Teaching Sex Education
HPE 4533 Nutrition Education
B. 22 semester hours of support work, 21 of which are at the upper-division level.
Required courses to be taken early in the program sequence are:
EDU 2001 Introduction to the School Environment
EDU 3003 Educational Sociology
EDP 3013 Growth, Development and Learning Theories I
EDP 4013 Growth, Development and Learning Theories II
The following courses comprise the Education Professional Semester for Health Education majors and must be taken concurrently in the first or second semester of the senior year:

EDU 4013 Classroom Climate in the Elementary School or
EDU 4093 Classroom Climate in the Secondary School
EDU 4031 Media Technology
EDU 4046 Student Teaching: Elementary ${ }^{35}$ or
EDU 4056 Student Teaching: Secondary
EDU 4072 Individualized Clinical Experiences
C. 30 semester hours of free electives, 12 of which must be at the upperdivision level. These may be taken from any Division of The University and for students seeking certificates can be used to satisfy a second teaching field. ${ }^{36}$

[^45]All students selecting a degree in Health Education must elect 3 semester hours of HPE Activity Courses $(1001,1101)$ including Physical Fitness.

## BACHELOR OF SCIENCE DEGREE IN PHYSICAL EDUCATION

The minimum number of semester hours for this degree, including the 50 hours of General Education Requirements, ${ }^{37}$ is 126 , of which at least 57 must be at the upper-division level.
All candidates for the degree must complete:
A. 24 semester hours in Physical Education from the following:

HPE 3403 The Foundations of Physical Education
HPE 3413 The Elementary School Physical Education Program
HPE 3423 The Secondary School Physical Education Program
HPE 3433 Individual and Dual Lifetime Sports
HPE 3443 Principles of Exercise and Physical Fitness
HPE 4403 Motor Learning and Skill Performance
HPE 4413 Coaching and Officiating
HPE 4423 Adapted and Remedial Physical Education
HPE 4433 Gymnastics
B. 22 semester hours of support work, 21 of which are at the upper-division level.
Required courses to be taken early in the program sequence are:
EDU 2001 Introduction to the School Environment
EDU 3003 Educational Sociology
EDP 3013 Growth, Development and Learning Theories I
EDP 4013 Growth, Development and Learning Theories II
The following courses comprise the Education Professional Semester for Physical Education majors and must be taken concurrently in the first or second semester of the senior year:

EDU 4013 Classroom Climate in the Elementary School or
EDU 4093 Classroom Climate in the Secondary School
EDU 4031 Media Technology
EDU 4046 Student Teaching: Elementary ${ }^{38}$ or
EDU 4056 Student Teaching: Secondary
EDU 4072 Individualized Clinical Experiences
C. 30 semester hours of free electives, 12 of which must be at the upperdivision level. These may be taken from any Division of The University and for students seeking certificates can be used to satisfy a second teaching field. ${ }^{39}$
All students selecting a degree in Physical Education must elect 3 hours of HPE 1001 (Individual and Dual Physical Activity Sports) and 3 hours of HPE 1101 (Team Sports).

[^46]
# COURSE DESCRIPTIONS EARLY CHILDHOOD AND ELEMENTARY EDUCATION (ECE) 

## 3103 Young Children's Literature and Storytelling

(3-0) 3 hours credit.
A review of books, stories, and library materials including audio-visual materials and aids for young children. Students become acquainted with books for the very young, their authors and illustrators. Criteria for selection and methods of presentation are stressed. Practice is given in reading and telling stories to children.
3113 Play and Creative Activities in Early Childhood Education
(2-1) 3 hours credit.
A multi-arts integrated approach to fostering creative expression in young children through experiences in art, music, movement, dramatics, and play. Students develop materials, plan activities, and share ideas and skills.
3123 Development and Learning in Early Childhood
(3-0) 3 hours credit.
Growth and development during infancy and early childhood. Reviews and integrates physical, social, emotional, and cognitive development. Includes motivation and early learning. Emphasizes individual differences, developmental assessment, need to optimize the match between developmental sequences and experience. Practice in observing and recording behavior.

## 3133 Programs in Early Childhood Education

(3-0) 3 hours credit.
Review of historical, philosophical, and psychological foundations of nurserykindergarten methods. Current trends and program models for day care, nursery school and kindergarten. Observations to be arranged.
3203 Evaluation as Feedback and Guide in Elementary Education
(3-0) 3 hours credit.
A study of activities and developmental skills needed to carry out evaluation of different segments of life of the individual student.
3213 Language Arts in the Elementary School
(3-0) 3 hours credit. Prerequisites: 3 hours Speech, 3 hours English Composition or consent of instructor.
A systematic study of teaching and learning activities in reading, spelling, composition, listening, and handwriting in the elementary school.
3223 Social Science in the Elementary School
(3-0) 3 hours credit. Prerequisites: Completion of the General Education Requirements in history and government or consent of instructor.
An overview of the purposes, selection, and organization of content, teaching, and learning procedures, and evaluation of outcomes in the elementary school social science program.

## 3233 Mathematics in the Elementary School

(3-0) 3 hours credit. Prerequisite: Completion of the General Education Requirements in mathematics or consent of instructor.
An overview of the purposes, selection, and organization of content, teaching, and learning procedures, and evaluation of outcomes in the elementary school mathematics program.
3303 Reading in the Primary Grades
(3-0) 3 hours credit. Prerequisites: Completion of the General Education Requirements in English or consent of instructor.
Introduction to the basic principles of reading instruction, including readiness for reading, initial stages of reading development with emphasis on primary programs, individual differences among students. Observation of and participation in alternate methods and organizational patterns in a school setting.

## 3313 Reading in the Intermediate Grades

(3-0) 3 hours credit. Prerequisite: ECE 3303 or consent of instructor.
Basic principles of reading instruction for grades 4,5 , and 6 , including transfer of reading skills to content area reading, development of comprehension, word recognition, vocabulary, and rate. Observation of and participation in alternate methods and organizational patterns in a school setting.

## 3323 Skill Development in the Reading Program

(2-3) 3 hours credit.
Skill development in the perceptual and conceptual areas. Relationships between skill development, child development, and curriculum development. The skills in reading growth are viewed as developmental and interrelated.
4103 Guidance of Young Children in Groups
(3-0) 3 hours credit. Prerequisite: ECE 3123 or consent of instructor.
A study of basic teaching skills; play as education, curriculum areas, program planning, and necessities of space, equipment, and supplies. It includes designing and evaluating activities to optimize learning and development. Participantobservation is an integral part of the course.

## 4113 Language Development and Reading in Early Childhood Education

(3-0) 3 hours credit.
Introduction to theories of language acquisition and development. Facilitating communication skills in young children and planning for the precocious reader. Relates principles of language learning to concepts of learning to read.
4123 Parents and Community Resources in Early Childhood and Elementary Education
(3-0) 3 hours credit. Prerequisite: EDU 3003 or consent of instructor.
increasing parental effectiveness through involvement and parent education; planning parent workshops, group meetings, parent-teacher conferences, and supportive programs. Students learn the techniques of interviewing and surveying children and family services and resources within the community.
4133 The Expressive Modes of Children in the Elementary School
(3-0) 3 hours credit. Prerequisite: MUS 3653 or consent of instructor.
Multi-cultural approach to the structuring of experiences for children in creative dramatics, creative musical expression, children's folklore, art projects, sociodramatic play, rhythmic movement, creative verbal and non-verbal expression. Examination also of the varying roles of the teacher in these experiences.

## 4213 Science in the Elementary School

(3-0) 3 hours credit. Prerequisite: Completion of the General Education Requirements in science or consent of instructor.
An overview of the purposes, selection, and organization of content, teaching, and learning procedures, and evaluation of outcomes in the elementary school science program.

## 4243 Second and Foreign Languages in the Elementary School

(3-0) 3 hours credit. Prerequisite: Completion of the General Education Requirements in foreign language or consent of instructor.
A review of past practices and present trends in second and foreign language teaching in the elementary school. Examination of the relation of the child's developmental levels, adult attitudes, and pressure group influences to second and foreign language teaching and learning.
4303 Introduction to Reading Problems
(2-4) 3 hours credit. Prerequisite: 6 semester hours of reading courses.
An intensive study of and laboratory experience in reading problems in the classroom, including causation. Diagnostic procedures and remedial measures in reading disability are developed.

## 4911-3 Independent Study

1-3 hours credit. Prerequisite: Permission in writing (form available) of the instructor, the student's advisor, and the Division Director and Dean of the College in which the course is offered. Independent reading, research, discussion, and/or

## EARLY CHILDHOOD AND ELEMENTARY EDUCATION — EDUCATION / 187

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.

4936 Practicum in Reading
6 hours credit. Prerequisite: 15 semester hours of reading courses or consent of instructor.
Application of diagnostic and remedial procedures in small group situations. Guided field based experiences with weekly seminars designed to enrich the field experience.

4953 Special Studies in Early Childhood and Elementary Education
(3-0) 3 hours credit. Prerequisite: Consent of instructor.
An organized course offering specialized study not normally or not often available as part of the regular course offerings. Special Studies courses may be repeated for credit when the topics vary, but not more than 6 hours within any one discipline will apply to a bachelor's degree.

# COURSE DESCRIPTIONS EDUCATION (EDU) 

## 2001 Introduction to the School Environment

(1-0) 1 hour credit.
Field observation of the life space of learners with campus based discussions relating observations to implications for curricular content, behavioral expectations of value orientation and individual societal needs.

## 3003 Educational Sociology

(3-0) 3 hours credit. Prerequisite: EDU 2001.
A study of the ways in which the school can effectively utilize the social process in developing and educating the individual and to show the interrelationships of the school with the family, the church, and other societal agencies particularly in the social and cultural setting of the Southwestern United States.

## 3303 Reading Comprehension Skills for Secondary Teachers

(3-0) 3 hours credit.
The nature of developmental reading programs at the secondary level, and reading skills needed in the content area fields.

## 4013 Classroom Climate in the Elementary School

(3-0) 3 hours credit. Prerequisites: EDP 3013, EDU 3003, concurrent enrollment in EDU 4043-6 and 4072, and permission of the Director of Student Teaching. Students must inform the Director of Student Teaching of their plans to enroll in this course one semester in advance. The study of and practice in identifying and developing curricular materials, planning for instruction, developing effective elementary classroom climate, and evaluating instructional outcomes particularly in the context of the Southwestern United States; the methodology of instruction as related to specific disciplines. (This course is offered in multiple sections according to the subject matter to be taught.)
4031 Media Technology
(0-1) 1 hour credit.
Laboratory experience with the use of audio-visual equipment and materials in teaching.

## 4043 Student Teaching: Elementary

40463 or 6 hours credit. Prerequisites: EDP 3013, EDU 3003, 15 of the 24 hours in elementary methods (e.g., ECE 3213, 3223, 3233, 3303, 3313, 4133, 4213 and 4243) and permission of the Director of Student Teaching. Students must inform the Director of Student Teaching of their plans to enroll in this course one semester in advance.
Field-based experiences in the elementary school.

## 4053 Student Teaching: Secondary

40563 or 6 hours credit. Prerequisites: EDP 3013, EDU 3003, EDU 4093, concurrent enrollment in EDU 4031 and EDP 4013, and permission of the Director of Student Teaching. Students must inform the Director of Student Teaching of their plans to enroll in this course one semester in advance.
Field-based experiences in the secondary school.

## 4063 Student Teaching: Kindergarten

3 hours credit. Prerequisites: EDP 3013, EDU 3003, and permission of the Director of Student Teaching. Students must inform the Director of Student Teaching of their plans to enroll in this course one semester in advance.
Field-based experiences at the kindergarten level.
4072 Individualized Clinical Experiences
2 hours credit. Prerequisites: Concurrent enroliment in EDU 4046 or EDU 4043, and EDU 4053 or the equivalent and permission of the Director of Student Teaching. Students must inform the Director of Student Teaching of their plans to enroll in this course one semester in advance.
A series of simulated and direct experiences planned to develop and improve competency components which have been identified as needs of the individual students. The experiences are designed to provide opportunities for students to further investigate and apply strategies related to teaching/learning situations or to apply corrective measures to diagnosed areas of weaknesses.

## 4083 Student Teaching: Special Education

40863 or 6 hours credit. Prerequisites: EDP 3013, EDU 3003, and permission of the Director of Student Teaching. Students must inform the Director of Student Teaching of their plans to enroll in this course one semester in advance.
Field-based experiences in a special education classroom.
4093 Classroom Climate in the Secondary School
(3-0) 3 hours credit. Prerequisites: EDP 3013, EDU 3003, or consent of the instructor.
The study of and practice in identifying and developing curricular materials, planning for instruction, developing effective secondary classroom climate, and evaluating instructional outcomes, particularly in the context of the Southwestern United States; the methodology of instruction as related to specific disciplines. (This course is offered in multiple sections according to the subject matter to be taught.)

## 4953 Special Studies in Education

(3-0) 3 hours credit. Prerequisite: Consent of instructor.
An organized course offering specialized study not normally or not often available as part of the regular course offerings. Special Studies courses may be repeated for credit when the topics vary, but not more than 6 hours within any one discipline will apply to a bachelor's degree.

# COURSE DESCRIPTIONS EDUCATIONAL PSYCHOLOGY (EDP) 

## 3013 Growth, Development and Learning Theories I

(3-0) 3 hours credit. Prerequisite: EDU 2001 or consent of instructor.
A study of developmental psychology: human motivation and behavior, the relationships between development and learning, and the special nature of "exceptional" children and youth as learners.
3603 Introduction to Exceptionality
(3-0) 3 hours credit.
A study of the nature and characteristics of exceptional children; educational and therapeutic services for exceptional children at the local, state, national and international level, as well as a study of demographics, etiology, and efficiency of delivery systems of services for exceptional children.

## 3623 Assessment of Exceptional Children

(3-0) 3 hours credit. Prerequisite: EDP 3603 or consent of instructor.
An introduction to both formal and informal assessment procedures. Students are trained to administer and evaluate the results of informal assessment devices in the areas of life skills, motor development, perception, language and academic subject areas.

## 3633 Behavior Management of Exceptional Children

(3-0) 3 hours credit. Prerequisite: EDP 3603.
A study of behavior management strategies and techniques to alter, improve, and maintain children's academic and social behaviors. Application of learning theory principles, measurement procedures, knowledge of divergent and convergent theories and practices regarding behavior change strategies, as well as current and significant research are emphasized.

## 3643 Language and Cognitive Development and Dysfunction

(3-0) 3 hours credit. Prerequisite: EDP 3603 or concurrent enrollment.
Current theories in the areas of language development and cognition are studied in terms of their contribution to the development of a methodology for the education of the exceptional child. Educational programs in the areas of language and cognition are evaluated in terms of their theoretical basis and educational utility.

## 3653 Practicum in Special Education (Introductory)

3 hours credit. Prerequisites: Concurrent enrollment in EDP 3603 and 3643. Observation and evaluation of educational procedures and services for exceptional children; observation and recording of the performance of children as learners.
3663 Practicum in Special Education (Intermediate)
3 hours credit. Prerequisites: Concurrent enrollment in EDP 3623 and 3633.
Working with teachers of exceptional children in developing, administering and evaluation assessment tools; planning language and learning sequences for children.

## 4013 Growth, Development and Learning Theories II

(3-0) 3 hours credit. Prerequisite: EDP 3013.
An introduction to the area of study which includes analysis and theoretical basis of learning, the assessment of learner and learner needs, and the measurement of achievement.
4603 Parents, Community Resources and Continuing Education for Exceptional Children
(3-0) 3 hours credit.
A study of methods and techniques for working with parents of exceptional children and for effecting cooperative home, school, and community relations for the improvement of the child's life and environment.
4653 Practicum In Special Education (Advanced)
3 hours credit. Prerequisites: Enrollment in EDP 4603 and 4613.
Field work with teachers in planning and implementing educational sequences for exceptional children.
4953 Special Studies in Educational Psychology
(3-0) 3 hours credit. Prerequisite: Consent of instructor.
An organized course offering specialized study not normally or not often available as part of the regular course offerings. Special Studies courses may be repeated for credit when the topics vary, but not more than 6 hours within any one discipline will apply to a bachelor's degree.

# COURSE DESCRIPTIONS HEALTH AND PHYSICAL EDUCATION (HPE) 

cus on particular sports as indicated in the schedule of courses. May be repeated for credit, but not more than 6 hours of HPE 1001 alone or in combination with HPE 1101 will apply to any UT San Antonio degree.

## 1101 Team Sports

(0-3) 1 hour credit.
Practice in the techniques of team sports, such as basketball, volleyball, soccer, etc. This course will focus on the actual practice and the development of team skills. Individual sections focus on particular sports as indicated in the schedule of courses. May be repeated for credit, but not more that 6 hours of HPE 1101 alone or in combination with HPE 1001 will apply to any UT San Antonio degree.

## 3403 The Foundations of Physical Education

(3-0) 3 hours credit.
A study of the history, principles, objectives, and current concepts of physical education and recreation.
3413 The Elementary School Physical Education Program
(3-0) 3 hours credit.
Physical education activities in elementary schools.
3423 The Secondary School Physical Education Program
(3-0) 3 hours credit.
Physical education activities in secondary schools.
3433 Individual and Dual Lifetime Sports
(3-0) 3 hours credit.
Instruction in the development of skills in physical education activities with emphasis on individual and dual type sports.

## 3443 Principles of Exercise and Physical Fitness

(3-0) 3 hours credit.
An analysis of the nature of physical fitness, basic principles of exercise and physical fitness, analysis of methods of developing and evaluating physical fitness, motor development and movement perception.

## 3503 The Foundations of Health Education

(3-0) 3 hours credit.
A study of the history, principles, objectives, and current concepts of health education.

## 3513 The Elementary School Health Program

(3-0) 3 hours credit.
A study of the health problems of elementary school students as a basis for health instruction, utilizing the Texas Education Agency guidelines as a basis for planning.
3523 The Secondary School Health Program
(3-0) 3 hours credit.
A study of the health problems of secondary school students as a basis for health instruction, utilizing the Texas Education Agency guidelines as a basis for planning.

## 3533 Drug Education

(3-0) 3 hours credit.
The use and abuse of tobacco, alcohol, and other drugs, other mood and behavior modifiers, and their effects on one's behavior. An evaluation of why people take chances when their health is involved, and strategies for teaching drug education.

## 3543 Physical Growth and Development

(3-0) 3 hours credit.
A review of physical growth and development as dynamic lifetime processes. The course emphasizes changes in early adolescence and implications for teachers.

## 4403 The Teaching of Motor Learning and Skill Performance

(3-0) 3 hours credit.
Motor learning theories, physiological bases of skill behavior, motor and skill learning and application of instructional techniques for developing motor learning and skill performance.

## 4413 Coaching and Otficiating

(2-1) 3 hours credit.
A study of the content and teaching techniques involved in coaching and of the standards and techniques in game officiating.

## 4423 Remedial Physical Education

(3-0) 3 hours credit.
Theories and techniques of muscle re-education and their application to exercise. A study of programs for students for whom physicians have prescribed remedial physical exercise; how these programs are taught and administered.
4433 Gymnastics
(3-0) 3 hours credit.
A study of methods for organizing a school or class for a balanced program of gymnastic activities. Evaluation methods are presented to determine a person's present level and rate of progression.

## 4503 Personal and Family Health

(3-0) 3 hours credit.
An overview of medical and scientific facts and principles applied to healthful living and prevention and control of diseases.

## 4513 Consumer Health

(3-0) 3 hours credit.
A study of the consumer's selection of health products and services, and the acquisition of basic knowledge regarding consumer health with a view towards providing students with information that will help them make wise decisions when selecting professional health care, services, and products.
4523 Teaching Sex Education
(3-0) 3 hours credit.
A study of the teaching of human sexuality from conception to death. The course emphasizes ways of understanding sexual drives which can help students deal more effectively with pressures and conflicts and ways of teaching sex education.

## 4533 Nutrition Education

(3-0) 3 hours credit.
A study of content, attitudes and practices regarding nutrition and its effects on health behavior. Methods of teaching nutrition to young people are assessed.

## 4911-3 Independent Study

1-3 hours credit. Prerequisite: Permission in writing (form available) of the instructor, the student's advisor, and the Division 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 hours of independent study, regardless of discipline, will apply to a bachelor's degree.

## 4953 Special Studies in Health and Physical Education

(3-0) 3 hours credit. Prerequisite: Consent of instructor.
An organized course offering specialized study not normally or not often available as part of the regular course offerings. Special Studies courses may be repeated for credit when the topics vary, but not more than 6 hours within any one discipline will apply to a bachelor's degree.

## DIVISION OF ENVIRONMENTAL STUDIES

The Division of Environmental Studies does not offer an undergraduate degree. In order to prepare students in different fields for future graduate work in Environmental Management and to serve as support function for existing UT San Antonio degree programs, undergraduate courses in the Division of Environmental Studies are offered as electives. Many of the following courses are designed to compliment the programs of those students majoring in Social Sciences, Criminal Justice, Earth and Physical Sciences, Architectural Design and Education.

# COURSE DESCRIPTIONS ENVIRONMENTAL MANAGEMENT (ENV) 

## 2013 Introduction to Environmental Systems

(3-0) 3 hours credit.
An introduction to the concept and challenge of man-machine-community interrelationships within both the natural and man-made environment. Attention is focused on what environmental systems are and why they are important in regional development.
3013 Environment and Human Resources Management
(3-0) 3 hours credit.
A survey of the human population and human rsources of the United States within regions of the nation. Current human resources management issues and their relationships to the total environment are presented.
3023 Man and His Natural Resources
(3-0) 3 hours credit.
An in-depth analysis of man's dependency upon the major natural resources of the earth such as water, air, soils, forests, grasslands, minerals, fuels and wildlife, and the environmental problems that arise through societal mismanagement.

## 3033 Elements of Urban Systems Management

(3-0) 3 hours credit.
The focus of this course is twofold: the complexities of the modern city from a systems approach; and a survey and analysis of the techniques, tools, problems and opportunities associated with contemporary urban management.

## 3523 The Contemporary City

(3-0) 3 hours credit. Prerequisite: Consent of instructor.
The course presents an introduction to urban America from a multidisciplinary approach. Attention is focused on the enconomic, social, political and environmental factors which have produced the form and institutional arrangements of the contemporary city. The course addresses a series of problems and opportunities currently facing American cities.
4023 Environment, Energy and Society
(3-0) 3 hours credit. Prerequisite: ENV 3023 or consent of instructor.
A review of the sources and application of energy in the United States, its communities and its industries including agriculture, transportation and utilities. National, state and local governmental energy planning is outlined and explained.
4103 The Government and Environmental Protection
(3-0) 3 hours credit. Prerequisite: ENV 3023 or consent of instructor.
A survey of current federal and state action directed at improving environmental quality. Attention is focused on specific legislation and its implications for the future of our society and various industries.

## Environmental Impact Analysis

(3-0) 3 hours credit.
A course designed to familiarize students with the content of the National Environmental Policy Act and the procedures for doing environmental impact statements. Students collect data for and write an environmental impact statement. Environmental impact statement review procedures are studied.

## 4503 Alternative Urban Futures

(3-0) 3 hours credit. Prerequisite: Consent of instructor.
An investigation and discussion of realistic alternatives for future urban life and form. Structured to maximize individual participation in exploring possible paths into the future, the course will look at proposed new forms of urban structure and utopian ideas to assess their feasibility in terms of creating viable future cities.

## 4513 Problems of Urban Change

(3-0) 3 hours credit. Prerequisite: Consent of instructor.
This course examines selected problems presented by growth and change in the urban environment as the specialized interest of students dictate. The course is designed to maximize student choice in pursuing areas of special interest.

## 4603 Environmental Quality Analysis and Monitoring

(3-0) 3 hours credit. Prerequisite: ENV 3023.
The procedures and instrumentation for the analysis of air, water and soils. Environmental data acquisition and basic analysis for the interpretation and characterization of environmental quality are also studied.

## 4611 Environmental Quality Analysis and Monitoring Laboratory

(0-3) 1 hour credit.
This course must be taken concurrently with ENV 4603.

## 4663 The Latin American City

(3-0) 3 hours credit. Prerequisite: Consent of instructor.
A study of the physical structure of the Latin American city and its cultural, social and economic bases; current urban issues and environmental relationships are also examined.

## 4911-3 Independent Study

1-3 hours credit. Prerequisite: Permission in writing (form available) of the instructor, the student's Advisor, and the Division 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.
4953 Special Studies in Environmental Management
(3-0) 3 hours credit. Prerequisite: Consent of instructor.
An organized course offering specialized study not normally or not often available as part of the regular course offerings in Environmental Management. Special studies courses may be repeated when the topics vary.

## DIVISION OF SPECIAL PROGRAMS

The Division of Special Programs is responsible for preparing students majoring in the area of Criminal Justice, for administering The University's Army R.O.T.C. Program, and for administering the Library Instruction course, LIB 1001, which is part of the university-wide General Education Requirements.
Criminal Justice. This program is intended to provide a comprehensive educational preparation for persons seeking a professional career in the field of criminal justice; and, an educational experience in criminal justice for students majoring in other fields of study.
Army R.O.T.C. A student enrolling at The University of Texas at San Antonio may pursue courses in Military Science designed to develop the knowledge and skills required for a commission as an officer in the U.S. Army. The Reserve Officer Training Corps (R.O.T.C.) is open to all qualified students (male and female) on a voluntary basis. The program is available under cooperative arrangements with St. Mary's University of San Antonio. All courses for those enrolled in the program are held on The University of Texas at San Antonio campus.
Library Instruction Course. The goals of the Library Instruction course are to help students become aware of the basic resources (both collection and services) available in the library, to ensure that students have a basic level of skill in library use, and to enable students to achieve a sense of confidence in using the library.

## BACHELOR OF ARTS DEGREE IN CRIMINAL JUSTICE

The minimum number of semester hours required for this degree, including the 50 hours of General Education Requirements, is 124.
All candidates for the degree must complete:
A. 36 semester hours of upper-division criminal justice coursework distributed as follows:

1. 15 semester hours of upper-division core:

CRJ 3013 Concepts and Issues in Criminal Justice
CRJ 3043 Criminal Justice: Ecology and Etiology
CRJ 3213 Criminal Justice: Administrative Organization
CRJ 3623 Substantive Criminal Law
CRJ 4013 Research and Data Processing in Criminal Justice
2. 12 semester hours from one of the following:
a. Law Enforcement Planning and Management:

CRJ 3633 Evidentiary Issues in the Legal Process
CRJ 4133 Community Crime Prevention Programs
CRJ 4413 Trends in Police Administration
CRJ 4513 Criminal Justice Planning
b. Corrections-Juvenile Justice

CRJ 3513 Corrections: Theory \& Practice
CRJ 3533 Alternatives to Incarceration
CRJ 4573 Correctional Administration
CRJ 4613 Counseling and Delivery of Services in Corrections
3. 9 semester hours upper-division electives in criminal justice at least 3 semester hours of which must be drawn from INTERNSHIP IN CRIMINAL JUSTICE for preservice students.
B. An undergraduate statistics course is required of all criminal justice majors. ${ }^{40}$
C. 15 semester hours of upper-division support work outside the criminal justice area is recommended, to be selected upon consultation with the student's faculty advisor.
D. 23 semester hours of free electives. ${ }^{41}$

## COURSE DESCRIPTIONS CRIMINAL JUSTICE (CRJ)

## 2113 The American Criminal Justice System

(3-0) 3 hours credit.
Philosophy and history of criminal justice in America; examination of criminal justice agencies operating as an interacting system from police through the courts, and into corrections.

## 3013 Concepts and Issues in Criminal Justice

(3-0) 3 hours credit.
Examines conceptual framework of the administration of justice with an emphasis on the major policy issues which influence the criminal justice system in contemporary America.

## 3043 Criminal Justice: Ecology and Etiology

(3-0) 3 hours credit.
Examination of social, political, economic, religious, and emotional characteristics of criminal justice problems; historical as well as systems perspective with a multidisciplinary approach.

## 3133 Basic Criminalistics

(2-1) 3 hours credit.
The application of the knowledge of the physical and natural sciences to the administration of criminal justice. Includes probability; value and limitation of various types of physical evidence; basic processing techniques.

## 3163 Introduction to Security Administration <br> (3-0) 3 hours credit. <br> Survey of the scope of the security administration field in business, industry, and government; consideration of the problems and issues affecting the relationship between publicly funded law enforcement and the private sector.

## 3213 Criminal Justice: Administrative Organization

(3-0) 3 hours credit.
Functional and structural approaches to the study of Criminal Justice administration. Examination of traditional and innovative approaches in Criminal Justice organization with emphasis on the systems approach.

## 3513 Corrections: Theory and Practice

(3-0) 3 hours credit.
Examination of the historical development of corrections; its philosophical orientation; theories and practices, including the traditional and contemporary; institutional and non-institutional aspects.

## 3533 Alternatives to Incarceration

(3-0) 3 hours credit.
Problems in probation, pardons and parole are examined as to policies, proce-

[^47]dures, and feasibility. Relationships to community service organizations are examined.

3543 The Juvenile Justice System
(3-0) 3 hours credit.
History and development of traditional and current methods for responding to the needs of the juvenile offender. Process oriented approach to the roles of involved agencies with emphasis upon formal and informal treatment methods.
3613 Legal Blbliography and Advocacy Research
(3-0) 3 hours credit.
Detailed study of theory and practice of legal bibliography. Development and refinement of legal writing technqiues.

## 3623 Substantive Criminal Law

(3-0) 3 hours credit.
Jurisprudential philosophy and case study of common law and statutory crimes; includes functions and development of substantive criminal law, elements of specific offenses; defenses.

## 3633 Evidentiary Issues in the Legal Process

(3-0) 3 hours credit.
Issues and problems of proof in civil and criminal trials, admissibility, examining witnesses, constitutional considerations, exclusionary rules.

## 4013 Research and Data Processing in Criminal Justice

(3-0) 3 hours credit. Prerequisite: Students registering for this course must have fulfilled the statistics requirement.
An introduction to the general methodology of research (including experimental design, statistics, and computer usage), that pertains to the administration of justice. Special attention given to the implications of automated information system in agency administration, and in crime detection and prevention.

## 4123 Concepts of Investigation

(3-0) 3 hours credit. Prerequisite: CRJ 3133 or consent of instructor.
Examination of theories and practices of the investigative process in the criminal justice system; specific operational techniques; application of innovative techniques.
4133 Community Crime Prevention Programs
(3-0) 3 hours credit. Prerequisite: consent of instructor.
An analysis of the typologies, philosophies, and operations of existing and projected community-based crime prevention programs. Emphasis on a variety of governmental and non-governmental community support and action programs.

## 4413 Trends in Police Administration

(3-0) 3 hours credit. Prerequisite: CRJ 3213 or consent of instructor.
Examination of the management of law enforcement organization in terms of administrative structure and process. Analysis of issues in program development and implementation in the provision of police service.

## 4513 Criminal Justice Planning

(3-0) 3 hours credit. Prerequisite: CRJ 4013.
Develops knowledge and skills pertinent to the understanding and implementation of planning in the criminal justice system; examination of techniques of data and analysis; use of PERT/CPM and VIA methods in criminal justice.

## 4543 Juvenile Justice Law

(3-0) 3 hours credit. Prerequisite: CRJ 3543 or consent of instructor.
Historical and case oriented approach to the legal basis of individualized justice for children including early common law approaches, the child saving movement, the juvenile court era, and the modern challenge to the court by the constitutionalists.

## 4573 Correctional Administration

(3-0) 3 hours credit. Prerequisite: CRJ 3213 or consent of instructor.
Examination from an administrative perspective of the organization and manage-
ment of correctional agencies. Focuses on substantive trends and issues in correctional administration, management, and supervision.

## 4613 Counseling and Delivery of Services in Corrections

(3-0) 3 hours credit. Prerequisite: Senior standing or consent of instructor. Examination of the role and techniques of counseling and interviewing in the delivery of correctional services. Study of service delivery programs tailored to the specific needs of the correctional clients.

## 4633 Criminal Procedure

(3-0) 3 hours credit. Prerequisite: CRJ 3623 or consent of instructor.
A procedurally oriented discussion of arrest, extradition, jurisdiction and venue, preliminary examination, bail, the grand jury, indictment and information, arraignment, trial and review, probation, parole, and pardon.

## 4911-3 Independent Study

1.3 hours credit. Prerequisite: Permission in writing (form available) of the instructor, the student's advisor, and the Division 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 hours of independent study, regardless of discipline, will apply to a bachelor's degree.

## 4933 Internship in Criminal Justice

4936 3, 6, or 9 hours credit. Prerequisites: CRJ 3013, 3043 and 3623.
4939 Supervised experience in an administrative setting which provides the opportunity to integrate theory and practice in criminal justice agencies.

## 4953 Special Studies in Criminal Justice

(3-0) 3 hours credit. Prerequisite: Consent of instructor.
An organized course offering specialized study not normally or not often available as part of the regular course offerings. Special Studies courses may be repeated for credit when the topics vary, but not more than 6 hours within any one discipline will apply to a bachelor's degree.

## ARMY RESERVE OFFICER TRAINING CORPS PROGRAM

To obtain a commission ${ }^{42}$ as an officer in The U.S. Army, a baccalaureate degree in one of the disciplines offered by The University of Texas at San Antonio and 18 semester hours of military science courses are required. Credit for military science courses may be applied toward a baccalaureate degree only as free electives. With respect to the free electives specified in the degree requirements for each major, there is a maximum number of hours of military science that may be applied to the free electives allowed.
The maximum number of semester hours of military science which may be counted as free elective credit for the various degrees available at The University of Texas at San Antonio are set forth below. Credit for military science courses, when awarded by another accredited college or university, are accepted by The University of Texas at San Antonio as free elective credit within the same limitations as military science credit earned at The University.

Degree Program
Accounting 9
American Studies
Anthropology
Applied Science
Art and Design

## Maximum Hours Applicable as Free Electives ${ }^{43}$

[^48]Biology ..... 9
Chemistry ..... 8
Criminal Justice ..... 9
Early Childhood and Elementary
Education ..... 0
Economics (BA) ..... 9
Economics (BBA) ..... 9
English ..... 9
Finance ..... 9
French ..... 9
Geography ..... 9
German ..... 9
Health Education ..... 9
History ..... 9
Humanities ..... 9
Management ..... 9
Mathematics, Computer Science, and Systems Design ..... 9
Medical Technology ..... 9
Music (BM) ..... 0
Music (BME) ..... 0
Occupational Therapy ..... 0
Physical Education ..... 0
Physical Therapy ..... 0
Political Science ..... 9
Psychology ..... 9
Sociology ..... 9
Spanish ..... 9

The 18 semester hours of military science courses which constitute the Army ROTC program at The University of Texas at San Antonio are offered in two parts: a Basic Course, consisting of 6 semester hours of course work, taken in the first two years at The University and an Advanced Course, consisting of 12 semester hours of course work taken in the last two years at The University.
The program requirements for the Basic Course are as follows:

## First Year

| Fall Semester | Spring Semester |  |
| :---: | :---: | :---: |
| MSC 1011 | Second Year | MSC 1021 |
| Fall Semester |  | Spring Semester |
| MSC 2012 |  | MSC 2022 |

Students may enroll in the Basic Course without obligation to take additional ROTC training. Students enrolled in the Basic Course are furnished, free of charge, complete uniforms, texts, and necessary equipment.
The program requirements for the Advanced Course are as follows:
First Year
Fall Semester
MSC 3013
Spring Semester
MSC 3023
Second Year
Fall Semester
MSC 4013
Spring Semester
MSC 4023

Students enrolled in the Advanced Course receive $\$ 100$ per month, and texts, uniforms, and equipment are provided. Upon entering the Advanced Course, a student is required to sign a contract which obligates him or her to complete the ROTC program and serve a tour of active duty as a commissioned officer in The United States Army.
Participation in a leadership laboratory is required in connection with all courses. The leadership laboratory consists of a varied program of enrichment and development for future army officers consisting of an active guest speaker program, participation in civic action projects, tours of military and related installations, field training exercises, and a limited amount of drill and physical conditioning.
Between their junior and senior years, students are required to attend a five week summer camp.
The ROTC program offers scholarships for up to three years to selected students. These scholarships provide for tuition, fees, and subsistence of $\$ 100$ per month.

# COURSE DESCRIPTIONS MILITARY SCIENCE (MSC) 

1011 Fundamentals of Leadership and Management I
(1-2) 1 hour credit.
Organization of the Army and ROTC. Career opportunities for ROTC graduates and the military as a profession. Customs and traditions of the service. Development of leadership potential.
1021 Fundamentals of Leadership and Management II
(1-2) 1 hour credit.
Leadership case studies of problems facing junior leaders in today's Army in noncombat situations. Evaluation of weapons and warfare using the principles of warfare as a catalyst. Effects of technological and sociological change on the military. Continuation of customs and traditions of the service. Development of leadership potential.
2012 Applied Leadership and Management I
(2-2) 2 hours credit.
Operation of basic military team with emphasis on organization and equipment. Military geography and use of maps and aerial photography with introduction to orienteering. Functions and responsibilities of the junior leader.
2022 Applied Leadership and Management II
(2-2) 2 hours credit.
American military history to include the development of American military institutions, policies, experiences, and traditions in peace and war from colonial times to the present. Emphasis will be on the relationship between the military and other facets of American society and the role of the military in the establishment, expansion, preservation and development of the nation. Functions and responsibilities of the junior leader.
3013 Advanced Leadership and Management I
(3-2) 3 hours credit. Prerequisites: MSC 1011, 1021, 2012 and 2022, or by consent of instructor.
Case studies in leadership and management. Development of the student's ability to express himself clearly and accurately with emphasis on the analysis of military problems, and preparation and delivery of logical solutions.

## 3023 Advanced Leadership and Management II

(3-2) 3 hours credit. Prerequisite: MSC 3013 or by consent of instructor.
Analysis of the leader's role in directing and coordinating efforts of individuals and
small units in the execution of offensive and defensive tactical missions. Case studies of leadership and management.
4013 Seminar in Leadership and Management of the Military Team
(3-2) 3 hours credit. Prerequisite: MSC 3023 or consent of instructor.
Analysis of selected leadership and management problems. Responsibilities of the Commander and staff in areas of personnel, intelligence, operations, and logistics. Administration of military law. The interrelationships of the military team.
4023 Seminar in Leadership and Management
(3-2) 3 hours credit. Prerequisite: MSC 4013 or consent of instructor.
Analysis of selected leadership and management problems. Responsibilities of the Commander in the management of personnel, account, logistics, operations, maintenance and unit readiness. Seminars in the role of the officer in the conduct of personal affairs.

> COURSE DESCRIPTION LIBRARY INSTRUCTION (LIB)

## 1001 Library Instruction

1 hour credit.
A self-paced orientation to the nature and location of library materials and services at The University of Texas at San Antonio. Instruction and experience in using The University card catalogs, microform and other audio-visual equipment and indexes. Instruction and practice in library search strategy and compilation of a bibliography.

## COLLEGE OF SCIENCES AND MATHEMATICS DIVISION OF ALLIED HEALTH AND LIFE SCIENCES

The Division offers a Bachelor of Science Degree in Biology and Allied Health programs leading to Bachelor of Science Degrees in Medical Technology, Occupational Therapy, and Physical Therapy. Also available are preprofessional courses to help prepare students for admission to medical, dental, and nursing school. ${ }^{44}$

The B.S. Degree in Biology is structured around a comprehensive core curriculum and related offerings in chemistry, physics, and mathematics that lead to more highly specialized areas of the life sciences, such as physiology, genetics, microbiology, biochemistry, environmental biology and molecular biology.
There are two programs at UT San Antonio that lead to a B.S. Degree in Medical Technology. One program consists of three years of academic work and twelve months of clinical laboratory training in a hospital school of medical technology approved by the Council of Education of the American Medical Association. The second program is a four-year integrated program in which clinical training is introduced at the beginning of the program and in which there is a concentrated clinical hospital experience in the latter part of the program. The integrated program is offered in cooperation with The University of Texas Health Science Center at San Antonio. Graduates of both the three-plus-one and the integrated programs may obtain certification by passing the examination of the Board of Registry of the American Society of Clinical Pathologists.
The Bachelor of Science Degree in Occupational Therapy provides the student with a strong background in the life sciences, behavioral sciences, humanities, and special skill areas. Specific application of occupational therapy skills in laboratory and clinical settings occurs in the last two years of a student's program and includes a minimum of six months approved field work experience. Upon completion of the degree program the student is eligible to take the national examination for registration with the American Occupational Therapy Association.
The Bachelor of Science Degree program in Physical Therapy emphasizes the biological and physical sciences essential for understanding the functioning of the human body, as well as the humanities, social sciences, and skill areas. Preclinical and clinical experience is taken in the last two years of a student's program. Upon completion of the degree program the student is eligible to take licensure examinations.
Special Admission Requirements for Upper-Division Allied Health Sciences Courses. Acceptance into The University to major in Medical Technology, Occupational Therapy, and Physical Therapy does not indicate acceptance into the upper-division Allied Health Sciences courses. Admission requirements for those courses are:

1) completion of pre-professional requirements with a minimum grade of " $C$ " in each course;
2) a minimum cumulative GPA of 2.8 in all pre-professional courses;

[^49]3) a satisfactory score on the Allied Health Professions Admission Test;
4) a report from the student's personal physician regarding the applicant's physical and mental health; and
5) a personal interview for selected applicants.

Acceptance into the Three-Plus-One Medical Technology program does not guarantee the student a position in the final year of clinical training. UT San Antonio students compete with students from other universities for the available internships at hospital schools of medical technology. Securing the fourth year clinical training is the student's responsibility. The Director of the Medical Technology Program assists the students in this regard, but the final decisions upon acceptance are made by individual hospitals.
Acceptance into the junior year of the Integrated Medical Technology program guarantees a student a continued position in the upper-division Allied Health Science courses, as long as he or she maintains at least a 2.5 cumulative gradepoint average.

## BACHELOR OF SCIENCE DEGREE IN BIOLOGY

The minimum number of semester hours required for the Bachelor of Science Degree in Biology, including the 50 hours of General Education Requirements, is $126 .{ }^{45}$
All candidates for the degree must complete:
A. 45 semester hours in the major, 22 of which must be at the upperdivision level.

1. 25 semester hours in the Biology Core Curriculum are required:

BIO 1103, 1112 Principles of Biology and Laboratory
BIO 1213, 1222 Principles of Environmental Biology and Laboratory
BIO 2313, 2322 Genetics and Laboratory
BIO 3413, 3422 General Physiology and Laboratory
BIO 3513, 3522 Biochemistry and Laboratory
2. 20 additional semester hours of Biology electives are required, 12 of which must be at the upper-division level in consultation with the student's Advisor. The Biology electives may be selected from any of the Biology courses, except those for non-majors, and from certain Allied Health Sciences courses.
B. 24 semester hours of support work.

1. 13 semester hours are required in Chemistry:

| CHE | 1103 | Introductory Chemistry |
| :--- | :--- | :--- |
| CHE | 2003 | Chemical Principles |
| CHE | 2012 | Inorganic Qualitative and Quantitative Analysis |
| CHE 2203 | Organic Chemistry I |  |
| CHE 2212 | Organic Qualitative Analysis |  |

2. 3 semester hours (in addition to the 4 semester hours required under the General Education Requirements) are required in Mathematics:

| MAT 2013 | Statistical Methods for the Life and Social Sci- <br> ences or <br> Calculus 1 |
| :--- | :--- |

[^50]3. 8 semester hours are required in Physics:

PHY 1803, 1811 Physics for Life Sciences I and Laboratory
PHY 1823, 1831 Physics for Life Sciences II and Laboratory
C. 7 semester hours of free electives.

## BACHELOR OF SCIENCE DEGREE IN MEDICAL TECHNOLOGY

The minimum number of semester hours required for this degree, including the 50 hours of General Education Requirements, is 146.

## THREE-PLUS-ONE PROGRAM

A. 75 semester hours are required in the major.

1. 26 semester hours in the biological sciences:

| BIO | 1103,1112 | Principles of Biology and Laboratory |
| :--- | :--- | :--- |
| BIO | 2313 | Genetics |
| BIO | 3513,3522 | Biochemistry and Laboratory |
| BIO | 3713,3722 | Microbiology and Laboratory |
| BIO | 4743,4751 | Immunology and Laboratory |
| BIO | 4763,4771 | Parasitology and Laboratory |

2. 49 semester hours are required in Allied Health Sciences.

| AHS 1871 | Allied Health Sciences |
| :--- | :--- |
| AHS 1883 | Introduction to Medical Technology |
| AHS 3463, 3471 | Human Physiology and Laboratory |
| AHS 4783, 4792 | Pathogenic Microorganisms and Laboratory |
| AHS 4942-9 | Clinical Field Work Experience - Level II (to be <br> repeated during the 12 month hospital training <br> for a total of 36 hours: 12 hours in each of Fall, |
|  |  |
|  | Spring and Summer semesters). |

B. 21 hours of support work.

1. 13 semester hours are required in Chemistry:

CHE 1103 Introductory Chemistry
CHE 2003 Chemical Principles
CHE 2012 Inorganic Qualitative and Quantitative Analysis
CHE 2203 Organic Chemistry I
CHE 2212 Organic Qualitative Analysis
2. 8 semester hours are required in Physics:

PHY 1803, 1811 Physics for Life Sciences I and Laboratory
PHY 1823, 1831 Physics for Life Sciences II and Laboratory

## INTEGRATED PROGRAM

A. 75 semester hours in the major.

1. 22 semester hours are required in the biological sciences:

BIO 1103, 1112 Principles of Biology and Laboratory
BIO 2313 Genetics
BIO 3513, 3522 Biochemistry and Laboratory
BIO 3713, 3722 Microbiology and Laboratory
BIO 4743, 4751 Immunology and Laboratory
2. 53 semester hours are required in Allied Health Sciences:

| AHS | 1871 | Allied Health Sciences |
| :---: | :---: | :---: |
| AHS | 1883 | Introduction to Medical Technology |
| AHS | 2412, 2422 | Hematology and Laboratory |
| AHS | 2533, 2542 | Parasitology and Urinalysis and Laboratory |
| AHS | 3463, 3471 | Human Physiology and Laboratory |
| AHS | 3773, 3782 | Clinical Chemistry and Laboratory |
| AHS | 3862, 3872 | Immunohematology and Serology and Laboratory |
| AHS | 4783, 4792 | Pathogenic Microorganisms and Laboratory |
| AHS | 4843 | Advanced Clinical Microbiology |
| AHS | 4854 | Advanced Clinical Chemistry |
| AHS | 4863 | Advanced Clinical Hematology |
| AHS | 4884 | Advanced Immunohematology and Serology |
| AHS | 4942-8 | Clinical Field Work Experience - Level II (to be repeated during the two-semester hospital training experience for a total of 8 hours) |

B. 21 semester hours of support work.

1. 13 semester hours are required in Chemistry:

| CHE | 1103 | Introductory Chemistry |
| :--- | :--- | :--- |
| CHE | 2003 | Chemical Principles |
| CHE | 2012 | Inorganic Qualitative and Quantitative Analysis |
| CHE | 2203 | Organic Chemistry I |
| CHE | 2212 | Organic Qualitative Analysis |

2. 8 semester hours are required in Physics:

PHY 1803, 1811 Physics for Life Sciences I and Laboratory
PHY 1823, 1831 Physics for Life Sciences II and Laboratory

## BACHELOR OF SCIENCE DEGREE IN OCCUPATIONAL THERAPY ${ }^{46}$

The minimum number of semester hours required for this degree, including the 50 hours of General Education Requirements, is $158 .{ }^{47}$
All candidates for the degree must complete:
A. 98 semester hours in the major, 87 of which must be at the upperdivision level.

1. 9 semester hours are required in the biological sciences:

BIO 1103, 1112 Principles of Biology and Laboratory
BIO 2123, 2131 Comparative Anatomy of Vertebrates and Laboratory
2. 89 semester hours are required in Allied Health Sciences:

| AHS 1871 | Allied Health Sciences |
| :--- | :--- |
| AHS 1891 | Survey of Physical Medicine and Rehabilitation |
| AHS 3002 | Principles of Practice |
| AHS 3012 | Introductory Pathology |
| AHS 3164, 3174 | Human Anatomy and Laboratory |
| AHS 3212 | Occupational Therapy Media I |
| AHS 3223 | Occupational Therapy Media II |

[^51]| AHS | 3463, 3471 | Human Physiology and Laboratory |
| :---: | :---: | :---: |
| AHS | 3752, 3761 | Dynamics of Motion I and Laboratory |
| AHS | 3793 | Occupational Therapy Theory I |
| AHS | 3802 | Clinical Medicine I |
| AHS | 3812 | Clinical Seminar |
| AHS | 3902 | Occupational Therapy Skills Laboratory I |
| AHS | 3924 | Clinical Field Work Experience Level I |
| AHS | 4003 | Clinical Medicine II |
| AHS | 4013 | Clinical Medicine III |
| AHS | 4023 | Occupational Therapy Skills Laboratory II |
| AHS | 4033 | Occupational Therapy Skills Laboratory III |
| AHS | 4043 | Occupational Therapy Media III |
| AHS | 4053 | Occupational Therapy Theory II |
| AHS | 4463, 4471 | Human Neurosciences and Laboratory |
| AHS | 4501 | Seminar in Rehabilitation |
| AHS | 4803 | Occupational Therapy Theory III |
| AHS | 4823 | Allied Health Management and Consultation |
| AHS | 4923 | Special Project |
| AHS | 4949 | Clinical Field Work Experience - Level I peated for a total of 18 hours credit) |

B. 10 semester hours of support work.

1. 4 semester hours are required in Chemistry:

CHE 1003, 1111 General Chemistry for Allied Health Sciences and Laboratory
or
CHE 1103, 1122 Introductory Chemistry and Laboratory Workshop
2. 6 semester hours are required in Psychology:

PSY 2513 Abnormal Psychology
PSY 2523 Personality

## BACHELOR OF SCIENCE DEGREE IN PHYSICAL THERAPY

The minimum number of semester hours required for this degree, including the 50 hours of General Education Requirements, is $153 .{ }^{48}$
All candidates for the degree must complete:
A. 87 semester hours in the major, 76 of which must be at the upperdivision level.

1. 14 semester hours are required in Biology.

BIO 1103, 1112 Principles of Biology and Laboratory
BIO 2123, 2131 Comparative Anatomy of Vertebrates and Laboratory
BIO 3413, 3422 General Physiology and Laboratory
2. 73 semester hours are required in Allied Health Sciences courses:

| AHS 1871 | Allied Health Sciences |
| :--- | :--- |
| AHS | 1891 |$\quad$ Survey of Physical Medicine and Rehabilitation


| AHS | 3752 | Dynamics of Motion I |
| :---: | :---: | :---: |
| AHS | 3761 | Dynamics of Motion I Laboratory |
| AHS | 3881 | Therapeutic Concepts and Procedures in Physical Therapy |
| AHS | 3892 | Therapeutic Concepts Laboratory |
| AHS | 3926 | Clinical Field Work Experience - Level I |
| AHS | 4003 | Clinical Medicine II |
| AHS | 4013 | Clinical Medicine III |
| AHS | 4202 | Dynamics of Motion II |
| AHS | 4211 | Dynamics of Motion II Laboratory |
| AHS | 4222 | Advanced Concepts and Procedures in Physical Therapy |
| AHS | 4231 | Advanced Concepts and Procedures in Physical Therapy Laboratory |
| AHS | 4301 | Clinical Education (repeated for a total of 4 credit hours) |
| AHS | 4313 | Therapeutic Exercise I |
| AHS | 4323 | Therapeutic Exercise II |
| AHS | 4413 | Mammalian Physiology |
| AHS | 4421 | Mammalian Physiology Laboratory |
| AHS | 4463 | Human Neurosciences |
| AHS | 4471 | Human Neurosciences Laboratory |
| AHS | 4501 | Seminar in Rehabilitation |
| AHS | 4823 | Allied Health Management and Consultation |
| AHS | 4923 | Special Project |
| AHS | 4949 | Clinical Field Work Experience - Level II |

B. 16 semester hours of support work.

1. 9 semester hours are required in Chemistry:

CHE 1103
CHE 2003
Introductory Chemistry
Chemical Principles
CHE 2012 Inorganic Qualitative and Quantitative Analysis
2. 8 semester hours are required in Physics:

PHY 1803, 1811 Physics for Life Sciences I and Laboratory
PHY 1823, 1831 Physics for Life Sciences II and Laboratory

## COURSE DESCRIPTIONS BIOLOGY (BIO)

## 1013 Life and Living Systems

(3-0) 3 hours credit. May not be applied to a major in this Division.
An introduction to the life sciences emphasizing general principles, diversity of life forms, reproduction and interrelationships between living things. Credit cannot be earned for both BIO 1013 and BIO 1103.

## 1021 Life and Living Systems Laboratory

(0-3) 1 hour credit. May not be applied to a major in this Division. Must be taken concurrently with BIO 1013. Laboratory exercises, films and demonstrations in biology. Credit cannot be earned for both BIO 1021 and BIO 1112.

1103 Principles of Biology
(3-0) 3 hours credit.
An introduction to living organisms emphasizing fundamentals of organization, reproduction, growth and interrelationships between various forms of life. Required for students majoring in Biology. Credit cannot be earned for both BIO 1013 and BIO 1103.
1112 Principles of Biology Laboratory
(0-6) 2 hours credit. Must be taken concurrently with BIO 1103.
1213 Principles of Environmental Biology
(3-0) 3 hours credit. Prerequisites: BIO 1103 and BIO 1112.
The interaction of organisms with their environment, ecological principles, adaptations of organisms, ecology, environmental pollution and principles of conservation.
1222 Principles of Environmental Biology Laboratory
(0-6) 2 hours credit. Biology majors must take this concurrently with BlO 1213; optional for non-majors.
2003 Human Reproduction, Fertility, and Demography
(3-0) 3 hours credit. Prerequisites: BIO 1013 or 1103 or consent of instructor. May not be applied to a major in this Division.
Human reproductive anatomy and physiology, fertility control, reproductive disease, and parameters influencing fertility patterns.
2053 Man and His Environment
(3-0) 3 hours credit. Prerequisite: BIO 1013 or 1103 or consent of instructor. May not be applied to a major in this Division.
The interaction of man with the ecosystem and its consequences.

## 2063 Invertebrate Biology

(3-0) 3 hours credit. Prerequisites: BIO 1103, 1112.
A comprehensive treatment of the invertebrate animals with emphasis on their taxonomy, morphology, ecology, and evolution.
2071 Invertebrate Blology Laboratory
(0-3) 1 hour credit. Must be taken concurrently with BIO 2063.
2123 Comparative Anatomy of Vertebrates
(3-0) 3 hours credit. Prerequisites: BIO 1103, 1112.
A detailed study of anatomical differences and similarities of vertebrates with reference to evolutionary changes.
2131 Comparative Anatomy of Vertebrates Laboratory
(0-3) 1 hour credit. Must be taken concurrently with BIO 2123.
2162 Histology and Cytology
(2-0) 2 hours credit. Prerequisites: BIO 1103, 1112.
The cytological and histological aspects of cellular organization.
2172 Histological and Cytological Laboratory
(0-6) 2 hours credit. Must be taken concurrently with BIO 2162.
2313 Genetics
(3-0) 3 hours credit. Prerequisites: BIO 1103, 1112, CHE 1103, 2003, and one year of college algebra.
Principles governing transmission of hereditary factors in plants and animals with emphasis on molecular, biochemical and population genetics.
2322 Genetics Laboratory
(0-6) 2 hours credit. Must be taken concurrently or following BIO 2313. Optional for non-majors.
3003 Introduction to Oceanography
(3-0) 3 hours credit. Prerequisite: Consent of instructor.
General oceanography with emphasis on biological aspects integrated into a conceptual approach to the sciences of the sea.

## 3012 Introductory Pathology

(2-0) 2 hours credit. Prerequisites: BIO 1103, 1112 or AHS 2103.
Concepts of disease and diagnosis of pathological conditions.

## 3023 Drugs and Society

(3-0) 3 hours credit. May not be applied to a major in this Division.
An examination of drugs and their role in society.

## 3083 Biosocial Genetics

(3-0) 3 hours credit. May not be applied to a major in this Division.
A study of human heredity and social issues with emphasis on inherited diseases, genetic problems and evolutionary change in relation to culture, diversity and mating systems.

## 3143 Comparative Vertebrate Embryology

(3-0) 3 hours credit. Prerequisites: BIO 3413, 3422.
Sequential analysis of development in vertebrates and the factors which effect fertilization organogenesis and implantation.

## 3151 Comparative Vertebrate Embryology Laboratory

(0-3) 1 hour credit. Must be taken concurrently with BIO 3143.
3203 Plant Ecology
(3-0) 3 hours credit. Prerequisite: BIO 1213, 1222 or consent of instructor.
The major biomes of North America and Texas will be studied, including the chemical, physical and biological factors that influence the development of these biomes.

## 3211 Plant Ecology Laboratory

(0-3) 1 hour credit. Must be taken concurrently with BIO 3203.
Laboratory will include four weekend field trips to major biomes of Texas. Qualitative and quantitative methods used to evaluate plant communities will be examined.

## 3213 Animal Ecology

(3-0) 3 hours credit. Prerequisites: BIO 1213, 1222.
A detailed study of populations, interrelationships, behavior patterns and physiological responses of animals to their environment.
3221 Animal Ecology Laboratory
(0-3) 1 hour credit. Must be taken concurrently with BIO 3213.
3233 Rural and Municipal Sanitation
(3-0) 3 hours credit. Prerequisites: BIO 1213, CHE 2003 and upper-division standing.
An examination of sanitation practices in rural and urban environments; including insect and rodent control, swimming pool sanitation, rural water supply, food sanitation and disease transmission.

## 3242 Field Biology and Ecology

(2-0) 2 hours credit. Prerequisite: BIO 1103, 1112 or consent of instructor.
A study of plants and animals in their natural environment; field trips, collection and analysis of field data are included.
3251 Field Biology Laboratory
(0-3) 1 hour credit. Must be taken concurrently with BiO 3242.
3323 Evolution
(3-0) 3 hours credit. Prerequisite: BIO 2313.
A discussion of theories and possibly mechanisms for evolutionary changes at various levels of organization.

## 3343 Plant Sciences

(3-0) 3 hours credit. Prerequisites: BIO 1103, 1112.
The life histories and phylogenetic relationships of vascular and non-vascular plants.

## 3351 Plant Sciences Laboratory

(0-3) 1 hour credit. Must be taken concurrently with BIO 3343.

## 3413 General Physiology

(3-0) 3 hours credit. Prerequisites: BIO 1103, 1112, CHE 2203, 2212. Fundamental properties and processes in living systems.

## 3422 General Physiology Laboratory

(0-6) 2 hours credit. Must be taken concurrently with BIO 3413.

## 3513 Biochemistry

(3-0) 3 hours credit. Prerequisites: CHE 2203, 2212; BIO 2313 recommended. Introduction to biochemistry: amino acids; protein structures; enzyme action; lipids and saccharides; metabolism; nucleic acids and molecular biology.

## 3522 Biochemistry Laboratory

(0-6) 2 hours credit. Must be taken concurrently or following BIO 3513.
Basic biochemical laboratory techniques: titration, protein purification, enzyme kinetics, chromatography, electrophoresis, centrifugation.
3533 Radiation Biology
(3-0) 3 hours credit. Prerequisites: BIO 3513, 3522.
Interactions of ionizing ultraviolet and visible radiations with matter; biological effects; cellular repair of radiation damage; biological photo-receptors.

## 3541 Radiation Biology Laboratory

(0-3) 1 hour credit. Must be taken concurrently with BIO 3533.

## 3633 Plant Anatomy

(3-0) 3 hours credit. Prerequisites: BIO 3343, 3351.
A comprehensive treatment of the internal structure of vascular plants. Emphasis will be on leaf, flower, fruit, stem and root anatomy.
3641 Plant Anatomy Laboratory
(0-3) 1 hour credit. Must be taken concurrently with BIO 3633 .

## 3713 Microbiology

(3-0) 3 hours credit. Prerequisites: BIO 3513, 3522 or concurrent registration.
A comprehensive study of microorganisms including their composition, morphology, growth, metabolism, classification, ecology and significance in disease.
3722 Microbiology Laboratory
(0-6) 2 hours credit. Must be taken concurrently with BIO 3713.
3732 Industrial Microbiology
(2-0) 2 hours credit. Prerequisites: BIO 3713, 3722.
A study of fermentations of industrial importance, food processing, and quality control.
3741 Industrial Microbiology Laboratory
(0-3) 1 hour credit. Must be taken concurrently with BIO 3732.
3813 Cellular Biology
(3-0) 3 hours credit. Prerequisites: BIO 3413, 3513.
The composition, function and interaction of cellular constituents and substructures at the ultra-structural level.
3821 Cellular Biology Laboratory
(0-3) 1 hour credit. Must be taken concurrently with BIO 3813.

## 3831 Tissue and Organ Culture

(1-0) 1 hour credit. Prerequisites: BIO 3513, 3522.
Theoretical and practical aspects of maintaining and growing cells, tissues and organs from various sources.

## 3842 Tissue and Organ Culture Laboratory

(0-6) 2 hours credit. Must be taken concurrently with BIO 3831.

## 4003 Principles of Marine Biology

(3-0) 3 hours credit. Prerequisite: BIO 1213.
The fauna and flora of marine ecosystems with special emphasis on the Northwestern Gulf Coast.

## 4011 Principles of Marine Biology Laboratory

(0-3) 1 hour credit. Must be taken concurrently with BIO 4003.
Shallow and deep water collection, identification and observation. Some weekend field trips required.

## 4022 Limnology

(2-0) 2 hours credit. Prerequisites: BIO 1213.
Ecology of inland waters with emphasis on functional aspects of lake ecosystems, productivity and nutrient relations of plankton, pollution and eutrophication.

## 4032 Limnology Laboratory

(0-6) 2 hours credit. Must be taken concurrently with BIO 4022.
Comparative limnology of Texas lakes and streams supported by laboratory analysis of biological material collected in water samples.
4073 Law, Ethics and the Life Sciences
(3-0) 3 hours credit. Prerequisites: BIO 1103, 1112 or consent of instructor.
May not be applied to a major in this Division. An examination of the ethical, philosophical and social implications of studies in those areas of the life sciences which affect public policy or action, e.g., incentives to slow population growth; psychology of consciousness and definitions of life and death.
4243 Physiological Ecology
(3-0) 3 hours credit. Prerequisites: BIO 3213, 3221, 3242, 3251.
An integration of physiological and biochemical solutions and mechanisms to environmental problems at the organismic level.
4251 Physiological Ecology Laboratory
(0-3) 1 hour credit. Must be taken concurrently with BIO 4243.

## 4333 Population Genetics

(3-0) 3 hours credit. Prerequisites: BIO 2313, 2322.
A quantitative approach to the study of genetics systems in populations, including mutations, selection, polymorphism and mating systems.

## 4343 Molecular Genetics

(3-0) 3 hours credit. Prerequisites: BIO 2313, 2322, 3513, 3522.
Molecular approach to structure, replication, mutation and phenotypic expression of genetic material.

## 4353 Comparative Physiology

(3-0) 3 hours credit. Prerequisites: BIO 3413, 3422.
A phylogenetic study of physiologic adaptation in animals.

## 4361 Comparative Physiology Laboratory

(0-3) 1 hour credit. Must be taken concurrently with BIO 4353.
A laboratory course illustrating the principles presented in BIO 4353.
4433 Neurobiology
(3-0) 3 hours credit. Prerequisites: BIO 3413, 3422.
Anatomy and physiology of nervous systems, the mechanisms of neuronal functions.
4443 Endocrinology
(3-0) 3 hours credit. Prerequisites: BIO 3413, 3422, 3513, 3522.
A consideration of the physiological effects of hormones on the organism in health and disease, together with a study of the gross and microscopic morphology of the glands of internal secretion.
4451 Endocrinology Laboratory
(0-3) 1 hour credit. Must be taken concurrently with BIO 4443.
4493 Air Pollution and Industrial Hygiene
(3-0) 3 hours credit. Prerequisites: BIO 1213, CHE 2003 and upper-division standing.
Discussion of the sources, quantities, effects of sampling and control of airborne pollutants in ambient air and industrial environments.

4523 Intermediary Metabolism
(3-0) 3 hours credit. Prerequisites: BIO 3513, 3522.
A detailed consideration of metabolic pathways, energy metabolism and their regulation.

## 4543 Biochemical Techniques

(0-6) 3 hours credit. Prerequisites: BIO 3513, 3522.
Laboratory experience in methods of biochemical fractionation, purification and analysis of components.

## 4603 Plant Physiology

(3-0) 3 hours credit. Prerequisites: BIO 3343, 3351, CHE 2203, 2212.
Principles of organization of cellular activity and molecular structure of protoplasm; nutrition, translocation, mineral metabolism, respiration and photosynthesis.

## 4611 Plant Physiology Laboratory

(0-3) 1 hour credit. Must be taken concurrently with BIO 4603.

## 4622 Biological Literature

(2-0) 2 hours credit. Prerequisite: senior standing.
Survey of selected biological references with emphasis on utilization of journals and scientific writing.

## 4723 Virology

(3-0) 3 hours credit. Prerequisites: BIO 3713, 3722, 3513, 3522.
A study of the diversity of viruses and biochemical mechanisms for their replication.

## 4731 Virology Laboratory

(0-3) 1 hour credit. Must be taken with or following BIO 4723.

## 4743 Immunology

(3-0) 3 hours credit. Prerequisites: BIO 3713, 3722, 3513, 3522.
A study of the properties of antigens and antibodies, current concepts of humoral and cell-mediated immunity and the cells involved.

## 4751 Immunology Laboratory

(0-3) 1 hour credit. Must be taken concurrently with BIO 4743.

## 4763 Parasitology

(3-0) 3 hours credit. Prerequisites: BIO 3713, 3722.
A study of the animal parasites of humans and related hosts with emphasis on their epidemiology, life cycles, pathology and control.

## 4771 Parasitology Laboratory

(0-3) 1 hour credit. Must be taken concurrently with BIO 4763.

## 4911-3 Independent Study

1.3 hours credit. Prerequisites: Permission in writing (form available) of the instructor, the student's advisor, and the Division 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. For students needing specialized work. May be repeated for credit, but not more than 6 hours will apply to the bachelor's degree.

## 4923 Special Project

(2-9) 3 hours credit. Prerequisite: Consent of Division Director. An intensive supervised student project.

## 4963 Special Studies in Biology

(3-0) 3 hours credit. Prerequisite: Consent of instructor.
An organized course offering specialized study not normally or not often available as part of the regular course offerings. Special Studies courses may be repeated for credit when the topics vary, but not more than 6 hours within any one discipline will apply to a bachelor's degree.

## 4973 Proseminar

(3-0) 3 hours credit. Prerequisite: Consent of Division Director. Presentation and discussion of current scientific literature.

## COURSE DESCRIPTIONS ALLIED HEALTH SCIENCES (AHS)

## 1053 Introductory Microbiology

(3-0) 3 hours credit. Prerequisite: BIO 1013 or 1103 or consent of instructor.
May not be applied to a major in this Division. A general study of microorganisms, their characteristics, isolation, growth, and importance in nature, industry, public health and human disease.
106.1 Introductory Microbiology Laboratory
(0-3) 1 hour credit.
May not be applied to a major in this Division. Must be taken concurrently with AHS 1053.

## 1871 Allied Health Sciences

(1-0) 1 hour credit.
Nature of the various allied health science programs and their interrelation. On-site hospital visits to the various programs.
1883 Introduction to Medical Technology
(3-0) 3 hours credit. Prerequisite: AHS 1871.
Clinical laboratory safety, specimen collection and preservation, quality controls, medical laboratory calculations, reagent preparation and medical technical terminology.

## 1891 Survey of Physical Medicine and Rehabilitation

(1-0) 1 hour credit. Prerequisite: AHS 1871.
The role of each therapeutic discipline working within the process of rehabilitation.
Topics include medical terminology, ethics, and effects of illness on the patient.

## 2043 Nutrition

(3-0) 3 hours credit. Prerequisites: BIO 1103, 1112 or AHS 2103.
An examination of human nutritional needs from infancy to adulthood.

## 2083 Human Biology: Anatomy

(3-0) 3 hours credit. Prerequisite: BIO 1103 or consent of instructor.
The structure of human muscular, skeletal, nervous and organ systems.
2091 Human Biology: Anatomy Laboratory
(0-3) 1 hour credit.
Must be taken concurrently with BIO 2083.
2103 Human Biology: Physiology
(3-0) 3 hours credit. Prerequisite: BIO 1103 or consent of instructor.
Physiological processes in human systems.
2111 Human Blology: Physiology Laboratory
(0-3) 1 hour credit.
Must be taken concurrently with BIO 2103.
2412 Hematology
(2-0) 2 hours credit. Prerequisite: AHS 1883 or consent of instructor.
Normal and abnormal blood pictures and cell maturations with related clinical analyses, hemoglobinopathies, bone marrows, blood coagulation and all factors.

## 2422 Hematology Laboratory

(0-6) 2 hours credit.
Must be taken concurrently with AHS 2412. Clinical hematological laboratory.
2533 Parasitology and Urinalysis
(3-0) 3 hours credit. Prerequisite: AHS 1883.
Study of human parasitology, urinalysis with correlation to physiological condition.
2542 Parasitology and Urinalysis Laboratory
(0-6) 2 hours credit.
Must be taken concurrently with AHS 2533. Clinical human parasitology and urinalysis.

## 3002 Principles of Practice

(2-0) 2 hours credit. Prerequisite: Approval of Occupational Therapy Program Director.
Overview of occupational therapy theory and clinical application.
3012 Introductory Pathology
(2-0) 2 hours credit. Prerequisites: BIO 1103, 1112, or AHS 2103.
Concepts of disease and diagnosis of pathological conditions.
3113 Kinesiology
(3-0) 3 hours credit. Prerequisite: AHS 2083, 2103.
A study of the principles of human motion. Primarily designed for students majoring in physical education.
3164 Human Anatomy
(4-0) 4 hours credit. Prerequisite: Approval of the appropriate Allied Health Program Director.
Lectures and demonstrations on the structure of the human body.
3174 Human Anatomy Laboratory
(0-12) 4 hours credit.
Must be taken concurrently with AHS 3164. Includes prosections, demonstrations and dissections of human material.
3201 Physical Therapy: History and Philosophy
(1-0) 1 hour credit.
The history and philosophy of Physicał Therapy. Includes presentations on various aspects of the profession.
3212 Occupational Therapy Media I
(0-6) 2 hours credit. Prerequisite: Consent of instructor. Woodworking. Use of tools in building adaptive equipment.
3223 Occupational Therapy Media II
(0-9) 3 hours credit. Prerequisite: Consent of instructor.
Ceramic techniques as applied to patient therapy.
3302 Physical Therapy Procedures
(2-0) 2 hours credit. Prerequisite: Consent of the instructor. Fundamental concepts for basic patient care and management.
3463 Human Physiology
(3-0) 3 hours credit. Prerequisites: BIO 1103, 1112, CHE 2103 or 2203 or consent of instructor.
Physiological processes in human systems.
3471 Human Physiology Laboratory
(0-3) 1 hour credit.
Must be take concurrently with AHS 3463.

## 3752 Dynamics of Motion I

(2-0) 2 hours credit. Prerequisites: AHS 3164 and approval of the appropriate Allied Health Program Dirks:or.
Analysis and evaluation of movement disorders and the use of assistive devices for their prevention and correction.
3761 Dynamics of Motion I Laboratory
(0-3) 1 hour credit.
Must be taken concurrently with AHS 3752.

## 3773 Clinical Chemistry

(3-0) 3 hours credit. Prerequisite: BIO 3513.
Physiological systems in normal and diseased processes and their correlation with clinical chemistry laboratory.
3782 Clinical Chemistry Laboratory
(0-6) 2 hours credit.
Must be taken concurrently with AHS 3773
Analytical clinical chemistry techniques and automated clinical instrumentation with quality controls and blood analyses.

## 3793 Occupational Therapy Theory 1 <br> (3-0) 3 hours credit. Prerequisite: Approval of Occupational Therapy Program Director. <br> Identification of the life tasks and adaptive skills of the developing human; observation and evaluation procedures used in the occupational therapy process correlated with field observations.

## 3802 Clinical Medicine I

(2-0) 2 hours credit. Prerequisite: Approval of appropriate Allied Health Program Director.
Analysis of psychiatric theory and clinical application.

## 3812 Clinical Seminar

(2-0) 2 hours credit.
Analysis of treatment modalities related to clinical treatment.
3862 Immunohematology and Serology
(2-0) 2 hours credit. Prerequisites: AHS 2412, BIO 4743.
Discussion of bloodbanking antigens and antibodies, cross-matching, and clinical serological assays in regard to normal and diseased states.
3872 Immunohematology and Serology Laboratory
$(0-6) 2$ hours credit.
Must be taken concurrently with AHS 3862. Bloodbanking techniques and serological assays including radio immune assay procedures.
3881 Therapeutic Concepts and Procedures in Physical Therapy
(1-0) 1 hour credit. Prerequisite: Approval of Physical Therapy Program Director. Theory and application of the use of physical agents in patient treatment.
3892 Therapeutic Concepts Laboratory
$(0-6) 2$ hours credit.
Must be taken concurrently with AHS 3881.
3902 Occupational Therapy Skills Laboratory I
(0-6) 2 hours credit. Prerequisites: AHS 3793 and approval of Occupational Therapy Program Director.
Identification analysis and adaptation of life tasks and activities related to agespecific needs, capacities and roles.

### 3922.6 Clinical Field Work Experience - Level I

Variable hours credit. Prerequisite: Approval of appropriate Allied Health Program Director.
Observation and Level I participation in the delivery of health care services.
4003 Clinical Medicine II
(3-0) 3 hours credit. Prerequisites: AHS 3012 and approval of the appropriate Allied Health Program Director.
The study of medical and surgical conditions treated by Physical and Occupational Therapy.

## 4013 Clinical Medicine III

(3-0) 3 hours credit. Prerequisites: AHS 4003 and approval of the appropriate Allied Health Program Director.
The study of medical and surgical conditions treated by Physical and Occupational Therapy. A continuation of AHS 4003.

## 4023 Occupational Therapy Skills Laboratory II

(0-9) 3 hours credit. Prerequisite: Approval of the Occupational Therapy Program Director.
Disability evaluations, splinting, adaptive equipment and activities of daily living.
4033 Occupational Therapy Skills Laboratory III
(0-9) 3 hours credit. Prerequisite: Approval of the Occupational Therapy Program Director.
The use and analysis of developmental assessment techniques as related to Occupational Therapy.

## 4043 Occupational Therapy Media III

$(0-9) 3$ hours credit. Prerequisite: Approval of the Occupational Therapy Program Director.
Minor crafts as therapeutic modalities.
4053 Occupational Therapy Theory II
(3-0) 3 hours credit. Prerequisite: Approval of the Occupational Therapy Program Director.
The study of physical disabilities as related to treatment modaiities.

## 4202 Dynamics of Motion II

(2-0) 2 hours credit. Prerequisites: AHS 3752 and 3761.
Analysis and evaluation of movement disorders and the use of assistive devices for their prevention and correction. A continuation of AHS 3752.

## 4211 Dynamics of Motion II Laboratory

(0-3) 1 hour credit.
Must be taken concurrently with AHS 4202.
4222 Advanced Concepts and Procedures in Physical Therapy
(2-0) 2 hours credit. Prerequisite: Approval of Physical Therapy Program Director. Advanced training in developing rehabilitation treatment plans for comprehensive patient care.
4231 Advanced Concepts and Procedures in Physical Therapy Laboratory (0-3) 1 hour credit. Must be taken concurrently with AHS 4222.
4301 Clinical Education
(0-4) 1 hour credit. Prerequisite: Approval of appropriate Allied Health Program Director.
Supervised training in a clinical setting. May be repeated for a total of 4 hours credit.

## 4313 Therapeutic Exercise I

(2-6) 3 hours credit. Prerequisites: AHS 4202, 4463. Approval of Physical Therapy Program Director.
Emphasis on exercise techniques that are based on neurosciences and human development patterns.

## 4323 Therapeutic Exercise II

(2-6) 3 hours credit. Prerequisites: AHS 4313. Approval of Physical Therapy Program Director.
Emphasis on exercise techniques that are based on neurosciences and human development patterns. A continuation of AHS 4313.

## 4413 Mammalian Physiology

(3-0) 3 hours credit. Prerequisites: BIO 3413, 3422 and consent of instructor. Physiology of mammalian organs and organ systems.
4421 Mammalian Physiology Laboratory
(0-3) 1 hour credit.
Must be taken concurrently with AHS 4413.
4463 Human Neurosciences
(3-0) 3 hours credit. Prerequisite: BIO 3413 or AHS 3463.
Structure and function of the human nervous system.
4471 Human Neurosciences Laboratory
(0-3) 1 hour credit.
Must be taken concurrently with AHS 4463.

## 4501 Seminar in Rehabilitation

(1-0) 1 hour credit. Prerequisite: Approval of appropriate program director.
Presentation and discussion of current scientific literature and/or issues.

## 4783 Pathogenic Microorganisms

(3-0) 3 hours credit. Prerequisites: BIO 3713, 3722.
A consideration of medically important microorganisms and their interaction with animal and human hosts.

## 4792 Pathogenic Microorganisms Laboratory

(0-6) 2 hours credit.
Must be taken concurrently with AHS 4783.

## 4803 Occupational Therapy Theory III

(3-0) 3 hours credit. Prerequisite: Approval of Occupational Therapy Program Director.
Overview of life tasks and adaptive skills of the developing human; treatment planning and professional communications with field observations.

## 4823 Allied Health Management and Consultation

(3-0) 3 hours credit. Prerequisite: Approval of appropriate Allied Health Program Director.
Planning, organizing, supervising, and implementing occupational therapy services as a line function and as a consultant; legal and ethical considerations.

## 4843 Advanced Clinical Microbiology

(2-6) 3 hours credit. Prerequisite: Approval of Medical Technology Program Director.
An integrated lecture and laboratory with emphasis on abnormal microbial flora found in diseased humans.

## 4854 Advanced Clinical Chemistry

(2-9) 4 hours credit. Prerequisite: Approval of Medical Technology Program Director.
An integrated lecture and laboratory with emphasis on special clinical chemistries, toxicology, and clinical chemistry of abnormal or diseased states.
4863 Advanced Clinical Hematology
(2-6) 3 hours credit. Prerequisite: Approval of Medical Technology Program Director.
An integrated lecture and laboratory with emphasis on blood pictures, bone marrows and hematological findings of diseased states.

## 4884 Advanced Immunohematology and Serology

(2-9) 4 hours credit. Prerequisite: Approval of Medical Technology Program Director.
An integral lecture and laboratory with emphasis on unusual antibodies and incompatibilities.

## 4911-3 Independent Study

1-3 hours credit. Prerequisites: Permission in writing (form available) of the instructor, the student's Advisor, and the Division 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. For students needing specialized work. May be repeated for credit, but not more than 6 hours will apply to the bachelor's degree.

## 4923 Special Project

(2-9) 3 hours credit. Prerequisite: Consent of Program Director.
An intensive supervised student research project.

## 4942-9 Clinical Field Work Experience - Level II

Variable hours credit. Prerequisites: Approval of appropriate Allied Health Program Director.
In depth experience in and responsibility for the delivery of health care. May be repeated for the required hours of the specific Allied Health degree. When necessary, may be elected for up to 12 hours in a single semester.

## DIVISION OF EARTH AND PHYSICAL SCIENCES

## BACHELOR OF SCIENCE DEGREE IN APPLIED SCIENCE

The minimum number of semester hours required for this degree, including the 50 hours of General Education Requirements, is dependent upon the concentration elected: Applied Geology, 128 semester hours; Applied Physics, 135 semester hours; and Polymer Science, 133 semester hours. ${ }^{49}$
All candidates for the degree must complete the following core of 25 semester hours in the sciences and mathematics:

| CHE 1103 | Introductory Chemistry |
| :--- | :--- |
| CHE 2003 | Chemical Principles |
| CHE 2012 | Inorganic Qualitative and Quantitative Analysis |
| MAT 1213 | Calculus I |
| MAT 1223 | Calculus II |
| CS | 1713 |
| Introduction to Computer Science |  |
| PHY 1903 | Technical Physics I |
| PHY 1911 | Technical Physics I Laboratory |
| PHY 1923 | Technical Physics II |
| PHY 1931 | Technical Physics II Laboratory |

In addition, students must complete a minimum of 53 semester hours selected with approval of the student's Advisor from one of the following Applied Science concentrations: ${ }^{50}$

## Applied Geology

A. 47 semester hours in the major, 21 of which must be at the upperdivision level.

1. 35 semester hours of required courses are:

| GEO | 1003 | Interpreting the Earth |
| :--- | :--- | :--- |
| GEO | 1011 | Interpreting the Earth Laboratory |
| GEO | 1022 | Earth History and Stratigraphy |
| GEO 1031 | Earth History and Stratigraphy Laboratory |  |
| GEO 3002 | Earth Materials I |  |
| GEO | 3012 | Earth Materials I Laboratory |
| GEO 3022 | Earth Materials II |  |
| GEO | 3031 | Earth Materials II Laboratory |
| GEO 3042 | Earth Materials III |  |
| GEO 3052 | Earth Materials III Laboratory |  |
| GEO 3103 | Structural Geology: Map and Photo Analysis |  |
| GEO 3111 | Structural Geology: Map and Photo Analysis Laboratory |  |
| GEO | 3123 | Surface Processes and Sedimentary Geology |

[^52]GEO 3131 Surface Processes and Sedimentary Geology Laboratory
GEO 3943 Field Methods in Geology
GEO 4946 Field Geology
2. 12 additional semester hours of approved elective courses in Applied Geology and Applied Science at the upper-division level are required from the following:

AS 4603 Fundamentals of Hydraulic Engineering
AS 4911-3 Independent Study
AS 4923 Special Project
AS 4931-3 Practicum in Applied Science
AS 4953 Special Studies in Applied Science
GEO 2951 Special Interest Topics
GEO 3142 Economic Geology I: Metals and Industrial Minerals
GEO 3163 Oceanography
GEO 3182 Economic Geology II: Fuels
GEO 3191 Economic Geology II: Fuels - Laboratory
GEO 4022 Engineering Geology
GEO 4062 Principles of Environmental Geology
GEO 4623 Hydrogeology
B. 6 semester hours of approved support work at the upper-division level.

## Applied Physics

A. 54 semester hours in the major.

1. 36 semester hours of required courses are:

AS 3293 Thermodynamics
AS 4923 Special Project
AS 4933 Practicum in Applied Science
PHY 2002 Workshop in Applied Physics
PHY 2403 Electronics
PHY 2411 Electronics Laboratory
PHY 3203 Dynamics
PHY 3263 Microphysics
PHY 3313 Materials Physics
PHY 3321 Materials Physics Laboratory
PHY 3443 Optics
PHY 3452 Optics Laboratory
PHY 4263 Introduction to Quantum Mechanics
PHY 4403 Electricity and Magnetism
2. 18 additional semester hours of approved elective courses in Applied Science ${ }^{51}$ at the upper-division level are required to be chosen from either Applied Physics, Applied Geology or Applied Science courses with the consent of the Advisor.
B. 6 semester hours of required support work in mathematics:

MAT 2213 Calculus III
MAT 3243 Calculus for Applications

## Polymer Science

A. 32 semester hours in the major, all of which must be at the upperdivision level.

1. 20 semester hours of required courses are:

AS 4923 Special Project
AS 4933 Practicum in Applied Science
PS 3603 Polymer Science I
PS 3612 Polymer Science I Laboratory
PS 3623 Polymer Science II
PS 3632 Polymer Science II Laboratory
PS 4653 Polymer Technology
PS 4661 Polymer Technology Laboratory
2. 12 additional semester hours of approved elective courses in Applied Science and Polymer Science at the upper-division level to be chosen from the following:
PS 3643 Natural and Synthetic Organic Polymers
PS 3651 Natural and Synthetic Organic Polymers Laboratory
PS 4623 Coatings Technology
PS 4703 Organic Chemistry of Coatings
PS 4723 Corrosion
PS 4743 Industrial and Commercial Applications of Polymers
B. 26 semester hours of support work, 21 of which must be at the upperdivision level.

1. 20 semester hours of required courses are:

CHE 2203 Organic Chemistry I
CHE 2212 Organic Qualitative Analysis
CHE 3003 Organic Chemistry II
CHE 3012 Organic Quantitative Analysis
CHE 3203 Physical Chemistry I
CHE 3212 Physical Chemistry Laboratory
CHE 3223 Physical Chemistry II
CHE 3232 Instrumental Analysis
2. 6 additional semester hours or approved upper-division course work are required in physical chemistry, organic chemistry, biochemistry, biology, physics, and/or 4000-level polymer science courses.

## COURSE DESCRIPTIONS <br> APPLIED GEOLOGY (GEO)

## 1003 Interpreting the Earth

(3-0) 3 hours credit. Concurrent registration for GEO 1011 required; exceptions with consent of instructor.
The Earth as a dynamic planet; relation of Earth's present day processes to its materials, structure and internal constitution. Nature of minerals and rocks, the hydrosphere, tectonics, and surface features of Earth.
1011 Interpreting the Earth Laboratory
(0-2) 1 hour credit. Concurrent registration for GEO 1003 required; exceptions with consent of instructor.
Relation of Earth's present day processes to its materials, structure and internal constitution. Field trips and laboratory study of minerals, rocks, maps and air and satellite photos.
1022 Earth History and Stratigraphy
(2-0) 2 hours credit. Prerequisites: GEO 1003 and 1011. Concurrent registration for GEO 1031 required; exceptions with consent of instructor.
Formation and evolution of the Earth, its life forms, and the major features of its surface.

## 1031 Earth History and Stratigraphy Laboratory

(0-3) 1 hour credit. Prerequisites: GEO 1003 and 1011. Concurrent registration for GEO 1022 required; exceptions with consent of instructor.
Laboratory study of fossils and rock sequences; interpretation of Earth history.

## 2951-3 Special Interest Topics

1-3 hours credit.
Special interest geology courses including topics such as geology of Texas, volcanoes and their activity, crystals and gems, geology of Mexico and Central America, and geological investigation of the moon and planets. May be repeated for credit when the topics vary to a maximum of six hours.

## 3002 Earth Materials I

(2-0) 2 hours credit. Concurrent registration for GEO 3012 required; exceptions with consent of instructor.
Crystallography, chemistry, physical properties and origin of minerals.
3012 Earth Materials I Laboratory
(0-4) 2 hours credit. Concurrent registration for GEO 3002 required; exceptions with consent of instructor.
Laboratory study of crystal models, crystals and minerals.

## 3022 Earth Materials II

(2-0) 2 hours credit. Prerequisites: GEO 3002 and 3012. Concurrent registration for GEO 3031 required; exceptions with consent of instructor. Principles and methods of optical crystallography.
3031 Earth Materials II Laboratory
(0-3) 1 hour credit. Prerequisites: GEO 3002 and 3012. Concurrent registration for GEO 3022 required; exceptions with consent of instructor.
Use of the petrographic microscope for the identification of minerals in immersion liquids and in thin sections.
3042 Earth Materials III
(2-0) 2 hours credit. Prerequisites: GEO 3022 and 3031. Concurrent registration for 3052 required; exceptions with consent of instructor. Description, occurrence and origin of igneous, metamorphic and sedimentary rocks.

## 3052 Earth Materials III Laboratory

(0-4) 2 hours credit. Prerequisites: GEO 3022 and 3031. Concurrent registration for GEO 3042 required; exceptions with consent of instructor. Laboratory study of rocks in hand specimen and thin section.

## 3103 Structural Geology: Map and Photo Analysis

(3-0) 3 hours credit. Prerequisites: GEO 1003 and 1011. Concurrent registration for GEO 3111 required; exceptions with the consent of instructor.
Response of earth materials to natural stresses. Description and origin of rock structures.
3111 Structural Geology: Map and Photo Analysis Laboratory
(0-2) 1 hour credit. Prerequisites: GEO 1003 and 1011. Concurrent registration for GEO 3103 required; exceptions with consent of instructor.
Laboratory study of structural interpretation using maps, cross-sections, air photos, and descriptive geometric and stereographic methods.
3123 Surface Processes and Sedimentary Geology
(3-0) 3 hours credit. Prerequisites: GEO 3022 and 3031. Concurrent registration for GEO 3131 required; exceptions with consent of instructor.
Processes of erosion, transportation and deposition that transform the surface of the continents and form bodies of sedimentary rock and their primary structures.
3131 Surface Processes and Sedimentary Geology Laboratory
(0-3) 1 hour credit. Prerequisites: GEO 3022 and 3031. Concurrent registration for GEO 3123 required; exceptions with consent of instructor.
Field trips and laboratory studies of sedimentary processes and their products.

3142 Economic Geology I: Metals and Industrial Minerals
(2-0) 2 hours credit. Prerequisites: GEO 1003 and 1011.
Ore and industrial mineral genesis. Description and distribution of the major mineral deposits.
3163 Oceanography
(3-0) 3 hours credit. Prerequisite: Consent of instructor.
General oceanography, with emphasis on marine geology and especially the continental margins.
3182 Economic Geology II: Fuels
(2-0) 2 hours credit. Prerequisites: GEO 1003, 1011, 1022, and 1031. Concurrent registration for GEO 3191 required; exceptions with consent of instructor. Geology of petroleum, natural gas, coal, uranium; geothermal energy sources.
3191 Economic Geology II: Fuels Laboratory
$(0-3) 1$ hour credit. Prerequisites: GEO 1003, 1011, 1022, and 1031. Concurrent registration for GEO 3182 required; exceptions with consent of instructor. Laboratory studies of samples, maps and logs. Preparation of sample logs and subsurface maps.
3943 Field Methods in Geology
(0-9) 3 hours credit. Prerequisites: GEO 1003 and 1011 and consent of instructor. Use of surveying methods and topographic and air photo bases for geologic mapping. Description, recording, and interpretation of field relationships.

## 4022 Engineering Geology

(2-0) 2 hours credit. Prerequisites: GEO 1003 and 1011 and consent of instructor. Geologic factors in the construction of large structures and excavations. Physical properties of natural minerals. Case studies.

## 4062 Principles of Environmental Geology

(2-0) 2 hours credit. Prerequisites: GEO 1003 and 1011 and consent of instructor. Geologic factors important to city and regional planning. Land capability studies; geologic hazards.

## 4623 Hydrogeology

(3-0) 3 hours credit. Prerequisites: GEO 1003 and 1011 and consent of instructor. Hydrologic cycle and the theory of underground water. Recharge and discharge of aquifers; water quality; exploration and development of groundwater supplies.

## 4946 Field Geology

( $0-17$ ) 6 hours credit. Prerequisite: Consent of instructor.
Field mapping and measurements during a six-weeks period in summer.

## COURSE DESCRIPTIONS <br> APPLIED PHYSICS (PHY)

## 1703 Energy and the Environment

(3-0) 3 hours credit.
The topics considered, and some of their inter-relations, are: the automobile and mass transportation, common sources of energy, electrical power generation, nuclear, solar and geothermal energy, communications, air, water and noise pollution. Use of mathematics is limited.

## 1803 Physics for Life Sciences I

(3-0) 3 hours credit. Prerequisite: Working knowledge of high school algebra. PHY 1811 should be taken concurrently.
The principles of physics with applications and problem solving useful to biology and pre-medical students. Topics are mechanics and wave phenomena.

## 1811 Physics for Life Sciences I Laboratory

(0-3) 1 hour credit. Prerequisite or concurrent enrollment in PHY 1803. Laboratory to accompany PHY 1803.

## 1823 Physics for Life Sciences II

(3-0) 3 hours credit. Prerequisite: PHY 1803. PHY 1831 should be taken concurrently.
The principles of physics with applications and problem solving useful to biology and pre-medical students. Topics are electricity and magnetism, optics and modern physics.

## 1831 Physics for Life Sciences II Laboratory

$(0-3) 1$ hour credit. Prerequisite or concurrent enrollment in PHY 1823. Laboratory to accompany PHY 1823.

## 1903 Technical Physics I

(3-0) 3 hours credit. Prerequisite or concurrent enrollment in MAT 1213 and concurrent enrollment in PHY 1911.
The basic concepts and methods of physics. Topics are mechanics, wave phenomena, and heat

## 1911 Technical Physics I Laboratory

(0-3) 1 hour credit. Prerequisite or concurrent enrollment in PHY 1903. Laboratory to accompany PHY 1903.

## 1923 Technical Physics II

(3-0) 3 hours credit. Prerequisites: PHY 1903 and MAT 1223. The latter may be taken concurrently.
A continuation of PHY 1903. Topics covered are electricity and magnetism, optics and an introduction to modern physics.

## 1931 Technical Physics II Laboratory

(0-3) 1 hour credit. Prerequisite or concurrent enrollment in PHY 1923. Laboratory to accompany PHY 1923.

## 2002 Workshop in Applied Physics

(1-3) 2 hours credit. Prerequisite: PHY 1923.
Development of skills in Applied Physics. Problem solving methods. Fundamentals of experimental techniques.
2223 Musical Acoustics
(3-0) 3 hours credit. 1 yr. Music Theory desirable.
Topics include sound vibration and transmission, interference, resonance, combinatorial tones, string and wind instruments and architectural acoustics.

## 2403 Electronics

(3-0) 3 hours credit. Prerequisite: PHY 1923. PHY 2411 should be taken concurrently.
Introduction to DC and AC circuits, electric components and their uses in basic circuits for instrumentation.

## 2411 Electronics Laboratory

(0-3) 1 hour credit. Prerequisite or concurrent enrollment: PHY 2403.
Laboratory to accompany PHY 2403. Construction and testing of electronic circuits and devices.

## 3203 Dynamics

(3-0) 3 hours credit. Prerequisite: PHY 1923. Prerequisite or concurrent enrollment: MAT 2213
Kinematics and dynamics of systems of particles, rigid body motion. Applications are emphasized.

## 3263 Microphysics

(3-0) 3 hours credit. Prerequisite: PHY 1923. Prerequisite or concurrent enrollment: MAT 2213
Atomic, molecular, nuclear, and solid-state physics; basic concepts, principles and applications.

## 3293 Statistical Mechanics

(3-0) 3 hours credit. Prerequisites: PHY 1923 and AS 3293.
Statistical methods. Molecular models of macro systems distributions, fermi and base statistics, fluctuations, applications to materials.

## 3313 Materials Physics

(3-0) 3 hours credit. Prerequisite: PHY 1923
Mechanical, electrical, thermal and optical properties of solid state materials, crystalline structures, lattice vibrations, electron theory.
3321 Materials Physics Laboratory
(0-3) 1 hour credit. Prerequisite: PHY 1923. Corequisite: PHY 3313.
Determinations and methods of evaluating the properties of materials.
3363 Biophysics
(3-0) 3 hours credit. Prerequisites: CHE 2003, PHY 1923 or PHY 1823, and MAT 1223.

Study of biological systems from the physicist's point of view. Topics are: introduction to atomic structure, molecular bonds, concepts of molecular biophysics, macromolecules, survey of physical experimental techniques in molecular biophysics.

## 3373 Biomaterials

(3-0) 3 hours credit. Prerequisite: PHY 3363.
Study of biological systems from a physicist's point of view. Topics are: molecular transformations and methods of regulation, macroscopic biostructures and their physical properties, thermodynamics of living systems, interaction of radiation with biological materials.
3383 General Geophysics
(3-0) 3 hours credit. Prerequisites: GEO 1003, 1011, PHY 1923 and consent of instructor.
Geomagnetism, gravity, seismology, and heat flow. Interior of the earth and tectonics.
3443 Optics
(3-0) 3 hours credit. Prerequisites: MAT 2213 and an upper-division Physics lecture course. PHY 3452 should be taken concurrently.
Wave motion and its applications primarily in physical optics. Optical correlation techniques, lasers, holography, fiber optics, magneto- and electro-optical phenomena and their applications.

## 3452 Optics Laboratory

(0-6) 2 hours credit. Prerequisite or concurrent enroliment: PHY 3443.
Measurement of physical optical phenomena, laser techniques, scattering and diffraction.

3953 Electronics for Scientists
(2-3) 3 hours credit. Prerequisite: one year of college Physics.
A one semester course primarily for chemistry, biology and psychology majors. Topics covered will include amplifiers, receivers, transducers, analog and digital circuitry, and principles of simple instruments. This course may not be applied to a major in Applied Physics or Engineering Science.
4103 Classical Concepts in Physics
(3-0) 3 hours credit. Prerequisite: Upper-division standing.
Framework of mechanics, thermodynamics and electromagnetism studied with attention to historical and philosophical aspects. Some applications are considered.
4223 Acoustics
(3-0) 3 hours credit. Prerequisites: PHY 1923 and MAT 2213. PHY 4231 should be taken concurrently.
Applications of infrasound and ultrasound, including sonar and biomedical applications. Noise suppression methods.

## 4231 Acoustics Laboratory

(0-3) 1 hour credit. Prerequisite or concurrent enrollment: PHY 4223.
Generation and measurement of acoustical signals.

## 4263 Introduction to Quantum Mechanics

(3-0) 3 hours credit. Prerequisites: PHY 3203 and MAT 3243.
Schrodinger equation, Matrix methods, interactions of atoms with radiation, Dirac equation, applications to materials.

## 4303 Advanced Materials Physics

(3-0) 3 hours credit. Prerequisite: PHY 3313.
Advanced studies in the bulk and surface properties of materials. Special aspects of crystalline and amorphous solids.

## 4382 Exploration Geophysics

(2-0) 2 hours credit. Prerequisite: GEO 4373. Concurrent registration for AS 4391 required; exceptions with consent of instructor.
Principles of geophysical prospecting. Magnetic, gravity and seismic methods.

## 4391 Exploration Geophysics - Laboratory

(0-2) 1 hour credit. Prerequisite: GEO 4373. Concurrent registration for PHY 4382 required; exceptions with consent of instructor.
Planning and execution of exploration programs and interpretation of the results of magnetic, gravity and seismic surveying.

## 4403 Electricity and Magnetism

(3-0) 3 hours credit. Prerequisite: PHY 1923. Prerequisite or concurrent enrollment: MAT 3243.
Theory and applications of electrostatics, currents, electromagnetic fields. Maxwell's equations.

## COURSE DESCRIPTIONS APPLIED SCIENCE (AS)

## 1102 Introduction to Engineering

(2-0) 2 hours credit.
Introduction to engineering as a career. Case studies are used to illustrate the scope and nature of the professional activities of engineers. Alternative approaches to engineering problem solving and design by use of engineering principles and modern developments are considered.

## 1802 Engineering Graphics

(1-3) 2 hours credit.
Freehand and instrument drawing; shape and size description; pictorial methods; freehand lettering; charts and graphs.

## 2003 Photographic Processes

(3-0) 3 hours credit.
A non-mathematical study designed for the non-scientist of the basic concepts of optics, light, color, and the chemical processes involved in photography. Picturetaking, development, and printing will be demonstrated through a hands-on approach.

## 2203 Statics

(3-0) 3 hours credit. Prerequisites: PHY 1903 and MAT 1223.
Vector algebra, force systems, free body diagrams. Engineering applications of equilibrium, centroids, moments of inertia.

## 3213 Mechanics of Solids

(3-0) 3 hours credit. Prerequisites: AS 2203 and CHE 2003.
Internal forces and deformations in solids; stress; strain in elastic and plastic solids; application to simple engineering problems.

## 3293 Thermodynamics

(3-0) 3 hours credit. Prerequisites: PHY 1923, CHE 2003, and MAT 2213.
Heat, kinetic theory of gases, laws of thermodynamics and their practical applications to thermodynamic devices including engines.

## 3333 Engineering Materials

(3-0) 3 hours credit. Prerequisite: AS 3213.
Mechanical and physical properties of engineering materials; atomic structure, crystal structure, microstructure, equilibrium and non-equilibrium states; solidification; heat treatment; principles of materials selection.

## 3403 Electronic Systems Design

(3-0) 3 hours credit. Prerequisite: PHY 2403; AS 3411 should be taken concurrently.
Design of linear amplifiers, power supplies and other basic electronic instrumentation in common use.

3411 Electronic Systems Design Laboratory
(0-3) 1 hour credit. Prerequisite or concurrent enrollment: AS 3403. Laboratory to accompany AS 3403. Design and fabrication of basic electronic systems.

## 3503 Alternative Energy Sources

(3-0) 3 hours credit. Prerequisites: PHY 1923 and CHE 2003.
Solar, nuclear, wind, geothermal and tidal energy. Energy storage problems. Principles, current technology and economic considerations.
3663 Fluid Mechanics
(3-0) 3 hours credit. Prerequisites: AS 2203 and MAT 1223.
Fluid properties; fluid statics, concepts and equations of fluid flow; similitude; viscous effects; compressible fluid flow.
4483 Electromagnetic Radiation
(3-0) 3 hours credit. Prerequisite: PHY 4403.
Maxwell's equations, electromagnetic waves, interaction of electromagnetic radiation with matter, such as in reflection and refraction, waveguides and scattering of plane waves.
4491 Electromagnetic Radiation Laboratory
(0-3) 1 hour credit. Prerequisite or concurrent enrollment: AS 4483. Experimentation with reflection, refraction and scattering of electromagnetic waves; design of communications systems.

## 4603 Fundamentals of Hydraulic Engineering

(3-0) 3 hours credit. Prerequisite: AS 3603 or consent of instructor. The examination of various components of the hydrologic cycle in the atmosphere and outer crust of the Earth. Emphasis is placed on surface waters through analysis of hydrologic data relating to rainfall, runoff, infiltration and evaporation.

## 4612 Hydraulic Engineering Laboratory

(0-6) 2 hours credit. Prerequisite or concurrent enrollment: AS 4603 or consent of instructor.
Laboratory studies in static and dynamic fluid properties and phenomena.
4633 Water and Wastewater Treatment
(3-0) 3 hours credit. Prerequisites: CHE 2003 and AS 3603 or consent of the instructor.
The application of chemical, biochemical, physical and mathematical processes to water treatment, wastewater treatment and pollution control.

## 4911-3 Independent Study

$1-3$ hours credit. Prerequisites: Permission in writing (form available) of the instructor, the student's Advisor, and the Division 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. For students needing specialized work. May be repeated for credit, but not more than 6 hours will apply to the bachelor's degree.
4923 Special Project
3 hours credit. Prerequisite: Consent of Division Director.
A special studies laboratory research or library readings project resulting in a report. Limited to students in their final year of undergraduate study.

## 4931-3 Practicum in Applied Science

$1-3$ hours credit. Prerequisite: Consent of Division Director.
A program of research and/or supervised applications of theory in a research, industrial or government environment.

## 4953 Special Studies in Applied Science

(3-0) 3 hours credit. Prerequisite: Consent of instructor.
An organized course offering specialized study not normally or not often available
as part of the regular course offerings. Special Studies courses may be repeated for credit when the topics vary, but not more than 6 hours within any one discipline will apply to a bachelor's degree.

# COURSE DESCRIPTIONS POLYMER SCIENCE (PS) 

## 3603 Polymer Science I

(3-0) 3 hours credii. Prerequisite: CHE 3203.
Basic principles of polymer science; kinetics and mechanisms of polymerization and copolymerizations; methods of polymerization; molecular weight determinations and characterization of polymers; solution properties, polymer reactions, cross-linking, graft and block copolymerizations; polymer degradation and stabilization.

## 3612 Polymer Science I Laboratory

(0-6) 2 hours credit. Prerequisite: PS 3603 or concurrent registration. Laboratory projects illustrating and extending the concepts discussed in PS 3603.
3623 Polymer Science II
(3-0) 3 hours credit. Prerequisite: PS 3603.
Structural and physical aspects of polymers; molecular basis for polymer properties and behavior; the rubbery, glassy and crystalline states; viscoelectricity and rubber elasticity; glass transition; structure, morphology, mechanical, optical and electrical properties.

## 3632 Polymer Science II Laboratory

(0-6) 2 hours credit. Prerequisite: PS 3623 or concurrent registration.
Laboratory projects illustrating and extending the concepts discussed in PS 3623.
3643 Natural and Synthetic Organic Polymers
(3-0) 3 hours credit. Prerequisites: PS 3623 and CHE 3003.
Preparation, structure and properties of addition and condensation polymers; polymerization by ring opening; block and graft polymers. Structure and properties of cellulose, proteins, rubber and their derivatives.

## 3651 Natural and Synthetic Organic Polymers Laboratory

(0-3) 1 hour credit. Prerequisite: PS 3643 or concurrent registration.
Laboratory projects illustrating and extending the concepts discussed in PS 3643.

## 4623 Coatings Technology

(3-0) 3 hours credit. Prerequisite: PS 3623.
Convertible and nonconvertible coatings; solvents, plasticizers, lacquers, varnishes, formulation, pigmentation; film properties, chemical resistance, adhesion, hardness, flexibility, abrasion resistance, strength, color, opacity gloss; electrocoating; radiation and photo-curing. Pigmented coatings (dispersion, characteristics, vehicle characteristics, formulation, manufacture, application); extender pigments; decorative paints and industrial finishes; corrosion and chemical resistant paint systems.
4653 Polymer Technology
(3-0) 3 hours credit. Prerequisites: PS 3643 and PS 3651. Finishing of polymers; thermosets; molding powders, laminates; polymer foams; coatings, drying oils, alkyds, epoxy resins, urethanes, natural and synthetic rubber processing; vulcanization and oxidation of polyolefins and polydiones; polymer latices. Film and fiber formation; melt, wet and dry spinning, orientation; adhesion; adhesive systems, polymer-plasticizer interaction, polymer-fiber interactions, reinforced systems, packaging materials.

## 4661 Polymer Technology Laboratory

(0-3) 1 hour credit. Prerequisite: PS 4653 or concurrent registration. Laboratory projects illustrating and extending the concepts discussed in PS 4653.

# POLYMER SCIENCE - BACHELOR OF SCIENCE / 227 DEGREE IN CHEMISTRY 

## 4703 Organic Chemistry of Coatings

(3-0) 3 hours credit. Prerequisites: PS 3623 and CHE 3003.
Chemistry of autoxidation, glyceride oils; varnishes; and resins, including áakyd, epoxy, amino and phenol formaldehyde, rubber and silicone resins; acrylic and vinyl coatings; polyurethanes and copolymers. Radiation curing, electrodeposition, photo-curable coatings.
4723 Corrosion
(3-0) 3 hours credit. Prerequisite: PS 3623.
Electrochemical aspects, reaction mechanisms, thermodynamics and kinetics of corrosion processes; prevention of corrosion, cathodic and anodic protection; inhibitors, passivators; coatings.
4743 Industrial and Commercial Applications of Polymers
(3-0) 3 hours credit. Prerequisite: PS 3623.
Mechanical, electrical and thermal properties of engineering plastics; applications as materials of construction; polymers in biology and biomedical engineering; space technology; specialty polymers for high temperature applications, environmental effects on polymers; rain erosion, weathering, corrosive environment, biological environment; radiation effects.

## BACHELOR OF SCIENCE DEGREE IN CHEMISTRY

The minimum number of semester hours required for this degree, including the 50 semester hours of General Education Requirements, is $132 .{ }^{52}$ All candidates for the degree must complete:
A. 47 semester hours in Chemistry.

1. 38 semester hours of required courses are:

CHE 1103 Introductory Chemistry
CHE 2003 Chemical Principles
CHE 2012 Inorganic Qualitative and Quantitative Analysis
CHE 2203 Organic Chemistry I
CHE 2212 Organic Qualitative Analysis
CHE 3003 Organic Chemistry II
CHE 3012 Organic Quantitative Analysis
CHE 3203 Physical Chemistry I
CHE 3212 Physical Chemistry Laboratory
CHE 3223 Physical Chemistry II
CHE 3232 Instrumental Analysis
CHE 4243 Organic Chemistry III
CHE 4263 Inorganic Chemistry
CHE 4923 Special Project in Chemistry
CHE 4971 Proseminar
2. 9 additional semester hours of approved elective Chemistry at the upper-division level are required.
B. 29 semester hours of support work in Science and Mathematics.

1. 20 semester hours of required courses are:

BIO 3513 Biochemistry
CS 1713 Introduction to Computer Science
MAT 1213 Calculus I
MAT 1223 Calculus II
PHY 1903 Technical Physics I
PHY 1911 Technical Physics I Laboratory

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# PHY 1923 Technical Physics II <br> PHY 1931 Technical Physics II Laboratory 

2. 9 additional hours of elective support work are required in courses in the College of Sciences and Mathematics, as approved by the Advisor.
MAT 2213 Calculus III or
CS 1723 Information Structures I
C. 6 semester hours of free electives.

# COURSE DESCRIPTIONS CHEMISTRY (CHE) 

## 1003 General Chemistry for Allied Heatlh Sciences

(3-0) 3 hours credit.
A one semester introduction to atomic structure, chemical bonding, stoichiometry, states of matter, inorganic chemical reactions, acids and bases. This course is designed for majors in physical or occupational theory, prenursing, and dental hygiene. May not be applied to a major in chemistry, biology, or medical technology.

## 1103 Introductory Chemistry

(3-0) 3 hours credit.
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.

1111 General Chemistry Laboratory for Allied Health Sciences
(0-3) 1 hour credit. Prerequisite or concurrent enrollment in CHE 1003. Introduction to chemical laboratory techniques. This course is designed for majors in physical or occupational therapy, prenursing, and dental hygiene. May not be applied to a major in chemistry, biology, or medical technology.
1122 Introductory Chemistry Laboratory Workshop
(0-6) 2 hours credit. Prerequisite or concurrent enrollment in CHE 1103.
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.
1153 The Chemistry of Fashion
(3-0) 3 hours credit. May not be applied to a major in chemistry.
A survey of the chemical nature of synthetic fibers, fabrics, scents, dyes, cosmetics, and toiletries.
1173 Alchemy and the Sources of Modern Chemistry
(3-0) 3 hours credit. May not be applied to a major in chemistry.
Scientific content of magic, witchcraft, alchemy, and iatrochemistry. Origins and development of ideas concerning composition and transformations of matter: metallurgy, ceramics and fermentation. Readings will include primary materials selected from Renaissance and modern literary and scientific sources.

## 2003 Chemical Principles

(3-0) 3 hours credit. Prerequisite: CHE 1103. CHE 1122 is recommended.
Primarily for science majors. Elementary inorganic and physical chemistry: a continuation of descriptive inorganic chemistry, coordination chemistry, solutions and electrolytes, redox processes, elementary thermodynamics, chemical kinetics, and elementary electrochemistry and nuclear chemistry; introduction to organic chemistry.
2012 Inorganic Qualitative and Quantitative Analysis
(0-6) 2 hours credit. Prerequisite: CHE 2003 or concurrent registration.
Techniques of qualitative and quantitative chemical analysis, illustrated primarily via inorganic chemical systems and their reactions.

## 2103 Elementary Organic and Biochemistry

(3-0) 3 hours credit. Prerequisites: CHE 1003 and CHE 1111.
May not be applied to a major in chemistry. A one semester survey of the structures and reactions of some important functional groups of organic Chemistry. The relationship of these functional groups to the chemistry of lipids, carbohydrates, nucleic acids and proteins.

## 2111 Organic and Biochemistry Laboratory

(0-3) 1 hour credit. Prerequisite: CHE 2103 or concurrent registration.
May not be applied to a major in chemistry. Laboratory examination of the properties of some simple organic and biological chemicals; solubility, crystallization, organic reactions, titration, enzyme action, sugars, vitamins.

## 2203 Organic Chemistry I

(3-0) 3 hours credit. Prerequisites: CHE 2003 and CHE 2012. Primarily for science majors.
An elementary study of structure, reactions, and reaction mechanisms associated with organic compounds, e.g., aliphatic and aromatic hydrocarbons, alcohols, ethers, organic halogen compounds, aldehydes, and ketones.

## 2212 Organic Qualitative Analysis

(0-6) 2 hours credit. Prerequisite: CHE 2203 or concurrent registration. Primarily for science majors.
Determination of physical constants of organic compounds; separation methods: vacuum distillation, crystallization, column chromatography, and gas chromatography; organic elemental analysis, functional group study and qualitative analysis.
3003 Organic Chemistry II
(3-0) 3 hours credit. Prerequisites: CHE 2203; CHE 2212; or concurrent registration.
Continuing study of fundamentals of structure, stereo-chemistry, reactions and reaction mechanisms of carbonyl compounds and their derivatives; organic compounds containing nitrogen, phosphorus and sulphur; poly-functional organic compounds; including an introduction to biochemistry. A continuation of CHE 2203.
3012 Organic Quantitative Analysis
(0-6) 2 hours credit. Prerequisites: CHE 2212; CHE 3003 or concurrent registration; or consent of instructor.
Continuing laboratory study of quantitative analysis of organic reactions and molecular structure; qualitative and quantitative use of infrared, ultra-violet, and proton nuclear magnetic resonance spectrometry; introduction to mass spectrometry.
3103 Analytical Chemistry
(2-3) 3 hours credit. Prerequisites: CHE 2003 and CHE 2012.
A detailed study of wet chemical and basic instrumental analysis including gravimetric, volumetric, spectrophotometric, pH and specific ion determinations.

## 3193 Physical Chemistry for Life Sciences

(3-0) 3 hours credit. Prerequisites: CHE 2203, BIO 3143, BIO 3421, MAT 1213. May not be applied to a major in chemistry.
Selected topics from physical chemistry with special emphasis on biological systems and applications. Topics covered include thermodynamics, energetics, kinetics, spectroscopy, nuclear chemistry and macromolecules.

## 3203 Physical Chemistry I

(3-0) 3 hours credit. Prerequisites: CHE 2003, CHE 2012, MAT 1223, PHY 1923, and PHY 1931; at least one semester of organic chemistry is also recommended. States of matter, gas laws, equations of state, inter-molecular interactions; thermodynamics and physical equilibria, elements of molecular-kinetic theory and statistical mechanics; physico-chemical properties of solutions, chemical equilibria, phase equilibria, and changes of state.

## 3212 Physical Chemistry Laboratory

(0-6) 2 hours credit. Prerequisite: CHE 3203
Experimental study of thermodynamics and electrochemistry, spectroscopy, and reaction kinetics.

## 3223 Physical Chemistry II

(3-0) 3 hours credit. Prerequisite: CHE 3203.
Chemical kinetics, electrolytes and electrochemistry, elements of quantum mechanics, chemical bonds, spectroscopy, and photo-chemistry. A continuation of CHE 3203.

## 3232 Instrumental Analysis

(0-6) 2 hours credit. Prerequisites: CHE 3012; CHE 3212 and CHE 3223; or concurrent registration.
Electrochemical methods; use of modern spectrometric and chromatographic instrumentation in separation, purification, and/or quantitative characterization of chemical systems.
3252 Chemistry in Industry
(2-0) 2 hours credit. Prerequisites: CHE 3003 and CHE 3203 or concurrent registration, or consent of instructor.
The roles and problems of chemistry and chemists in the chemical industry: laboratory and operations management; basic research and product development; production, quality control, pollution and waste materials control, and safety; advertising, sales, and patents; the governmental/industrial interface; economic considerations, employment practices, and professional societies will also be explored.

## 3333 Marine Chemistry

(3-0) 3 hours credit. Prerequisites: CHE 3003 and CHE 3203 or concurrent registration; or consent of instructor.
Fundamental concepts of marine chemistry; structure and properties of water; elemental composition of sea water, the carbonate system; marine organic chemistry; a review of marine sediments.

## 3352 Mineral Analysis

(2-0) 2 hours credit. Prerequisites: CHE 2003, CHE 2012, AS 2002, AS 2012, and concurrent registration for CHE 3361; or consent of instructor.
Theory of $x$-ray diffraction, spectrographic, and other methods of analysis of earth materials.

## 3361 Mineral Analysis Laboratory

(0-3) 1 hour credit. Prerequisite: concurrent registration for CHE 3352 or consent of instructor.
Methods and techniques of analyzing earth materials.

## 3373 Geochemistry

(3-0) 3 hours credit. Prerequisites: CHE 2003 or consent of instructor.
A survey of geochemical processes and the distribution of elements in the earth. Application of chemical methods and data to the solution of geologic problems.
3953 Introduction to Research Techniques
(1-6) 3 hours credit. Prerequisites: Upper-division standing and consent of instructor.
Practical introduction to techniques and methodology of chemical research.

## 4223 Advanced Biochemistry

(3-0) 3 hours credit. Prerequisites: BIO 3513, 3521 and CHE 3003, 3012.
Chemical aspects of regulation and control mechanisms; membrane-related phenomena; oxidative phosphorylation and photo-synthesis; transport mechanisms; contractility of muscle.

## 4231 Physical Techniques in Biochemistry

(0-3) 1 hour credit. Prerequisite: CHE 4223 or concurrent registration.
Applications of UV-visible and NMR spectroscopy, electrophoresis, gas chromatography, mass spectrometry and other physical techniques to biochemistry.

## 4243 Organic Chemistry III

(3-0) 3 hours credit. Prerequisites: CHE 3003 and CHE 3223; CHE 3203 or consent of instructor.
Advanced mechanistic and synthetic aspects of organic reactions. Molecular rearrangements, organic molecular orbital theory and its application to pericyclic reactions. A continuation of CHE 3003.

## 4253 Physical Chemistry III

(3-0) 3 hours credit. Prerequisites: CHE 3003, CHE 3223 and CHE 3232; or consent of instructor.
Relations between structure of molecules and physico-chemical properties of gases, liquids and solids - quantum mechanical and statistico-thermodynamical approach.

## 4263 Inorganic Chemistry

(3-0) 3 hours credit. Prerequisites: CHE 3203.
A study of the elements and their periodic properties; acid-base theory, crystalline state, coordination chemistry, non-aqueous solvents and other advanced topics.

## 4272 Advanced Organic Laboratory

(0-6) 2 hours credit. Prerequisites: CHE 3223, CHE 3232, and concurrent registration in CHE 4243 or consent of the instructor.
Functional group analysis of organic compounds, structure analysis and proof, multi-step synthesis involving functional group modifications, and separation and identification of complex organic mixtures.

## 4282 Inorganic Preparations

(0-6) 2 hours credit. Prerequisite: CHE 4263 or consent of instructor. A laboratory study of coordination compounds and inorganic structure.
4293 Nuclear Chemistry and Physics
(3-0) 3 hours credit. Prerequisites: CHE 3203 and 3223.
A study of nuclear reactions, radiation detection and measurement, and chemical applications.
4301 Nuclear Chemistry and Physics Laboratory
(0-3) 1 hour credit. Prerequisite: CHE 4293 or concurrent registration and consent of instructor.
A laboratory study of nuclear reactions, radiation detection and measurement, and chemical applications.

## 4911-3 Independent Study

1-3 hours credit. Prerequisite: Permission in writing (form available) of the instructor, the student's Advisor, and the Division 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. For students needing specialized work. May be repeated for credit, but not more than 6 hours will apply to the bachelor's degree.
4923 Special Project in Chemistry
3 hours credit. Prerequisite: Consent of Division Director.
A special laboratory research or library readings project resulting in a report, limited to students in their final year of undergraduate study.

## 4931-3 Internship in Applied Chemical Operations

1-3 hours credit. Prerequisites: CHE 3252, CHE 3012, and CHE 3232 or concurrent registration; and consent of Division Director.
Practical introduction to industrial and/or similar applied chemistry operations, via supervised extracollegiate internship, resulting in a report.

## 4953 Special Studies in Chemistry

(3-0) 3 hours credit. Prerequisite: Consent of instructor.
An organized course offering specialized study not normally or not often available as part of the regular course offerings. Special Studies Courses may be repeated for credit when the topics vary, but not more than 6 hours within any one discipline will apply to a bachelor's degree.

## 4971 Proseminar

(1-0) 1 hour credit. Prerequisites: CHE 3003 and CHE 3203.
Oral reports and current publications in chemistry and chemical technology and the utilization of important chemical reference materials and periodicals. May be repeated for credit when topics vary, with consent of the Division Director.

## COURSE DESCRIPTIONS <br> ASTRONOMY (AST)

## 1013 Introduction to Astronomy 1

(3-0) 3 hours credit.
A descriptive course including the development of astronomy, and its methods, the motions, laws and evolution of the solar system. Occasional evening viewing sessions are held.
1023 Introduction to Astronomy II
(3-0) 3 hours credit. Prerequisite: AST 1013 or consent of instructor.
The 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.
1031 Introduction to Astronomy Laboratory
(0-2) 1 hour credit. Prerequisite: AST 1013 or consent of instructor.
Exercises in the use of the telescope and certain other astronomical instruments to include simple observations, measurement and photography. This course, though optional, is of most value when taken concurrently with AST 1023.

## DIVISION OF MATHEMATICS, COMPUTER SCIENCE, AND SYSTEMS DESIGN

The division offers a Bachelor of Science Degree in Mathematics designed for students interested in obtaining a secondary teaching certificate. It also offers a Bachelor of Science Degree in Mathematics, Computer Science, and Systems Design in which the student's work is concentrated in the areas of mathematics, applied mathematics, statistics, computer science, systems science, process control, actuarial science, or any combination thereof.

## BACHELOR OF SCIENCE DEGREE IN MATHEMATICS

The minimum number of semester hours required for this degree, including the 50 hours of General Education Requirements, is $126 .{ }^{53}$
All candidates for the degree must complete:
A. 30 required semester hours listed below:

MAT 1213 Calculus ${ }^{54}$
MAT 1223 Calculus II
MAT 2213 Calculus III
MAT 3513 Probability and Statistics
MAT 3523 Statistical Methods
CS 1713 Introduction to Computer Science
CS 1723 Information Structures I
MAT 3213 Foundations of Analysis
MAT 3233 Modern Algebra
MAT 4263 Geometry
B. In addition to the required courses, students must take 9 credits of upper division math electives. It is recommended that students select either MAT 4233 and MAT 4243 Modern Abstract Algebra I and II or MAT 4213 and MAT 4223 Real Analysis I and II as 6 of their 9 elective credits.
C. 37 semester hours of free electives chosen to satisfy the Teacher Certification Requirements.

## BACHELOR OF SCIENCE DEGREE IN MATHEMATICS, COMPUTER SCIENCE, AND SYSTEMS DESIGN

The minimum number of semester hours required for this degree, including the 50 hours of General Education Requirements, is $126 .{ }^{55}$
All candidates for the degree must complete:
A. 47 semester hours in the major, in addition to the 4 hours of General Education Requirements in Mathematics of which 27 must be at the upper-division level. ${ }^{56}$

[^54]1. 21 semester hours of required courses are:

MAT 1213 Calculus I
MAT 1223 Calculus II
MAT 2213 Calculus III
MAT 3513 Probability and Statistics
MAT 3523 Statistical Methods
CS 1713 Introduction to Computer Science
CS 1723 Information Structures I
2. 26 additional semester hours of electives are required in the major, 21 of which must be at the upper-division level and none may be selected from courses numbered between 1000 and 1999.
B. 29 semester hours of free electives.

# COURSE DESCRIPTIONS <br> MATHEMATICS (MAT) 

## 1011 Algebra

(1-0) 1 hour credit.
Aspects of college algebra. Includes: exponents, arithmetic and factorization of polynomials; rational expressions; negative and rational exponents; scientific notation; radicals solving linear and quadratic equations; linear inequalities; absolute values; Cartesian coordinates, distance formula, linear equations; relations; functions, graphing functions. Credit cannot be earned for both MAT 1011 and MAT 1083.

## 1022 Fundamentals of Calculus

(2-0) 2 hours credit. Prerequisite: MAT 1011 or MAT 1183.
Derivatives of functions and their interpretations; formulas for derivatives; curve sketching using derivatives; maximum and minimum problems; exponentials and logarithmic functions and their derivatives; implicit differentiation; partial derivatives and application; anti-derivatives; indefinite integrals; integration formulas; definite integrals and application.

## 1031 Applied Linear Algebra

(1-0) 1 hour credit. Prerequisite: MAT 1011 or MAT 1183.
Systems of linear equations, solution by elimination; systems of linear inequalities; introduction to linear programming, vectors and matrices, determinants, inverses of matrices, applications.

## 1051 Probability and FInite Math

(1-0) 1 hour credit. Prerequisite: MAT 1011 or MAT 1183.
Events; sample spaces, partitioning the sample space; probability functions; probabilities of events; calculating probabilities, conditional probabilities and independent events; relative frequency interpretation of probability.
1062 Statistics
(2-0) 2 hours credit. Prerequisite: MAT 1051.
Relative frequency interpretation of probability and related notions such as distribution functions; random variables; expected values; descriptive statistics; some common distributions; the binomial, Poisson, normal and sampling distributions from the normal; interval estimates; tests of hypotheses.

## 1092 Elementary Functions

(2-0) 2 hours credit. Prerequisite: MAT 1011 or the equivalent. Polynomial and rational functions, exponential functions, logarithmic functions, trigonometric functions, functions of several variables.
1103 Consumer Mathematics
(3-0) 3 hours credit.
A course designed to give the necessary mathematical tools for coping with mod-
ern technological society. Topics include linear equations and inequalities, ratios, proportion and variation, mathematics of finance.

## 1112 Mathematics for Elementary Education Majors I

(2-0) 2 hours credit. Prerequisite: Must have a declared major of Elementary Education.
Sets, positive integers and zero, mathematical systems, negative integers, rational numbers, irrational numbers.
1122 Mathematics for Elementary Education Majors II
(2-0) 2 hours credit. Prerequisites: MAT 1112 and must have a declared major of Elementary Education.
The real and complex number systems.

## 1183 College Algebra

(3-0) 3 hours credit.
The same topics as in MAT 1011 are covered but in more depth. Credit cannot be earned for both MAT 1011 and MAT 1183.

## 1203 Problems in Calculus I

(3-0) 3 hours credit. Must be taken concurrently with MAT 1213.
A calculus recitation with emphasis on problem solving.

## 1213 Calculus I

(3-0) 3 hours credit. Prerequisites: MAT 1011 or MAT 1183 and MAT 1092 or the equivalents.
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.
1223 Calculus II
(3-0) 3 hours credit. Prerequisite: MAT 1213.
The Riemann integral and the fundamental theorem of calculus. Transcendental functions, methods of integration and applications of the integral.
1233 Problems in Calculus II
(3-0) 3 hours credit. Must be taken concurrently with MAT 1223.
A calculus recitation with emphasis on problem solving.
2013 Statistical Methods for the Life and Social Sciences
(3-0) 3 hours credit. Prerequisite: MAT 1062 or consent of instructor.
Point estimator properties, inference about the means and variances of two or more populations, categorical data analysis, simple and linear regression, analysis of variance, nonparametric tests. Open to students of all disciplines.

## 2213 Calculus III

(3-0) 3 hours credit. Prerequisite: MAT 1223.
Topics in differential and integral calculus. Taylor series, power series, convergence tests, vectors, functions of several variables, partial derivatives, multiple integrals.
2233 Matrix Algebra
(3-0) 3 hours credit. Prerequisite: MAT 2213.
Vector spaces and matrix algebra, matrices and determinants, characteristic values of matrices and reduction to canonical forms. Emphasis on applications.
3013 Multivariate Analysis for the Life and Social Sciences
(3-0) 3 hours credit. Prerequisite: MAT 2013 or MAT 3513.
Matrix algebra preliminaries, the multivariate normal distribution, tests on means, discrimination analysis, cluster analysis, principle components, factor analysis. Use of computer library programs. Open to students of all disciplines.
3113 Algebra for Elementary Teachers
(3-0) 3 hours credit. Prerequisite: MAT 1122 and must have a declared major of Elementary Education.
Linear equations, quadratic equations, systems of equations, and inequalities.

3123 Geometry for Elementary Teachers
(3-0) 3 hours credit. Prerequisite: MAT 1122 and must have a declared major of Elementary Education.
The nature of geometry from an intuitive and from a formal point of view, with applications. Topics include: congruence, measurement, parallelism, similarity.

## 3131 Functions and Limits

(1-0) 1 hour credit. Prerequisite: MAT 1011.
An in-depth study of mathematical functions incorporating the concept of the limit of a function.

## 3213 Foundations of Analysis

(3-0) 3 hours credit. Prerequisite: MAT 2213.
A rigorous development of the foundations of real analysis; basic point set topology; limits; continuity. Emphasis on theorem proving and mathematical rigor.

## 3223 Complex Variables

(3-0) 3 hours credit. Prerequisite: MAT 2213.
An introduction to complex variables including; elementary functions, line integrals, power series, residues and poles and conformal mappings.

## 3233 Modern Algebra

(3-0) 3 hours credit. Prerequisite: MAT 2213.
An introduction to the concepts of modern algebra by way of the integers. Emphasis on theorem proving and mathematical rigor.

## 3243 Calculus for Applications

(3-0) 3 hours credit. Prerequisite: MAT 2213.
Topics include: line integrals, Green's theorem, Stokes' theorem, Fourier series, Laplace transforms.

## 3513 Probability and Statistics

(3-0) 3 hours credit. Prerequisite or corequisite: MAT 2213. MAT 2013 recommended but not required.
Axioms of probability, probability functions and density functions, random variables, functions of random variables and their sampling distributions.

## 3523 Statistical Methods

(3-0) 3 hours credit. Prerequisites: MAT 3513 and CS 1713.
Methodoiogy of applied statistics; tests for randomness and independence, simple and compound tests of hypotheses, confidence interval and point estimation, simple linear models.
3613 Differential Equations I
(3-0) 3 hours credit. Prerequisite or concurrent enrollment in MAT 2213.
Basic notions of differential equations, solution of first order equations and linear equations with constant coefficients, nth order initial value problems, power series solutions of differential equations.
3623 Differential Equations II
(3-0) 3 hours credit. Prerequisite: MAT 3613.
Continuation of MAT 3613. Topics include stability, partial differential equations and boundary value problems.
3633 Numerical Analysis I
(3-0) 3 hours credit. Prerequisites: MAT 2213 and CS 1713.
Solution of linear and non-linear equations, curve-fitting, eigenvalue problems.

## 3643 Numerical Analysis II

(3-0) 3 hours credit. Prerequisite: MAT 3633.
Numerical solution of ordinary and partial differential equations.
3923 Finance Mathematics
(3-0) 3 hours credit. Prerequisite: MAT 1011 or MAT 1022.
This course will cover an analysis of the time value of money and will serve as preparation for parts of the actuarial examinations. Topics include determining the evaluation of flows of money, mortgage payments, bond amortization schedules, annuities, and related areas.

## 3933 Mathematics of Insurance

(3-0) 3 hours credit. Prerequisite: MAT 3513.
Probability theory applied to problems involving life and death, costs of life assurances, life annuities, pension, reserves.

## 4112 Mathematical Topics for Elementary Teachers

(2-0) 2 hours credit. This course cannot be applied to the major in Mathematics, Computer Science, and Systems Design. Selected mathematical topics of an advanced nature relevant to the modern elementary mathematics curriculum.
4123 History of Mathematics
(3-0) 3 hours credit.
A survey of mathematical explorations developed through selected historical issues and biographies.

## 4213 Real Analysis I

(3-0) 3 hours credit. Prerequisite: MAT 3213.
An in-depth study of the calculus of functions of several variables. Topics include: the Bernstein Polynomial Theorem, Stone-Weierstrass Theorem and the derivative in $R$.

## 4223 Real Analysis II

(3-0) 3 hours credit. Prerequisite: MAT 4213.
The Riemann-Stieltjes integral and related topics, which include: the bounded convergence theorem, the Riesz representation theorem and the main theorems of integral calculus in $R$ and $R$.

## 4233 Modern Abstract Algebra I

(3-0) 3 hours credit. Prerequisite: MAT 2213. MAT 3233 recommended. An indepth study of groups and rings.
4243 Modern Abstract Algebra II
(3-0) 3 hours credit. Prerequisite: MAT 4233.
Topics in field theory and vector spaces.

## 4253 Number Theory

(3-0) 3 hours credit. Prerequisites: MAT 2213.
The theory of primes, congruences and related topics.

## 4263 Geometry

(3-0) 3 hours credit. Prerequisite: MAT 2213.
Topics in projective, affine and non-Euclidean geometry.

## 4273 Topology

(3-0) 3 hours credit. Prerequisite: MAT 2213.
Set theory including cardinal and ordinal numbers. Topological properties of the real line and metric spaces.

## 4513 Introduction to Sample Survey Theory and Methods

(3-0) 3 hours credit. Prerequisite: MAT 3513.
Basic tools, simple random sampling, stratified random sampling, ratio and regression estimates, systematic sampling, cluster sampling, unequal probability sampling, two-stage and multistage sampling, non-sampling errors.

## 4523 Analysis of Variance and Design of Experiments

(3-0) 3 hours credit. Prerequisite: MAT 3513.
This course consists of a study of general concepts in the design and analysis of experiments. The following notions will be examined: response variable, factors to be varied, quantitative and qualitative factors, fixed and random factors and how the factors are to be combined. Also to be studied are the method of randomization to be used in the design, the order of experimentation, the mathematical model used to describe the experiment, computation of the test statistics and the interpretation of the results.

## 4533 Applied Non-Parametric Statistics

(3-0) 3 hours credit. Prerequisite: MAT 2013 or MAT 3513 or consent of instructor. Tests of location. Goodness of fit tests. Rank tests. Tests based on nominal and ordinal data for both related and independent samples. Measures of association.

## 4543 Introduction to Stochastic Processes

(3-0) 3 hours credit. Prerequisite: MAT 3513.
Finite Markov chains including transition probabilities, classification of states, limit theorems; queuing theory, birth and death processes.

## 4553 Introduction to Multivariate-Statistical Analysis

(3-0) 3 hours credit. Prerequisites: MAT 3513 and MAT 2233.
Introduction to the theory and methodology of multivariate statistics.

## 4563 Theory of Reliability and Life Testing

(3-0) 3 hours credit. Corequisite: MAT 3513.
Structural reliability, failure data analysis, point estimates and interval estimates for the reliability of components, sampling plans for failure data, maintenance policies, models for reliability growth.

## 4573 Applied Regression Analysis

(3-0) 3 hours credit. Prerequisite: MAT 2233.
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, non-linear regression.

## 4911-3 Independent Study

$1-3$ hours credit. Prerequisites: Permission in writing (form available) of the instructor, the student's Advisor, and the Division 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. For students needing specialized work. May be repeated for credit, but not more than 6 hours will apply to the bachelor's degree.

## 4953 Special Studies in Mathematics

(3-0) 3 hours credit. Prerequisite: Consent of instructor.
An organized course offering specialized study not normally or not often available as part of the regular course offerings. Special Studies courses may be repeated for credit when the topics vary, but not more than 6 hours within any one area will apply to a bachelor's degree.

## COURSE DESCRIPTIONS COMPUTER SCIENCE (CS)

1043 Introductory Computer Programming for Business Applications
(2-2) 3 hours credit. Prerequisite: MAT 1011 or MAT 1183.
Introductory programming. Sorting and ranking; piotting; inventory control.

## 1073 Introductory Computer Programming for Scientific Applications

(2-2) 3 hours credit. Prerequisite: MAT 1011 or MAT 1183.
Introductory programming. Sorting and ranking; plotting; numerical taxonomy. Solution of non-linear equations; linear regression. Solution of linear systems.
1133 Computer Literacy
(3-0) 3 hours credit.
A survey of Computer Science designed to give a general understanding of the computer, its uses and social impact. This course is designed for students not wishing to major in Mathematics, Computer Science, and Systems Design.

## 1713 Introduction to Computer Science

(2-2) 3 hours credit. Prerequisite: MAT 1011 or MAT 1183.
Introduction to basic concepts of computer science including algorithmic processes, functional design of computers, and data representation. Both numerical and non-numerical algorithms are discussed.

## 1723 Information Structures I

(2-2) 3 hours credit. Prerequisite: CS 1713.
Theory and application of single-cell and elementary multi-dimensional data structures; review of set theory and introduction to boolean algebra, the propositional calculus, and list processing.

Data Analysis
(3-0) 3 hours credit. Prerequisite: MAT 1011 or MAT 1183.
Open to students from all disciplines. Emphasis on familiarization with numerical data, student computer interaction, and visual display of data. Data analysis techniques including: stem and leaf plotting, box plotting, fitting lines and frequencies to medians, transformations to linearity.

## 2734 Computer Organization and Programming Systems

(3-2) 4 hours credit. Prerequisite: CS 1723.
Representation of programs, instructions, and data in modern computers, and the basic organization of computer systems.

## 2743 Information Structures II

(3-0) 3 hours credit. Prerequisite: CS 1723.
Theory and application of lists, trees, and graphs.

## 3013 Problem Solving Using COBOL

(3-0) 3 hours credit. Prerequisite: CS 1713.
Instruction in programming methodology using COBOL. Features of COBOL including editing, report generation, sorting, searching, and file manipulation are emphasized.

## 3023 Problem Solving Using FORTRAN

(3-0) 3 hours credit. Prerequisite: CS 1713.
Instruction in programming methodology using FORTRAN. Advanced language features and design techniques are emphasized.

## 3713 Analysis of Algorithms

(3-0) 3 hours credit. Prerequisite: CS 2743.
Analysis of the performance of algorithms and discussion of programming techniques and data structures used in the writing of effective algorithms.

## 3723 Programming Languages

(3-0) 3 hours credit. Prerequisite: CS 2743.
Study of the concepts and features of programming languages, with examples drawn from procedure-oriented, list-processing, string-manipulation, businessprocessing, and simulation programming languages.

## 3773 Programming Methodology

(3-0) 3 hours credit. Prerequisite: CS 2743.
Discussion of modular (structured) programming methods, programming style and program verification techniques.

## 3783 Data Base Management Techniques

(3-0) 3 hours credit. Prerequisite: CS 1723.
Discussion of file structures, random access devices, file creation, file maintenance, interface languages, and data base management systems.

## 3793 Introduction to Artificial Intelligence

(3-0) 3 hours credit. Prerequisite: CS 2743.
Discussion of theorem proving by machine, computational linguistics, psychological modeling and computer games.

## 4103 Computers and Mathematics Curricula

(3-0) 3 hours credit. This course cannot be applied to a major in Mathematics, Computer Science, and Systems Design.
This course, for teachers of mathematics, will focus attention on the various computer-oriented curricula, hardware and software for educators, and economic considerations for equipment acquisition.

## 4163 Computer Concepts for Educators, Administrators, and Managers

$(3-0) 3$ hours credit. This course cannot be applied to a major in Mathematics, Computer Science, and Systems Design.
A non-technical course emphasizing the total environment of human-computer interaction and the general educational value of learning to program and work with computers.

## 4713 Compiler Design

(3-0) 3 hours credit. Prerequisite: CS 3723 and CS 2734.
Study of techniques used in the design and implementation of compilers.

## 4733 Sequential Machines

(3-0) 3 hours crédit. Prerequisite: CS 2743 and MAT 3233 or equivalents.
Discussion of finite-state machines, finite-state automata, Kleene's theorem, pushdown automata and Turing machines.
4743 Formal Theory of Languages and Automata
(3-0) 3 hours credit. Prerequisite: CS 4733.
Relationships between languages and automata, regular grammars, context-free grammars, and their significance in langauge and compiler design.

## 4753 Fundamentals of Operating Systems

(3-0) 3 hours credit. Prerequisite: CS 2743 and CS 2734.
Topics discussed to include multiprogramming, multiprocessing, segmentation, paging, deadlocks, semaphores, and scheduling.

## 4783 Information Storage and Retrieval

(3-0) 3 hours credit. Prerequisite: CS 3783.
Discussion of methods for storage and retrieval of large scale data bases.
4953 Special Studies in Computer Science
(3-0) 3 hours credit. Prerequisite: Consent of instructor.
An organized course offering specialized study not normally or not often available as part of the regular course offerings. Special Studies courses may be repeated for credit when the topics vary, but not more than 6 hours within any one area will apply to a bachelor's degree.

## 4911-3 Independent Study

1-3 hours credit. Prerequisites: Permission in writing (form available) of the instructor, the student's Advisor, and the Division 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. For students needing specialized work. May be repeated for credit, but not more than 6 hours will apply to the bachelor's degree.

## COURSE DESCRIPTIONS <br> SYSTEMS DESIGN (SD)

## 2815 Digital Circuits Design I

(3-4) 5 hours credit. Prerequisite: CS 1723.
An introduction to modern integrated digital computer circuits. Basics of DTL, TTL, and MOS technologies. Hardware realizations of logical equations. Implementation of digital arithmetic.

## 2835 Digital Circuits Design II

(3-4) 5 hours credit. Prerequisite: SD 2815.
Design of synchronous sequential circuits. State minimization techniques. Design of small synchronous processor.
3823 Data Acquisition and Distribution
(2-2) 3 hours credit. Prerequisite: CS 1713.
Fundamentals of assembly language for a minicomputer. Programming techniques used to interface and minicomputer to scientific laboratory instrumentation. Analog and digital data formats and characteristics.
3833 Real-Time Digital Control
(2-2) 3 hours credit. Prerequisite: SD 3823.
Principles of real-time minicomputer operating systems. Programming techniques for on-line interactive data acquisition and control. Efficient and reliable system designs.

## 3843 Minicomputer Systems Architecture

(3-0) 3 hours credit. Prerequisite: SD 2835.
A presentation of the hardware organization and systems architecture of state-of-the-art minicomputer systems. Topics include instruction decoding and central pro-
cessor organization, memory organization, floating-point processor organization, input-output functions and direct memory access, writable control store organization and micro-programming.

## 3853 Instrumentation Circuits Design

(3-0) 3 hours credit. Prerequisites: SD 2815, SD 3823, PHY 1923.
Functional characteristics of state-of-the-art integrated operational amplifiers, regulated power supplies, digital-to-analog and analog-to-digital converters, isolation amplifiers, serial transmitters, design of hardware configurations to interface scientific and industrial instrumentation to a minicomputer.

## 3863 Real-Time Operating Systems for Minicomputers

(3-0) 3 hours credit. Prerequisites: SD 3843 and SD 3833.
A study in the design of real-time operating systems for minicomputers. Memory management. Task scheduling in a multitask environment, input/output scheduling, and spooling.

## 3873 Analog Simulation

(2-2) 3 hours credit. Prerequisite: MAT 1223.
Operational amplifier principles, summers, integrators, multipliers, magnitude and time scaling, the inverse function principle for operational amplifiers. Techniques for simulation of mechanical, electrical, and biological systems.

## 4613 Operations Research I

(3-0) 3 hours credit. Prerequisite: MAT 2213.
introduction to analytical methods and models of operations research, with emphasis on optimization. Linear, integer and non-linear programming. Network analysis, including PERT and CPM. Introduction to dynamic programming.

## 4623 Operations Research II

(3-0) 3 hours credit. Prerequisite: MAT 3513 or equivalent.
Introduction to probabilistic analysis and models in operations research. Decision analysis, Markov chains, queuing models.

## 4633 Simulation

(3-0) 3 hours credit. Prerequisite or corequisite: SD 4623.
Construction and use of simulation models on a digital computer. Monte Carlo techniques and associated statistical methods.
4643 Systems Design Laboratory
(0-6) 3 hours credit. Prerequisite or corequisite: SD 4623.
A project oriented course designed to give students experience in applying system analysis and design procedures. Subject matter may include development, evaluation and implementation of models for socio-technical systems, such as health care systems, water resource systems, and urban systems. Activities include written project proposal and technical report. May be repeated for credit. Not more than 6 hours can be counted for a degree.

## 4803 Microprocessor Laboratory I

(0-6) 3 hours credit. Prerequisite: SD 3843.
Principles of large-scale integration. Organization and systems architecture of state-of-the-art microprocessors. Large scale integration of random access memory and programmable read-only memory. Assemblers, compilers, and operating systems for microprocessors.

## 4813 Microprocessor Laboratory II

(0-6) 3 hours credit. Prerequisite: SD 4803.
Students execute projects dealing with the design and implementation of microprocessor software for selected applications in the area of process control.

## 4823 System Analysis

(3-0) 3 hours credit. Prerequisite: MAT 2213.
Mathematical concepts relevant to the formulation of models for physical systems. Initial value problems. Laplace transforms and the concept of transfer function. Detailed analysis of simple control systems for position and velocity tracking. Stability. The course deals mainly with linear systems.

## 4833 Optimal Control

(3-0) 3 hours credit. Prerequisite: SD 4823.
Stability and Liapunov's method. Formulation of state equations for continuous and discrete systems. Formulation of the optimal control problem. Pontryagin's maximum principle. Dynamic programming; adaptive control systems.

## 4853 Computer Interfaces

(3-0) 3 hours credit. Prerequisite: SD 4803.
Basic characteristics and design considerations of printer, tape, disk controllers, multiplexers and other devices for computer communications and teleprocessing.

## 4911-3 Independent Study

1-3 hours credit. Prerequisite: Permission in writing (form available) of the instructor, the student's Advisor, and the Division 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. For students needing specialized work. May be repeated for credit, but not more than 6 hours will apply to the bachelor's degree.

## 4953 Special Studies in Systems Design

(3-0) 3 hours credit. Prerequisite: Consent of instructor.
An organized course offering specialized study not normally or not often available as part of the regular course offerings. Special Studies courses may be repeated for credit when topics vary, but not more than 6 hours within any one area will apply to a bachelor's degree.

## A.

## PREPROFESSIONAL COURSES OF STUDY IN LAW AND THE HEALTH FIELDS

The University of Texas at San Antonio does not offer specific prelaw, premedical, predental or prenursing programs; rather students select courses of study in preparation for admission to law, medical, dental, and nursing schools in terms of individual preferences and in terms of specific program requirements of individual professional schools.
The semester hour and grade requirements set forth below are minimum requirements, and satisfaction of these requirements does not assure admission to any such professional schools, since application for admission far exceed spaces available.
Preparation for law school. Most law schools do not recommend or encourage students to concentrate in a particular area or discipline, although they do recommend that students acquire certain skills during their undergraduate career. Since these vary from school to school, students should be familiar with the requirements and preferences of the particular school or schools to which they intend to apply. That information can be obtained from the collection of current catalogs and directories for law schools in Texas and throughout the United States available through UT San Antonio's Prelaw Advisory Committee. Information on the procedures for admission to law schools and the Law School Admissions Test (LSAT) is also available from the committee. Appointments to consult with members of the committee may be made through the Office of the Division of Social Sciences.
Preparation for medical school. In general, medical school admission committees do not state a preference about an undergraduate major field, leaving the student free to choose, after conferences with his or her advisor, a degree program suited to the student's special abilities and interests.
Admission requirements for The University of Texas Medical Schools are representative of admission requirements for most other American medical schools. A minimum of 90 semester hours of college work is required including six semester hours of college English; two years of college biology (one year may be completed by examination for advanced standing, but one year must be completed in residence at a college and must include formal laboratory work); one-half year of college calculus; one year of college physics for science majors; two years of college chemistry (one year of general chemistry and one year of organic chemistry as required for science majors, each year to include the corresponding laboratory experience). A grade of " $C$ '" or better is required in these courses. All students are required to take the Medical College Admissions Test (MCAT). For specific requirements for admission to other medical schools, students should read the current edition of Admission Requirements of Medical Colleges, available in the Office of the Division of Allied Health and Life Science at UT San Antonio.
Preparation for dental school. Admission requirements for The University of Texas Dental Schools are also representative of admission requirements for most other American dental schools. A minimum of 60 semester hours of successfully completed college credit is required. These requirements are as follows: six semester hours of college English, two years of biology (one year may be completed by examination for advanced standing, but one year must be completed in residence at a college and must include formal laboratory work); one

## 244 / PREPROFESSIONAL COURSES OF STUDY IN LAW AND THE HEALTH FIELDS

year of physics as required for science majors; two years of chemistry (one year of general chemistry, and one year of organic chemistry as required for science majors, each year to include the corresponding laboratory experience). All students are required to take the Dental Aptitude Test (DAT). For specific requirements for admission to other dental schools the student should read the current edition of Admission Requirements for American Dental Schools and the catalogs of the various dental schools, also available in the Office of the Division of Allied Health and Life Sciences.
Additional information on preprofessional courses of study in medicine and dentistry can be obtained at the Office of the Division of Allied Health and Life Sciences and through the Chairman of the Health Related Professions Advisory committee at UT San Antonio.
Preparation for nursing school. Admission requirements for The University of Texas Schools of Nursing are likewise representative of admission requirements for most other American nursing schools. A minimum of 60 semester hours of college work from an accredited college or university is required, including six semester hours of college English, nine hours in behavioral sciences, twelve hours in history and government, three hours in statistics, and eighteen hours in natural sciences, which must include chemistry, anatomy, physiology, microbiology, and nutrition.
An overail minimum grade-point average of 2.0 is necessary. At least 2.0 is necessary in all required courses. For specific requirements for admission to other nursing schools, students should contact the School of Nursing in question. For admission to the UT School of Nursing at San Antonio, students should contact the Admission Office of the Health Science Center at San Antonio.

## B.

## COURSES APPLICABLE TO THE GENERAL EDUCATION REQUIRMENTS IN HISTORY AND GOVERNMENT

The State of Texas stipulates that coursework taken for the Bachelor's degree should include (a) six semester hours of United States history, three of which may be Texas history, and (b) six semester hours of courses treating the United States constitution and the constitution of the State of Texas. The UT San Antonio courses which apply to these requirements are listed below:

| A. United States and Texas History |  |  |
| :---: | :---: | :---: |
| HIS 1013 | United States 1607-1789 | (U.S.) |
| HIS 1023 | United States History, 1789-1896 | (U.S.) |
| HIS 1033 | United States History, 1896 to the present | (U.S.) |
| HIS 2033 | Economic Development and Social Change in the United States Since 1850 | (U.S.) |
| HIS 2053 | History of Texas Since 1836 | (Texas) |
| HIS 3003 | Colonial America and the Formation of American Society | (U.S.) |
| HIS 3023 | American Independent and National Unity, 1760-1820 | (U.S.) |
| HIS 3033 | American Reform | (U.S.) |
| HIS 3093 | United States Constitutional History | (U.S.) |
| HIS 3123 | History of Texas: The Colonial and Mexican Periods and the War of Independence | s) |
| HIS 3173 | Modern America | (U.S.) |
| HIS 3183 | Law and American Development | (U.S.) |
| B. United States and Texas Government |  |  |
| POL 1053 | Introduction to American Politics | (U.S.) |
| POL 2013 | The Political Systems of the United States and Mexico | (U.S.) |
| POL 2023 | Civil Liberties in American Law and Practice | (U.S.) |
| POL 2033 | The Origins of the American Constitutional System | (U.S.) |
| POL 2063 | The Politics of the American Economy | (U.S.) |
| POL 2083 | The United States in the World | (U.S.) |
| POL 3303 | Executive-Legislative Relations in the United States | (U.S.) |
| POL 3323 | Constitutional Law | (U.S.) |
| POL 1043 | Introduction to Texas Politics | (Texas) |
| POL 2043 | Contemporary Public Policy in Texas | (Texas) |
| POL 2053 | Federalism in the United States and Mexico | (Texas) |
| POL 2073 | American State and Local Politics | (Texas) |
| POL 3313 | The American Federal System | (Texas) |

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## INFORMATION DIRECTORY

Requests for information should be directed to the offices shown below. The University's address is: The University of Texas at San Antonio, San Antonio, Texas, 78285. The main telephone number of UT San Antonio is (512) 691-4011. Offices and classrooms of the Division of Continuing Education are located in the Institute of Texan Cultures on HemisFair Plaza in downtown San Antonio. The telephone number for the Division is (512) 227-9147.

Academic Advisement
Declared majors . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . College Deans
Undeclared majors . . . . . . . . . . . . Director of Community and Student Affairs
Academic Degree Programs and Courses

College Deans
Admission
Undergraduate and Graduate . . . . . . . . . . . . . . . . . . . Director of Admissions
Career Planning . . . . . . . . . . . . . . . . . . . . . . . . . . . . Director of Career Planning and Placement Center
Changes in Enrollment . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . Registrar
Continuing Education . . . . . . . . . . . . . . . . . . . . . . . Dean of Continuing Education
Credit by Examination . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . Testing Center
Degree Application
Registrar
Financial Aid, Loans, or
Scholarships . . . . . . . . . . . . . . . . . . . . . . . . . . Director of Student Financial Aid
Financial Matters . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . Business Manager
General Information . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . Director of Admissions
Handicapped Students . . . . . . . . . . . Director of Community and Student Affairs
Health Services . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . Student Health Center
Parking . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . University Police
Placement Service
Teacher . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . Director, Office of Teacher Certification and Placement
Non-Teacher Director of Career Planning and Placement Center
Psychological Counseling . . . . . . . . . . . . . . . . . . . . Director of Counseling Center
Recreational Activities . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . Director of Athletics
Refunds . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . Business Manager
Registration . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . Registrar
Residency . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . Registrar
Student Employment . . . . . . . . . . . . . . . . . . . Director of Student Financial Aid Director Career Planning and Placement Center
Student Services
Dean of Students
Teacher Certification Program . . . . . . . . . . . . . . . . . . Director, Office of Teacher Certification and Placement
Transfer of Credit . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . Registrar
Transcripts . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . Registrar
Veterans' Affairs . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . Registrar
Withdrawal from University . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . Registrar


## THE UNIVERSITY OF TEXAS AT SAN ANTONIO



## SAN ANTONIO AREA MAP


[^0]:    'A more detailed calendar for registration, orientation, and advisement will be issued by the Registrar.

[^1]:    ${ }^{2}$ A more detailed calendar for registration, orientation, and advisement will be issued by the Registrar.

[^2]:    ${ }^{3}$ A more detailed calendar for registration, orientation, and advisement will be issued by the Registrar.

[^3]:    'Additional information on the John Peace Library and on its borrowing regulations may be obtained in the Library.

[^4]:    ${ }^{1}$ All tuition charges and fees are subject to change without notice.
    ${ }^{2}$ See Exemption from Tuition and Fees in this section of the catalog.
    ${ }^{3}$ Tuition for resident or nonresident students registered for thesis or dissertation credit only is $\$ 12.00$ for residents of Texas and $\$ 50.00$ for nonresidents (U.S. citizens and foreign students) in those instances where such credit is the final credit-hour requirement for the degree in progress.
    ${ }^{4}$ Foreign students who registered for the first time before June 20,1975 are charged $\$ 14.00$ per semester hour, with a minimum of $\$ 200.00$ per semester.

    Foreign students who register for the first time after June 19, 1975 are charged $\$ 40.00$ per semester hour of credit, unless (1) an exception for financial need can be demonstrated through the Student Financial Aid Office; or (2) the Coordinating Board, Texas College and University System, certifies that the student's home country charges U.S. citizens at publicly funded colleges and universities a tuition fee equal to or less than $\$ 200.00$ per semester. Students in (1) and (2) above are charged the previous tuition fee of $\$ 14.00$ per semester hour, with a minimum of $\$ 200.00$ per semester.

[^5]:    ${ }^{5}$ Tuition for resident or nonresident students registered for thesis or disseration credit only is $\$ 12.00$ for residents of Texas and $\$ 50.00$ for nonresidents (U.S. citizens and foreign students) in those instances where such credit is the final credit-hour requirement for the degree in progress.
    ${ }^{8}$ Foreign students who registered for the first time before June 20,1975 are charged $\$ 14.00$ per semester hour, with a minimum of $\$ 200.00$ per entire summer session.

    Foreign students who register for the first time after June 19, 1975 are charged $\$ 40.00$ per semester hour of credit, unless (1) an exception for financial need can be demonstrated through the Student Financial Aid Office; or (2) the Coordinating Board, Texas College and University System, certifies that the student's home country charges U.S. citizens at publicly funded colteges and universities a tuition fee equal to or less than $\$ 200.00$ per semester or 12 -week summer session or comparable period, or $\$ 100.00$ per summer term or comparable period. Students in (1) and (2) above are charged the previous tuition fee of $\$ 14.00$ per semester hour, with a minimum of $\$ 200.00$ per entire summer session.

[^6]:    ${ }^{7}$ For residence regulations, consult the Director of Admissions and Registrar.
    ${ }^{\text {s }}$ See Exemption from Tuition and Fees in this section of the catalog.
    ${ }^{\bullet}$ The General Fee is authorized by statute for use and availability of university buildings and facilities.

[^7]:    ${ }^{10}$ See Exemption for Tuition and Fees in this section of the catalog.
    "Borrowing and fine regulations of the John Peace Library are available in the Library.

[^8]:    ${ }^{12}$ These refund percentages are applicabie to tuition, the supplementary fees, the general fee, laboratory fees, and the student service fee.

[^9]:    'Fees for services of the Career Planning and Placement Center are set forth in Section III of this catalog.
    ${ }^{2}$ Fees for the Teacher Placement Service are set forth in Section III of this catalog.

[^10]:    'When there are more qualified appicants than can be accommodated, The University may control enrollment by limiting the admission of first-time freshmen and other new students.
    ${ }^{2}$ Applicants furnishing results on the General Educational Development Test are required to have an average standard score of 45 or above on the five tests in the battery and to have no scores less than 35 on any of the five tests.
    ${ }^{\text {s }}$ Students enroling in UT San Antonio courses in which they have prior knowledge are encouraged to earn credit toward graduation through the Credit by Examination Program. (See the Credit by Examination Section of this catalog.)
    ${ }^{4} \mathrm{~A}$ unit represents a year of study in one subject at an accredited secondary school.

[^11]:    ${ }^{5}$ In the event there are more qualified applicants for admission than can be accommodated by The University, it may be necessary to restrict admission and/or enrollment. All applicants are, therefore, encouraged to apply for admission at the earliest possible time.

[^12]:    ${ }^{4}$ A complete list of certification programs is contained in a brochure available from the Office of Teacher Certification and Placement.

[^13]:    'Students are held individually responsible for meeting all requirements as indicated in this catalog. Failure to read and comply with policies, regulations, and procedures does not exempt a student from whatever penalties he/she may incur.

    The policies, regulations, and procedures stated in this catalog are subject to change without prior notice, if necessary, so that University policies are consistent with the policies of the Board of Regents of The University of Texas System.
    ${ }^{2}$ During the first week of classes in a semester, or the first two class days in a summer term, a special student should seek approval of the course instructor and Dean of the College in which the course is offered. A certificate only student should seek approval of the course instructor and the Director, Office of Teacher Certification and Placement.

    After the first week of classes and through the twelfth class day of any semester, or on the third or fourth class day of any summer term, a special student and a certificate only student should seek the additional approval of the Dean of the College in which the course is offered.
    ${ }^{3}$ Undergraduates seeking to add a graduate course in any of these time periods must obtain the special approvals specified in the sections "Enrollment in Graduate Courses for Undergraduate Credit" and "Enroliment in Graduate Courses for Graduate Credit' in this catalog.

[^14]:    ${ }^{4}$ Students enrolled in the Provisional Admission Program should refer to that section of the catalog for academic achievement requirements.

[^15]:    ${ }^{1}$ A single course can be applied to only one of the following: 1) general education requirements, 2) requirements for the major, 3) requirements for support work, 4) requirements for free electives.
    ${ }^{2}$ Free Electives, as used in this catalog, are any semester hours of credit accepted by UT San Antonio in transfer or awarded by UT San Antonio which, for degree purposes, are not applied to general education, major, or support-work requirements.
    '3 or certain degrees offered at UT San Antonio, general education requirements are restricted. Students should be alert to this possibility and should consult the specific degree requirements estabiished by the individual Colleges and Divisions and set out under the degree plans described in Section IX of this catalog.
    ${ }^{4} A$ maximum of three semester hours in history can be earned by examination.
    ${ }^{5}$ A maximum of three semester hours in government or political science can be earned by examination.
    ${ }^{6}$ Undergraduate students from non-English speaking countries are not required to complete the foreign language requirement for a baccalaureate degree at UT San Antonio. Students from such countries are required, instead, to complete an additional nine hours of free electives.

[^16]:    TPhysical Activities courses do not apply to this requirement, nor may the General Education Requirements under Group C, education electives, be applied to these requirements by teacher certification students.
    "Residence" is defined as credit earned at the UT System component which ultimately grants the degree. Residence credit does not include courses taken by extension or correspondence. Credit earned by examination other than by challenging UT San Antonio courses, does not apply to residence requirements.

[^17]:    ${ }^{\text {W Where }}$ vocational-technical courses support an individual's degree program, free-elective credit may be given upon the approvals of the Dean of the College in which the student is majoring and of the Vice President for Academic Affairs. Consideration to such free-elective credit is given only upon the written request of the student.
    ${ }^{10}$ See Degree Requirements in this section of the catalog and the Army ROTC Program which contains specific information on the maximum number of hours of military science that can be counted as free electives for the various degrees available at UT San Antonio.

[^18]:    "Credit cannot be earned by examination 1) for courses which are used to fulfill the statutory history and government General Education Requirements in excess of 3 semester hours in history and 3 semester hours in government or political science or 2 ) for courses in a degree program for which no appropriate examination exists or which consists of materials that cannot be tested by means of examination.

[^19]:    'Course offerings in undergraduate degree programs may be postponed if enrollments or resource and space limitations do not warrant scheduling or continuation of a particular course.

[^20]:    ${ }^{2}$ Course offerings in undergraduate support areas may be postponed if enrollments or resource and space limitations do not warrant scheduling or continuation of a particular course.

[^21]:    'The 50 hours of General Education Requirements are distributed in the College of Business as set out above under General Education Requirements as Applied in the College of Business

[^22]:    ${ }^{3}$ The 50 hours of General Education Requirements are distributed in the College of Business as set out above under General Education Requirements as Applied in the College of Business.
    ${ }^{4}$ The 50 hours of General Education Requirements are distributed in the College of Business as set out above under General Education Requirements as Applied in the College of Business.
    ${ }^{5}$ Thirty-nine of the total semester hours required for the degree must be at the upper-division level.

[^23]:    The 50 hours of General Education Requirements are distributed in the College of Business as set out above under General Education Requirements as Applied in the College of Business.

[^24]:    "Thirty-nine of the total semester hours required for the degree must be at the upper-division level.

[^25]:    ${ }^{12}$ The degree program will not be offered in 1978.80, although individual courses in Architectural Design may be scheduled. Class schedules for specific terms should be consulted.
    ${ }^{13}$ Information on lower-division courses available at other institutions which satisfy the requirements for this degree is available from the Division of Art and Design or from The University of Texas at San Antonio Admissions Office.

[^26]:    ${ }^{14}$ Thirty-nine of the total semester hours required for the degree must be at the upper-division level. Thirty semester hours of music courses must be at the upper-division level.

[^27]:    ${ }^{15}$ Thirty-nine of the total semester hours required for the degree must be at the upper-division level; 30 semester hours of music courses must be at the upper-division level.
    ${ }^{16}$ Same as footnote above.

[^28]:    ${ }^{17}$ Thirty-nine of the total semester hours required for the degree must be at the upper-division level.
    All students who major in the College of Humanities and Social Sciences must complete ENG 1033 INTRODUCTION TO THE HUMANITIES or the equivalent.

[^29]:    ${ }^{18}$ Thirty-nine of the total semester hours required for the degree must be at the upper-division level.
    All students who major in the Coilege of Humanities and Social Sciences must complete ENG 1033 INTRODUCTION TO THE HUMANITIES or the equivalent.

[^30]:    ${ }^{19}$ All students who major in the College of Humanities and Social Sciences must complete ENG 1033 INTRODUCTION TO THE HUMANITIES or the equivaient.

[^31]:    3333 French Literature in English Translation
    (3-0) 3 hours credit.
    May not be applied to a major in French and does not fulfill language requirement. Major works of French literature: themes, genres, movements.

[^32]:    *0All students who major in the College of Humanities and Social Sciences must complete ENG 1033 INTRODUCTION TO THE HUMANITIES or the equivalent.

[^33]:    ${ }^{21}$ The Bachelor of Arts Degree in Russian is not offered in 1978-80, although individual courses in Russian may be scheduled. Class schedules for specific terms should be consulted.
    ${ }^{22}$ All students who major in the College of Humanities and Social Sciences must complete ENG 1033 INTRODUCTION TO THE HUMANITIES or the equivalent.

[^34]:    ${ }^{23}$ All students who major in the College of Humanities and Social Sciences must complete ENG 1033 INTRODUCTION TO THE HUMANITIES or the equivalent.

[^35]:    ${ }^{24}$ All students who major in the College of Humanities and Social Sciences must complete ENG 1033 INTRODUC. TION TO THE HUMANITIES or the equivalent.

[^36]:    ${ }^{2 s}$ Thirty-nine of the total semester hours required for the degree must be at the upper-division level.
    All students who major in the College of Humanities and Social Sciences must complete ENG 1033 INTRODUCTION TO THE HUMANITIES or the equivalent.

[^37]:    ${ }^{26}$ Thirty-nine of the total semester hours required for the degree must be at the upper-division level.
    All students who major in the College of Humanities and Social Sciences must complete ENG 1033 INTRODUCTION TO THE HUMANITIES or the equivalent.

[^38]:    ${ }^{27}$ Thirty-nine of the total semester hours required for the degree must be at the upper-division level.
    All students who major in the College of Humanities and Social Sciences must complete ENG 1033 INTRODUCTION TO THE HUMANITIES or the equivalent.

[^39]:    ${ }^{28}$ Thirty-nine of the total semester hours required for the degree must be at the upper-division level.
    All students who major in the College of Humanities and Social Sciences must complete ENG 1033 INTRODUCTION TO THE HUMANITIES or the equivalent.

[^40]:    ${ }^{29}$ Thirty-nine of the total semester hours required for the degree must be at the upper-division level.
    All students who major in the College of Humanities and Social Sciences must complete ENG 1033 INTRODUCTION TO THE HUMANITIES or the equivalent.

[^41]:    ${ }^{\text {so }}$ All students who major in the College of Humanities and Social Sciences must complete ENG 1033 INTRODUCTION TO THE RUMANITIES or the equivalent.

[^42]:    4043 English as a Second Language in Secondary and Adult Education
    (3-0) 3 hours credit.
    A course designed to examine, adapt, and utilize approaches, methods and techniques of teaching language in English as a Second Language and Bilingual Education programs at the secondary and adult levels.

[^43]:    ${ }^{31}$ A complete list of Certification Programs is contained in a brochure available from the Office of Teacher Certification and Placement.

[^44]:    ${ }^{32}$ See Undergraduate Teacher Certification Programs, a brochure is available from the Office of Teacher Certification.
    ${ }^{33}$ EDU 4043 and EDU 4063 may substitute for EDU 4046. EDU 4086 or EDU 4083 and EDU 4043 may also substitute for EDU 4046. Students must inform the Director of Student Teaching of their plans to enroll in this course (these courses) one semester in advance.

[^45]:    ${ }^{34}$ Of the 15 hours of required electives listed as General Education Requirements, students must take three hours in Principles of Biology and three hours in Anatomy and Physiology.
    ${ }^{35}$ EDU 4043 and EDU 4063 may substitute for EDU 4046 . EDU 4086 or EDU 4083 and EDU 4043 may also substitute for EDU 4046. Students must inform the Director of Student Teaching of their plans to enroll in this course (these courses) one semester in advance.
    ${ }^{38}$ For students seeking certification, 129 hours are required to complete the dual requirements of the degree and the certificate.

[^46]:    ${ }^{37}$ Of the 15 hours of required electives listed as General Education Requirements, students must take three hours in Anatomy and Physiology and three hours in Kinesiology.
    ${ }^{38}$ EDU 4043 and EDU 4063 may substitute for EDU 4046 . EDU 4086 or EDU 4083 and EDU 4043 may also substitute for EDU 4046. Students must inform the Director of Student Teaching of their plans to enroll in this course (these courses) one semester in advance.
    ${ }^{39}$ For students seeking certification, 129 hours are required to complete the dual requirements of the degree and the certificate.

[^47]:    ${ }^{40} \mathrm{~A}$ statistics course which fulfills part of the General Education Requirements may be used to satisfy this requirement.
    ${ }^{41}$ The 21 semester hours identified in the Iower-division Law Enforcement Core Curriculum of the Texas Commission on Law Enforcement Officer Standards and Education may be transferred as free electives for the undergraduate degree in Criminal Justice.

[^48]:    ${ }^{42}$ Some of the 18 hours of military science required for the commission may be waived (without credit) for prior military service and/or junior ROTC.
    ${ }^{4}$ When fewer than 9 hours are allowed, the limitation results from the number of free elective hours available in the given degree program. Nevertheless, students in these degree programs may still enroll in the ROTC program.

[^49]:    ${ }^{44}$ Specific premedical, predental, and prenursing programs are not offered at UT San Antonio. Admission requirements for these professional schools are outlined in the Appendix of this catalog. Additional information can be obtained from the Office of the Division of Allied Health and Life Sciences and through the Chairman of the Health Related Professions Advisory Committee of The University of Texas at San Antonio.

[^50]:    ${ }^{45}$ Thirty-nine of the total semester hours required for the degree must be at the upper-division level.

[^51]:    ${ }^{46}$ This degree program will not be implemented in 1978-79, although individual courses in Occupational Therapy may be scheduled. Class schedules for specific terms should be consulted.
    ${ }^{47}$ Three semester hours in Sociology and six additional semester hours in Psychology in Group C electives are selected as part of the General Education Requirements, with the approval of the student's Advisor.

[^52]:    ${ }^{49}$ Thirty-nine of the total credit hours required for the degree must be at the upper-division level
    ${ }^{50}$ For those students who seek an engineering degree, these curricula offer an opportunity to obtain a major part of their engineering training at The University of Texas at San Antonio prior to transfer. UT San Antonio graduates in Applied Science may seek a second bachelor's degree at The University of Texas at Austin in Petroleum, Environmental and Civil Engineering (Applied Geology), Electrical Engineering or Engineering Science (Applied Geology), Electrical Engineering or Engineering Science (Applied Physics) or Chemical Engineering (Polymer Science and Food Technology). For those students who plan to transfer to an engineering curriculum prior to completing the Bachelor of Science in Applied Science Degree, a sequence of courses, tailored to the engineering program of interest, will be recommended by the Advisor.

[^53]:    ${ }^{52}$ Thirty-nine of the total semester hours required for the degree must be at the upper-division level.

[^54]:    ${ }^{35}$ Thirty-nine of the total semester hours required for the degree must be at the upper-division level.
    ${ }^{54}$ The student who is not prepared to begin MAT 1213 must take MAT 1011. Algebra or MAT 1183, College Algebra and/or MAT 1092, Elementary Functions.
    ${ }^{\text {ssTh}}$ Thirty-nine of the total semester hours required for the degree must be at the upper-division level.
    sothe student who is not prepared to begin MAT 1213 must take MAT 1011, Algebra or MAT 1183, College Algebra and/or MAT 1092, Elementary Functions.

