



# The University of Texas at Arlington®

## Undergraduate Catalog 1997 - 1999

Volume LXXX Number 3 June 1997

(USPS 620-500)

### *72nd Undergraduate Catalog*

Published and issued in March, April, June and October by The University of Texas at Arlington, Davis Hall, 701 S. Nedderman, Arlington, Texas 76013. Periodicals postage paid at Arlington, Texas 76010.

Postmaster: Send Form 3579 to Box 19088, U.T. Arlington Station, Arlington, Texas 76019-0088

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72nd Undergraduate Catalog  
 Produced by The Office of University Publications

# University Calendar 1997-98

## Fall Semester, 1997

August 12-15	Continuing and former student registration for Fall Semester
August 18	Application deadline for Fall Semester
August 19-22	New student registration for Fall Semester
August 25	First day of classes
August 25-26	Late registration
September 1	Labor Day (holiday)
September 10	Census Date
October 3	End of six weeks drop period for undergraduates
October 17	Midsemester
November 3	Current student registration begins for Spring Semester
November 14	Last date for undergraduates to drop courses
November 27-30	Thanksgiving holidays
December 5	Last day of classes
December 8	Final examinations begin; certain department examinations given Dec. 6
December 12	Final examinations end
December 13-14	Commencement ceremonies

## Spring Semester, 1998

January 12-16	Spring Semester registration continues
January 13	Application deadline for Spring Semester
January 19	Martin Luther King Jr. Day (holiday)
January 20	First day of classes
January 20-21	Late registration
February 4	Census Date
February 27	End of six weeks drop period for undergraduates
March 13	Midsemester
March 16-22	Spring vacation
April 6	Current student registration begins for Summer
April 10-12	Easter holidays
April 17	Last day for undergraduates to drop courses
May 8	Last day of classes
May 11	Final examinations begin; certain department examinations given May 9
May 15	Final examinations end
May 16-17	Commencement ceremonies

## Summer Sessions, 1998

May 26-29	First Summer Session registration continues
June 1	First day of classes, first five-week and 11-week summer sessions
June 1-2	Late registration
June 4	Census Date
June 8	Current student registration begins for Fall Semester
June 11	End of first drop period, first five-week session
June 25	Last day for undergraduates to drop, first five-week session
June 25	End of first drop period, 11-week session
July 1	Last class day, first five-week session
July 2	Final examinations, first five-week session
July 6-7	Second Summer Session registration continues
July 8	First day of classes, second five-week session
July 8-9	Late registration
July 14	Census date
July 21	End of first drop period, second five-week session
July 23	Last day for undergraduates to drop, 11-week session
August 4	Last day for undergraduates to drop, second five-week session
August 6	Last class day, 11-week session
August 10	Last class day, second five-week session
August 10-11	Final examinations, 11-week session
August 11	Final examinations, second five-week session
August 15-16	Commencement ceremonies



# University Calendar 1998-99

## Fall Semester, 1998

August 11-14	Continuing and former student registration for Fall Semester
August 18-21	New student registration for Fall Semester
August 24	First day of classes
August 24-25	Late registration
September 7	Labor Day (holiday)
September 9	Census Date
October 2	End of six weeks drop period for undergraduates
October 16	Midsemester
November 2	Current student registration begins for Spring Semester
November 13	Last date for undergraduates to drop courses
November 26-29	Thanksgiving holidays
December 4	Last day of classes
December 7	Final examinations begin; certain department examinations given Dec. 5
December 11	Final examinations end
December 12-13	Commencement ceremonies

## Spring Semester, 1999

January 11-12	Continuing and former student registration for Spring Semester
January 13-15	New student registration for Spring Semester
January 18	Martin Luther King Jr. Day (holiday)
January 19	First day of classes
January 19-20	Late registration
February 3	Census Date
February 26	End of six weeks drop period for undergraduates
March 12	Midsemester
March 15-21	Spring vacation
April 2-4	Easter holidays
April 5	Current student registration begins for summer
April 16	Last day for undergraduates to drop courses
May 7	Last day of classes
May 10	Final examinations begin; certain department examinations given May 8
May 14	Final examinations end
May 15-16	Commencement ceremonies

## Summer Sessions, 1999

May 25-26	Continuing and former student registration for first five-week and 11-week Summer Session
May 27-28	New student registration for first five-week and 11-week Summer Session
May 31	Memorial Day (Classes not in session)
June 1	First day of classes, first five-week and 11-week summer sessions
June 1-2	Late registration
June 7	Census Date
June 7	Current student registration begins for Fall Semester
June 14	End of first drop period, first five-week session
June 28	Last day for undergraduates to drop, first five-week session
June 28	End of first drop period, 11-week session
July 1	Last class day, first five-week session
July 5	Final exams, first five-week session
July 5	Continuing and former student registration for second five-week session
July 6	New student registration for second five-week session
July 7	First day of classes, second five-week session
July 7-8	Late registration
July 13	Census date
July 20	End of first drop period, second five-week session
July 26	Last day for undergraduates to drop, 11-week session
August 3	Last day for undergraduates to drop, second five-week session
August 5	Last class day, 11-week session
August 9	Last class day, second five-week session
August 9-10	Final examinations, 11-week session
August 10	Final examinations, second five-week session
August 14-15	Commencement ceremonies

# 1997

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# 1998

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# 1999

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# The University of Texas System

## Board of Regents

### Officers

Donald L. Evans, *Chair*  
Tom Loeffler, *Vice-Chair*  
Rita Crocker Clements, *Vice-Chair*  
Arthur H. Dilly, *Executive Secretary*

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(Terms Expire February 1, 1999)

Thomas O. Hicks, *Dallas*  
Lowell H. Lebermann, Jr., *Austin*  
Martha E. Smiley, *Austin*

(Terms Expire February 1, 2001)

Rita Crocker Clements, *Dallas*  
Donald L. Evans, *Midland*  
Tom Loeffler, *San Antonio*

(Terms expire February 1, 2003)

Patrick C. Oxford, *Houston*  
A.W. "Dub" Riter, Jr., *Tyler*  
A.R. (Tony) Sanchez, Jr., *Laredo*

## Administration

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James P. Duncan, Ed.D., *Executive Vice Chancellor for Academic Affairs*  
Charles B. Mullins, M.D., *Executive Vice Chancellor for Health Affairs*  
R.D. Burck, B.B.A., *Executive Vice Chancellor for Business Affairs*

# The University of Texas at Arlington

### Executive Officers

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George C. Wright, Ph.D., *Provost and Vice President for Academic Affairs*  
John H. McElroy, Ph.D., *Vice Provost for Research and Dean of Graduate Studies*  
Mary E. Ridgway, Ph.D., *Vice Provost for Academic Affairs*  
M. Dan Williams, M.B.A., M.Ed., *Senior Vice President for Finance and Administration*  
M. Ann Abbe, M.A., *Vice President for Development*  
Shirley F. Binder, M.Ed., *Vice President for Student Enrollment Services*  
B. Wayne Duke, Ed.D., *Vice President for Student Affairs*  
Elwood J. Preiss, M.A., *Executive Director of Administrative Services*  
Judith Stout Smith, B.S., *Executive Assistant to the President*

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Dan L. Worrell, Ph.D., *Interim Dean, College of Business Administration*  
J. Ronald Bailey, Ph.D., *Dean, College of Engineering*  
Ben Agger, Ph.D., *Dean, College of Liberal Arts*  
Elizabeth Poster, Ph.D., *Dean, School of Nursing*  
Verne Cox, Ph.D., *Interim Dean, College of Science*  
Richard L. Cole, Ph.D., *Dean, School of Urban and Public Affairs; Interim Dean, School of Social Work*  
Mary Lynn Crow, Ph.D., *Interim Director, Center for Professional Teacher Education*

# The University of Texas at Arlington

## University Profile

The University of Texas at Arlington is located in the heart of the Dallas/Fort Worth Metroplex, one of the fastest growing areas in the nation. U.T. Arlington has emerged as a comprehensive teaching, research and public service university offering an array of baccalaureate, master's, doctoral and special professional degrees. A modern 390-acre campus a few blocks from downtown Arlington offers easy access to museums, concerts, ballet, theater, family recreation, professional sports and other interests.

Founded in 1895 as Arlington College, a private liberal arts institution, U.T. Arlington has undergone a succession of names, ownerships and missions. The University was elevated to senior college status in 1959 and was transferred from the Texas A&M System to The University of Texas System in 1965. Its final name change came in 1967, when it became The University of Texas at Arlington.

With an enrollment of approximately 20,000 students, U.T. Arlington is the second largest of the 15 institutions in The University of Texas System. The student body has become increasingly diversified with students representing 47 states and 89 countries. The University's academic units include the School of Architecture, College of Business Administration, College of Engineering, College of Liberal Arts, School of Nursing, College of Science, School of Social Work, School of Urban and Public Affairs, and the Center for Professional Teacher Education. Additionally, the Graduate School oversees the administration of academic programs beyond the baccalaureate level.

In response to societal needs, U.T. Arlington has evolved into a university of renown within the state and of emerging position nationally and internationally. The University's history of achievement can be attributed to a faculty of increasing competence and accomplishments; a student body of higher qualifications and greater diversity; a record of growing success by graduates in their respective disciplines; and the maturation of the Dallas/Fort Worth area as a nationally and internationally significant metropolis.

## Mission Statement

The mission of The University of Texas at Arlington is to pursue knowledge, truth and excellence in a student-centered academic community characterized by shared values, unity of purpose, diversity of opinion, mutual respect and social responsibility. The University is committed to lifelong learning through its academic and continuing education programs, to discovering new knowledge through research and to enhancing its position as a comprehensive educational institution with bachelor's, master's, doctoral and non-degree continuing education programs.

## Accreditation

The University of Texas at Arlington is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools (1866 Southern Lane, Decatur, Georgia, 30033-4097; Telephone number: 404-679-4501) to award bachelor's, master's and doctoral degrees.

In addition, many of the academic departments and schools have received national accreditation from specific agencies.

## Government

The government of U.T. Arlington is vested in a nine-member Board of Regents of The University of Texas System, nominated by the governor and approved by the Senate. The Office of the Chancellor is the chief administrative office of The University of Texas System and is located in Austin. The chief administrative officer of U.T. Arlington is the University president, under the authority of the Office of the Chancellor of the U.T. System and the Board of Regents. A complete statement of the authority and duties of the Regents and of the several officers, together with an account of the organization of the system, is published in the **Rules and Regulations of the Board of Regents of The University of Texas System**.

## Equal Opportunity Policy

In accordance with the **Equal Pay Act of 1963**, Titles VI and VII of the **Civil Rights Act of 1964**, **Executive Order 11246**, the **Age Discrimination in Employment Act of 1967**, Title IX of the **Educational Amendments of 1972**, Sections 503 and 504 of the **Rehabilitation Act of 1973**, the **Americans with Disabilities Act, 1990**, the **Vietnam Era Veterans Readjustment Act of 1974**, and the **Rules and Regulations of the Board of Regents of The University of Texas System**, it is the policy of The University of Texas at Arlington that to the extent provided by applicable law no person shall, on the basis of race, color, national origin, religion, age, sex, handicap, disabilities or veteran status, be denied employment or admission, be excluded from participation in, be denied the benefits of, or be subject to discrimination under any program or activity which it sponsors or conducts. The University shall not tolerate any behavior or verbal or physical conduct by any administrator, supervisor, faculty or staff member which constitutes sexual harassment.

Any inquiries concerning the application of this policy should be directed to the University's Equal Opportunity/Affirmative Action Office, 710 S. Davis, 817-272-2106.

# Academic Programs and Degree Offerings

The University of Texas at Arlington is organized into the following academic units:

- College of Business Administration
- College of Engineering
- College of Liberal Arts
- College of Science
- School of Architecture
- Graduate School
- School of Nursing
- School of Social Work
- School of Urban and Public Affairs
- Center for Professional Teacher Education

U.T. Arlington offers baccalaureate degrees in the following areas:

## **Architecture**

- Architecture
- Interior Design

## **Business Administration**

- Accounting
- Business Administration (includes options in Finance, Information Systems, International Business/Foreign Language, Management, Production/Operations Management, Marketing, Economics and Real Estate)
- Economics
- Information Systems

## **Engineering**

- Aerospace Engineering
- Civil Engineering
- Computer Science and Engineering
- Electrical Engineering
- Industrial and Manufacturing Systems Engineering
- Mechanical Engineering

## **Liberal Arts**

- Anthropology
- Art (Art History, Media, Studio)
- Classical Studies
- Communication (Broadcast Communication, Journalism, Speech)
- Criminology and Criminal Justice
- English
- Exercise and Sport Studies and Exercise Science
- Foreign Languages (French, German, Russian, Spanish)
- History
- Interdisciplinary Studies
- Music
- Philosophy
- Political Science
- Sociology
- Theatre Arts

## **Nursing**

- Nursing

## **Science**

- Biology
- Biochemistry (jointly with U.T. Southwestern Medical Center at Dallas)
- Chemistry
- Geology
- Mathematics
- Medical Technology
- Microbiology
- Physics
- Psychology

## **Social Work**

- Social Work

## Other Course Offerings

### **Professional Teacher Education**

See the Center for Professional Teacher Education section of this catalog.

### **Study Abroad Programs**

To help its students attain the education demanded by today's increasingly interdependent world, U.T. Arlington offers the opportunity to study overseas while earning credit toward a degree. Some programs involve direct enrollment in an overseas institution, while others are led by faculty members. Year, semester and summer programs are available. Fluency in another language is not a prerequisite.

Program offerings vary but typically include such countries as Australia, China, England, France, Italy, Mexico, Norway, Russia and Eastern Europe, and Spain. Students can find more information about these programs in the Study Abroad Reference Library in the International Office, Lower Level, University Center, or by calling 817-272-2355. Application deadlines for spring programs are typically in early October. Deadlines for most summer and fall programs are usually in late February.

Most financial aid that students would normally receive for studying at the University may continue to be utilized during a U.T. Arlington study abroad program. If a student is on any federal or state financial aid, the student should discuss the specifics of the application of such aid and the possible adjustment of the student's need level with the study abroad advisor in the International Office and subsequently the Financial Aid Office. Participants are also eligible to apply for an International Education Fee Scholarship (IEFS). This is funded by \$1 collected from each student at registration. Applications are available from the International Office and are due October 15 for spring programs, and March 31 for summer and fall programs. IEFS recipients must show both academic merit and financial need.

See the Foreign Language Department section of this catalog for additional information on study abroad programs.

### Transfer Programs

The course offerings of the University are sufficient in the following fields for a student to complete the first two years of study toward a baccalaureate degree. The student must transfer to another institution to complete the study. Information about the programs may be obtained from the Allied Health Coordinator in Room 351, Life Science Building.

### Two-year Transfer Programs

- Health Care Administration
- Gerontology
- Dietetics
- Occupational Therapy
- Pharmacy
- Dental Hygiene
- Physician's Assistant
- Rehabilitation Science
- Prosthetics and Orthotics

### Continuing Education

Through its Division of Continuing Education, U.T. Arlington offers programs designed for people of every age who are interested in continuing their education but who do not desire to enroll in formal degree programs. These programs are noncredit and are offered under a variety of formats such as one- or two-day seminars, one- to three-week concentrated short courses, and evening courses scheduled once a week for six to 15 weeks. These programs of professional training, licensure and certification, and personal development offer adults, students and children in the region an opportunity to update and to broaden their educational experiences.

Registration fees for participants are determined by the cost of the programs. For more information, call the Division of Continuing Education at 817-272-2581.

## Professions

### Medicine and Dentistry

In general, medical and dental school admission committees do not state a preference about an undergraduate major field, leaving the student free to choose a degree program suited to individual abilities and interests. Therefore, the student may choose any major, after conferring with an advisor, if the minimum requirements stated by the professional schools are met.

### Admission requirements for The University of Texas Medical and Dental Schools are:

#### English

One year of college English.

#### Biology

Two years, as required for college science majors; one year must include formal laboratory work.

#### Mathematics

One-half year of college calculus. Mathematics is not required for admission to dental school.

#### Physics

One year, as required for college science majors.

#### Chemistry

One year of general chemistry and one year of organic chemistry, as required for college science majors, including the corresponding laboratory experience.

#### Test

New Medical College Admission Test (New MCAT) or Dental Aptitude Test (DAT) as required.

These requirements are representative of admission requirements for most other American medical and dental schools.

### Health Professions Counseling and Advising

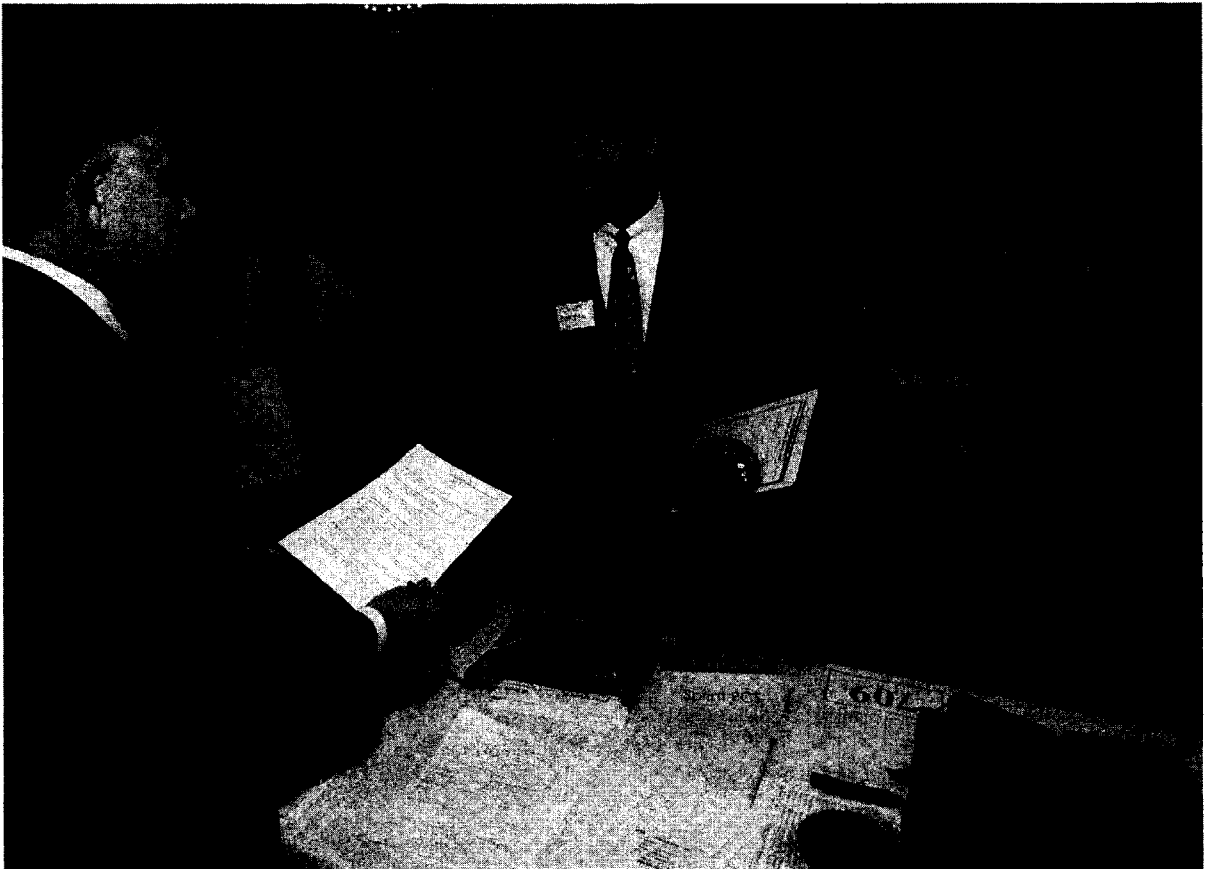
The Health Professions Counseling and Advising Center, located in Room 206, Life Science Building, provides counseling for students interested in medicine, dentistry, optometry, pharmacy and veterinary medicine. All preprofessional students should contact the office upon entering the University. The services provided include preadmission counseling, career advisement and placement assistance into professional schools. In addition, numerous career materials including catalogs, applications and testing information are available in Room 206, Life Science Building. The health professions counselor coordinates the Health Professions Advisory Committee's evaluation required of each premedical and pre dental student before applying to professional school. Students applying to professional schools should contact the health professions counselor at least one year prior to applying.

The Health Professions Advisory Committee, which is responsible for recommending students for medical and dental schools, bases evaluations on two factors: a student's academic record and personal integrity. The ideal applicant will demonstrate strength in both areas. The committee may decline to recommend students who have not completed at least a portion of his/her premedical sciences at The University of Texas at Arlington, or may be unable to recommend students because their personal qualities are not known. Therefore, it is important that a student actively participate in health profession programs involving medical schools and the Medical Dental Preparatory Association. Also, students should interact with the faculty and premedical advisor for at least one year prior to medical school application so the advisors will have an opportunity to become familiar with the students and their background.

### The Legal Profession

Law schools do not generally prefer any major field for undergraduate preparation. Consequently, prelaw students are free to choose the degree program that best suits their interests and abilities. Student who desire a prelaw education should choose a major and consult the advisor in the major department early in their undergraduate career. Law schools do not customarily list required courses. It is recommended, however, that the student choose courses from among those offered in:

- English, literature and speech
- Latin
- American and English history
- Mathematics
- Economics
- Psychology
- Political science
- Accounting
- Criminal justice
- Business administration
- Sociology
- Sciences
- Philosophy, logic and scientific method



# Undergraduate Admission Requirements Through Summer 1998

Office of Admissions  
123 Davis Hall • Box 19111 • 817-272-MAVS

**Notice:** The requirements and procedures for undergraduate admission that follow on pages 12-15 are in effect through the summer of 1998.

## Application for Admission

Prospective students who were not enrolled at The University of Texas at Arlington at least once during the last four consecutive semesters (a one year period of time) prior to the semester they wish to enroll must apply for admission. They should apply as early as possible. All necessary credentials, such as application forms, all official transcripts, required entrance test scores and application fee, must be on file in the Office of Admissions 30 days prior to the beginning of registration. Refer to the Schedule of Classes for registration dates.

Any application received after the deadline must be accompanied by all official transcripts and required test scores for evaluation. The prospective student must meet the stated admission requirements and will be required to register during late registration and will be subject to a late fee. All new undergraduate students enrolling must comply with state law and University policies concerning the Texas Academic Skills Program (TASP) as described in the TASP Examination section of this catalog.

## Admission Application Fee

All new applicants at U.T. Arlington must pay a \$25 (U.S. citizen) or a \$50 (non-U.S. citizen) nonrefundable admission application fee. The fee must be paid by check or money order in U.S. dollars. Admission decisions will not be made until after the application, application fee and all academic credentials are received and evaluated.

## Entering Freshmen

An applicant for admission, to be accepted by The University of Texas at Arlington, must (1) have graduated from high school with at least 20 acceptable high school units, including the subjects prescribed under High School Preparation in this section, and (2) have achieved a level of performance on the Scholastic Assessment Test (SAT) or American College Test (ACT) in accordance with the applicant's standing in his/her high school graduating class.

Applicants must submit an application for admission, a high school transcript, and their score on the Scholastic Assessment Test (SAT) or the American College Test (ACT).

1. The application must be completed in full, signed and returned to the Office of Admissions.
2. An official high school transcript must be submitted to the Office of Admissions. The transcript must indicate graduation date and final rank-in-class.
3. An acceptable score on the Scholastic Assessment Test (SAT) or the American College Test (ACT), as specified below, is required for admission. For SAT test dates on or after April 1, 1995, students, their guidance counselors, and college and universities will receive scores that have been placed on a new, "recentered" SAT I score scale. While the new "recentered" scores may appear to be higher, they are equivalent to "original" test scores taken prior to April 1, 1995. If the test score was prior to April 1, 1995, use the "Original Scale." Test scores made on or after April 1, 1995, refer to the "Recentered Scale." The SAT total (sum of verbal and mathematical portions) score requirements and the ACT composite score requirements are:

Rank in High School Graduating Class	Minimum Acceptable SAT Scores*		Minimum Acceptable ACT Score*
	Original Scale Before Apr. 1, 1995	Recentered Scale On or after Apr. 1, 1995	
First (highest) quarter	No minimum, but score must be submitted	No minimum, but score must be submitted	No minimum, but score must be submitted
Second quarter	700	830	18
Third quarter	800	920	21
Fourth quarter	1000	1100	25

\*The School of Architecture requires the following minimum scores for admission:

Rank in High School Graduating Class	Minimum Acceptable SAT Scores		Minimum Acceptable ACT Score
	Original Scale Before Apr. 1, 1995	Recentered Scale On or after Apr. 1, 1995	
First & Second quarter	800	920	21
Third quarter	900	1010	23
Fourth quarter	1000	1100	25

Architecture applicants must also meet the following minimum scores on each of the verbal and math parts of the SAT and the English and math parts of the ACT:

	Minimum Acceptable SAT Scores		Minimum Acceptable ACT Score
	Original Scale Before Apr. 1, 1995	Recentered Scale On or after Apr. 1, 1995	
Verbal/English	400	480	21
Math	400	440	21



The College of Engineering requires the following minimum scores for admission as a general engineering student:

Minimum Acceptable SAT Scores		Minimum Acceptable ACT Score
Original Scale Before Apr. 1, 1995	Recentered Scale On or after Apr. 1, 1995	
1000	1100	25

General engineering applicants must also meet the following minimum scores on each of the verbal and math sections of the SAT and the English and math sections of the ACT:

	Minimum Acceptable SAT Scores		Minimum Acceptable ACT Score
	Original Scale Before Apr. 1, 1995	Recentered Scale On or after Apr. 1, 1995	
Verbal/English	400	480	21
Math	500	520	25

The Department of Mathematics requires math majors, whether entering as freshmen or as transfer students with fewer than 30 semester hours, to present the following minimum scores on the math section of the SAT or ACT:

	Minimum Acceptable SAT Scores		Minimum Acceptable ACT Score
	Original Scale Before Apr. 1, 1995	Recentered Scale On or after Apr. 1, 1995	
Math	450	480	23

- Prior to registration, a student should submit a Report of Medical History to Student Health Services. A physical examination is required only if the student is medically unfit for exercise and sport activity (EXSA). It is the responsibility of the student to complete the health form and mail it to Student Health Services at least two weeks prior to registration. A Report of Medical History form will be sent to students when they are accepted for admission.
- Once an official transcript is received by the Office of Admissions, it will not be returned.

The applicant who submits credentials 30 days before registration follows an earlier registration schedule than later applicants.

No application for admission for the Fall or Spring semesters will be accepted after registration begins for new students.

## High School Preparation

To be eligible for admission to the University as a freshman, a student must be a high school graduate and have a minimum of 20 acceptable high school units. It is recommended that students complete the college preparatory program of study offered by their high schools. For purposes of admission as a freshman to the University, passing the General Educational Development Test (GED) is not considered to be the equivalent of graduating from high school. An applicant with a GED certification may be eligible for admission under the Individual Approval clause explained later in this section of the catalog. The minimum high school units required for admission are:

English:	4 units
Algebra I and II:	2 units
and	
Geometry (not "Informal" Geometry):	1 unit
Social Science:	3 units
Science:	2 units
Foreign Language:	2 units
<i>or</i>	
Additional Mathematics* and/or Science:	2 units
Other high school courses:	6 units
<b>TOTAL:</b>	<b>20 units</b>

\*May include any high school mathematics course higher than Algebra I.

In order for majors in architecture, engineering, biology, biochemistry, chemistry, mathematics, and physics, and B.S. candidates in geology and psychology to start their mathematics sequence with analytic geometry, applicants should have at least 3 1/2 units of high school mathematics and/or those who made low scores on the mathematics part of the SAT or the ACT examination are required to take, without credit toward a degree, the necessary mathematics courses prerequisite to taking analytic geometry.

Students planning majors in other fields may proceed normally in their curricula with two units of high school algebra and one unit of geometry.

## Early Admission Program

The Early Admission Program (EAP) is designed for high school seniors who wish to gain college credit at U.T. Arlington while still attending high school. A student wishing to apply for the Early Admission Program must submit:

- Applications for both general admission and Early Admission Program.
- High school transcript, showing coursework through the junior year. Students must be in the top half of their senior class.
- SAT scores of 700 on the "Original Scale" or 830 on the "Recentered Scale" or better, or ACT scores of 18 or better.
- Upon graduation, a final high school transcript showing graduation and final rank-in-class.

Each individual accepted into this program will be enrolled in regular University classes and will receive credit for the coursework completed at the end of the semester. A permanent academic record will be established for each person enrolled under the Early Admission Program.

## Provisional Admission Program

Applicants for admission who have never attended college but have graduated from high school and who meet all requirements for admission except for an acceptable SAT or ACT score may be admitted for the Summer Session or the Spring Semester under the Provisional Admission Program (PAP). Students will not be admitted on this basis for the Fall Semester. By completing the following requirements during the Summer Session or the Spring Semester, a student may be admitted as a regular student for the next session:

- Attending an orientation program on campus prior to registration. The purpose of this program is to advise the student of general University courses, course load, course scheduling and preregistration. In addition, each provisional admission student will be required to attend prescribed study sessions based on academic load.
- Enrolling in a minimum of 10 semester hours to include three hours in English, three in mathematics, and three from natural science or the social sciences and humanities, or foreign languages, and EDUC 1131, College Adjustment. The maximum number of hours may not exceed 14.
- Completing all courses enrolled in with a grade of D or better. In remedial classes, a grade of P must be obtained in order to continue enrollment. Any course receiving a grade of Z will not be considered as passing. An overall grade point average of 2.0 must be achieved to continue at U.T. Arlington as a regular student. If, however, a minimum GPA of 1.5 is obtained, and no courses are failed, the student will be allowed to continue for one additional semester to attempt to achieve a cumulative grade point average of 2.0. If the Provisional Admission Program is failed and the participant elects to attend another institution, he/she must take at least 30 hours and obtain a minimum 2.0 overall grade point average (as calculated by the U.T. Arlington Admissions Office) prior to returning to U.T. Arlington.

- Enrolling as an undeclared major until the provisional admission requirements have been met.
- Applying on time. Deadline for the summer Provisional Admission Program is May 1, and the deadline for the spring program is December 1.

## Applicants 25 Years of Age

Men and women who are 25 years of age or older who have graduated from an accredited high school may seek permission to enter the University without taking the Scholastic Assessment Test (SAT) or the American College Test (ACT). The director of admissions has the authority to waive the entrance examinations for applicants 25 years of age who can indicate that they are prepared to profit by the studies they wish to take. However, a person entering under this provision will be required to enroll as an undeclared major until 30 semester hours have been successfully completed. An application for admission and a high school transcript will be required for admission. **The testing waiver does not apply to international students who must submit the results of the SAT for admission purposes.** Any applicant who has not graduated from high school will be required to take the SAT or the ACT and apply under the provisions of the individual approval clause. An applicant who has attended a college previously must meet the University requirements of a 2.0 (C) average for all college work attempted. Passing the General Educational Development Test is not recognized by U.T. Arlington as being equivalent to graduation from an accredited high school.



## Individual Approval

Individuals over 21 years of age and veterans with 12 consecutive months of active duty who have not graduated from high school or have not accumulated 30 semester hours of college credit may apply for individual approval as freshman students. An applicant must submit an application for admission, transcript of high school work completed and an SAT score of at least 900 on the "Original Scale" or 1010 on the "Recentered Scale" or an ACT score of at least 23. An individual who has attempted any college coursework must also submit an official college transcript and must meet the minimum grade point average required for a transfer student. Applications for individual approval are due 30 days prior to the regular applications deadline.

## International Students and Permanent Residents

All international students (non-immigrants who have not been granted permanent residency in the United States) must submit an International Student and Permanent Resident application and official educational documents showing all courses taken and all grades earned. The application form and admission information can be obtained from the Admissions Office, Room 123, Davis Hall.

Admission is based upon these requirements:

1. A foreign admissions evaluation charge of U.S. \$50 is required from all international students before any action is taken on the admission file.
2. Results of the Scholastic Assessment Test (SAT) must be submitted by all international students applying to U.T. Arlington, including applicants who are 25 years of age or older. Students are required to meet the following minimum scores on the verbal and math sections of the SAT (NOTE: For SAT test dates on or after April 1, 1995, students and colleges will receive scores that have been placed on a new, "recentered" SAT I score scale):

	Minimum Acceptable SAT Scores	
	Original Scale Before Apr. 1, 1995	Recentered Scale On or after Apr. 1, 1995
Verbal	350	430
Math	350	400

Applicants to the College of Engineering and the Department of Mathematics are required to score the following on the math section of the SAT:

	Minimum Acceptable SAT Scores	
	Original Scale Before Apr. 1, 1995	Recentered Scale On or after Apr. 1, 1995
Math	450	480

Applicants to the School of Architecture must score the following on the verbal and math sections of the SAT:

	Minimum Acceptable SAT Scores	
	Original Scale Before Apr. 1, 1995	Recentered Scale On or after Apr. 1, 1995
Verbal	400	480
Math	400	440

Applicants to the College of Engineering must meet the following requirements:

	Minimum Acceptable SAT Scores	
	Original Scale Before Apr. 1, 1995	Recentered Scale On or after Apr. 1, 1995
Verbal/Math	1000	1100

The applicant can satisfy the SAT verbal requirement by presenting a score of 550 on the Test of English as a Foreign Language (TOEFL) as long as the applicant scores a minimum of 400 on the "original scale" or 440 on the "recentered scale" on the SAT math requirement. The applicant can satisfy the SAT verbal requirement by successful completion of Level Six of the English Language Institute at U.T. Arlington as long as the applicant scores a minimum of 400 on the "original scale" or 440 on the "recentered scale" on the (SAT) math requirement.

3. Admission to the first year of the University is based on graduation from a secondary school in a system composed of at least 12 years. Applicants who have received certificates showing that they qualify for matriculation at U.T. Arlington with above average performance on the appropriate entrance exams may be considered for admission to freshman standing.
4. Students who have completed academic work beyond the secondary level in another country must submit all the requirements mentioned for freshmen as well as official post-secondary transcripts, diplomas and certificates reflecting above average performance.
5. Proof of financial support for one year must be submitted to the satisfaction of the international student admissions officer.
6. A minimum of a 2.5 grade point average is required for transfer applicants from U.S. colleges. (All grades including repeated grades are used to calculate the average.)
7. International student applications and all supporting documents should be received in the Admissions Office 90 days prior to registration.
8. All international students on non-immigrant visas must agree to have health insurance coverage each semester that they are enrolled at U.T. Arlington. (See insurance information in the Student Health Services section of this catalog.)
9. All international students, including those transferring from other schools, must attend an international student orientation before their first registration.

An international student who has previously attended U.T. Arlington and is seeking readmission after an absence of either a Fall or Spring Semester must submit an application for readmission and any other required documents at least 30 days before registration begins.

**Permanent residents** and all other non-U.S. citizens who are not international students must submit the International Student and Permanent Resident application, a \$50 application fee, and official educational documents showing all courses taken and grades earned. The application and admission information may be obtained from the Office of Admissions.

Admission for permanent residents is based on the same requirements as for U.S. citizens. Please refer to the sections on Entering Freshmen, Transfer Admission, and Former and Continuing Students.

# Undergraduate Admission Requirements

## Effective Fall 1998

Office of Admissions  
123 Davis Hall • Box 19111 • 817-272-MAVS

**Notice:** The requirements and procedures for undergraduate admission that follow on pages 16-19 become effective with the Fall 1998 Semester.

### Application for Admission

Prospective students who were not enrolled at The University of Texas at Arlington at least once during the last four consecutive semesters (a one year period of time) prior to the semester they wish to enroll must apply for admission. They should apply as early as possible. All application materials—signed application, appropriate application fee, and official copies of transcripts of all high school and college work attempted—should be submitted by the priority deadlines. Completed applications will be accepted after the priority deadlines and until the end of regular registration. However, adherence to the deadlines ensures careful evaluation of credentials resulting in an admission decision and notification of that decision to the student in time for registration and fee payment. It may not be possible to provide a complete evaluation of transfer students' transcripts received after the priority deadline until after the start of the semester, thus limiting the effectiveness of academic advising.

Official transcripts submitted to the Office of Admissions become the property of the University and will not be returned to the student.

### Priority Deadlines

Application Deadline	Fall Semester	Spring Semester	Summer Semester
Freshmen	June 1	December 1	April 1
Transfer students	June 1	December 1	April 1
Former students	June 1	December 1	April 1
International students	June 1	October 1	April 1
Summer transient students			April 1

Any application received after the deadline must be accompanied by all official transcripts and required test scores for evaluation. All new undergraduate students enrolling must comply with state law and University policies concerning the Texas Academic Skills Program (TASP) as described in the TASP Examination section of this catalog.

### Admission Application Fee

All new applicants at U.T. Arlington must pay a \$25 (U.S. citizen) or a \$50 (non-U.S. citizen) nonrefundable admission application fee. The fee must be paid by check or money order in U.S. dollars. Admission decisions will not be made until after the application, application fee and all academic credentials are received and evaluated.

### Entering Freshmen

An applicant for admission, to be accepted by The University of Texas at Arlington, must have graduated from an accredited high school with at least 20 acceptable high school units, including the subjects prescribed under High School Preparation in this section.

Applicants must submit an application for admission, an official high school transcript indicating rank-in-class and their score on the Scholastic Assessment Test (SAT) or the American College Test (ACT).

**All applications for admission from prospective freshman and transfer students are reviewed individually.** Decisions are based on factors that predict academic success: course patterns and grades in college preparatory courses; rank-in-class and scores on standardized admission tests at the freshman level; grades on college courses; patterns of courses taken; and intended major for transfers from other two- and four-year institutions.

Applicants who meet the criteria listed under Freshman Admissions and Transfer Admissions are guaranteed admission. Those who have a different pattern of grades, courses and/or test scores will be considered on an individual basis and may be asked to submit additional information such as recommendations from teachers and counselors, a writing sample or an interview. Admission may be deferred pending completion of a minimum of 30 hours at a junior or community college. Prospective freshmen who have graduated from Texas high schools and who have completed the required sequence of high school courses but who are not otherwise admissible will be offered the Provisional Admission Program. Nonresidents of Texas are not eligible to be admitted on a provisional basis.

Rank in High School Graduating Class	Minimum Acceptable SAT Score	Minimum Acceptable ACT Score
Top 10%	No score minimum, but students must submit scores.	No score minimum, but students must submit scores.
Top Quarter but not top 10%	900	19
Second Quarter	950	20
Third Quarter	1000	21
Fourth Quarter	1150	25

## Additional Admission Requirements for Some Programs

Programs in engineering and mathematics restrict admission as described below.

**Engineering:** For pre-departmental status, applicants for admission to the College of Engineering are required to present the following minimum test scores:

Minimum Acceptable SAT Score	Minimum Acceptable ACT Score
1100	25

and the following minimum scores on each of the verbal and math sections of the SAT and the English and math sections of the ACT:

	Minimum Acceptable SAT Score	Minimum Acceptable ACT Score
Verbal/English	480	21
Math	520	25

Applicants for admission to the College of Engineering who meet general university requirements for admission but not the above listed test scores will be admitted to general engineering.

**Mathematics:** The Department of Mathematics requires math majors to present the following minimum score on the math section of the SAT or ACT.

	Minimum Acceptable SAT Score	Minimum Acceptable ACT Score
Math	480	23

No application for admission for the Fall or Spring semesters will be accepted after registration begins for new students.

## High School Preparation

To be eligible for admission to the University as a freshman, a student must be a high school graduate and have a minimum of 20 acceptable high school units. It is recommended that students complete the college preparatory program of study offered by their high schools. For purposes of admission as a freshman to the University, passing the General Educational Development Test (GED) is not considered to be the equivalent of graduating from high school. An applicant with a GED certification may be eligible for admission under the Individual Approval clause explained later in this section of the catalog. The minimum high school units required for admission are:

### A. Language Arts

**Required:** Four units of English, one of which may be writing, world literature, speech or journalism. (For speakers of other languages, English may not be used to fulfill the language arts requirement, but may be counted as an elective in area F.)

### B. Science

**Required:** Three units of science—physical science, biology I and II, chemistry I and II or physics I and II.

**\* Strongly recommended:** Students planning to enter scientific, engineering, and other technical fields are advised to take at least three units of laboratory science, including chemistry and physics. The additional unit may be counted as an elective in Area F.

### C. Foreign Language

**Required:** Two units in a single language. American Sign Language may be used to fulfill the foreign language requirement.

**\* Strongly recommended:** Three units in a single language.

### D. Mathematics

**Required:** Three units at the level of algebra I or higher—algebra, plane geometry, analytic geometry, elementary analysis, probability and statistics, solid geometry, calculus with analytic geometry, number theory. (Informal geometry and prealgebra are below achievement level courses and will not fulfill the mathematics requirement, but may be counted as electives.)

**\* Strongly recommended:** Students planning to enter scientific, engineering or other technical fields are advised to take at least four units of math. The additional unit may be counted as an elective in Area F.

### E. Social Studies

**Required:** Three units of anthropology, area studies, ethnic studies, economics, geography, government (civics), philosophy, social science, psychology, sociology, Texas history (advanced), United States history, world history.

**Strongly recommended:** Four units of social studies to include world history, world geography, U.S. history, U.S. government or economics.

### F. Electives

**Strongly recommended:** physical education, 1-1/2 units; health, 1/2 unit; computing proficiency, 1 unit; fine arts, 1 unit and music, theater, art or other, 1 unit.

\* Students may substitute specialization electives for the fourth year of mathematics and/or the fourth year of science. Specialization electives include courses in two areas:

- Language arts, science, social studies, fine arts, foreign language or computer science or
- Technical preparation, applied technology or vocational education.

A variety of other courses not listed here, including developmental and remediation courses, are not acceptable for college preparation. Admission will not be granted to applicants who have not completed the required units listed above. Students whose high school curriculum does not include the courses necessary to complete the unit requirements may apply to the director of admissions for an exception. Students who are admitted by exception must remove deficiencies to graduate. Courses taken to remove a deficiency do not count toward the student's degree.

In order for majors in architecture, engineering, biology, biochemistry, chemistry, mathematics, and physics, and B.S. candidates in geology and psychology to start their mathematics sequence with analytic geometry, applicants should have at least 3 1/2 units of high school mathematics. Those who made low scores on the mathematics part of the SAT or the ACT examination are required to take, without credit toward a degree, the necessary mathematics courses prerequisite to taking analytic geometry.

## Early Admission Program

The Early Admission Program (EAP) is designed for high school seniors who wish to gain college credit at U.T. Arlington while still attending high school. A student wishing to apply for the Early Admission Program must submit:

- Applications for both general admission and Early Admission Program.
- High school transcript, showing coursework through the junior year. Students must be in the top quarter of their senior class.
- SAT or PSAT scores of 900 or better or ACT scores of 19 or better.
- Upon graduation, a final high school transcript showing graduation and final rank-in-class.

Each individual accepted into this program will be enrolled in regular University classes and will receive credit for the coursework completed at the end of the semester. A permanent academic record will be established for each person enrolled under the Early Admission Program.

## Provisional Admission Program

A Texas resident who graduates from an accredited high school with the required units listed in the section, High School Preparation, but does not meet the minimum test score and class rank requirements for regular admission to the University, is eligible for admission on a provisional basis. A provisionally admitted student may enroll initially only during the first Summer Session or the first Spring Semester following high school graduation. A student who enters the University in the Summer Session is required to register for both terms. By completing the following requirements during the Summer Session or the Spring Semester, a student may be admitted as a regular student for the next session:

- Attending an orientation program on campus prior to registration. The purpose of this program is to advise the student of general University courses, course load, course scheduling and preregistration. In addition, each provisional admission student will be required to attend prescribed study sessions based on academic load.
- Enrolling in a minimum of 10 semester hours to include three hours in English, three in mathematics, and three from natural science or the social sciences and humanities, or foreign languages, and EDUC 1131, College Adjustment. The maximum number of hours may not exceed 14.
- Completing all courses enrolled in with a grade of D or better. In remedial classes, a grade of P must be obtained in order to continue enrollment. Any course receiving a grade of Z will not be considered as passing. Students who make a minimum 2.0 GPA at the end of the Summer Session or Spring Semester are

eligible for regular enrollment for the next semester. Students with less than a 2.0 GPA will be dismissed and will be eligible to return on completion of 30 semester hours and a 2.25 GPA at another college or university.

- Enrolling as an undeclared major until the provisional admission requirements have been met.
- Applying on time. Deadline for the summer Provisional Admission Program is May 1, and the deadline for the spring program is December 1.

## Individual Approval

For most individuals, graduation from an accredited high school is a prerequisite for admission to the University. However, graduates of unaccredited high schools and Texas residents 21 years of age or older who did not graduate from high school but scored at least 1010 (or 900 if the SAT score was earned prior to April 1995) on the SAT I or 22 on the ACT may be considered for admission. Each application is reviewed individually; exceptional circumstances may be discussed with an admissions counselor.

Individuals who are 25 years of age or older who have graduated from an accredited high school may be considered for admission without taking the SAT or the ACT. The director of admissions has the authority to waive the entrance examinations for applicants 25 years of age who can present persuasive evidence that they are prepared to profit by the studies they wish to take. Such students may, however, be ineligible for federal student aid under the "Ability to Benefit" rules. An individual admitted under this waiver will be required to enroll as an undeclared major until 30 semester hours have been successfully completed. An application for admission, an official copy of the high school transcript and the application fee will be required for admission consideration. The testing waiver does not apply to international students who must submit the results of the SAT and TOEFL for admission purposes.

An applicant seeking admission under the Individual Approval provisions who has any course credit from previous college enrollment must meet the University transfer requirements for all college work attempted. Passing the General Educational Development (GED) Test is not recognized by U.T. Arlington as being equivalent to graduation from an accredited high school.

## International Students

All prospective students from countries other than the United States who are not immigrants and have not been granted permanent residency must submit: 1) an International Student Application, 2) official transcripts of previous academic work, 3) standardized test scores when required, 4) the Test of English as a Foreign Language (TOEFL), 5) evidence of sufficient financial support while studying in this country, and 6) the application processing fee of U.S. \$50, which is not refundable.

The applications of prospective students from countries other than the United States are reviewed on an individual basis, and admission decisions are based on the strength of the previous academic work, scores on the SAT if required, and the Test of English as a Foreign Language score. Academic background and curriculum are important considerations in decisions on admissibility. For an international student from a non-English speaking country, the minimum acceptable score on the TOEFL is 550. The minimum acceptable score on the SAT for consideration of freshman applicants and those with fewer than 30 transferable course hours is 900 on the rescaled score.



# Undergraduate Admission Requirements Unchanged Through the 1998-99 Academic Year

Office of Admissions

123 Davis Hall • Box 19111 • 817-272-MAVS

**Notice:** The requirements and procedures for undergraduate admission that follow on pages 20-23 remain unchanged through the 1998-99 academic year.

## Transfer Admission

### Admission Standards

An applicant who is not eligible to continue at another institution for academic or disciplinary reasons is not eligible for admission to The University of Texas at Arlington. Applicants, whether a new or former student, who have attended another collegiate institution may not disregard any part of their academic record except as permitted under the "fresh start" option described in this section. Applicants who fail to report all college coursework are subject to disciplinary action, including expulsion, and possible loss of credit for subsequent work taken at the University.

### Freshman Transfers

(less than 30 college hours completed)

Applicants who have completed fewer than 30 hours of transferable credit must have a grade point average of at least 2.0 to be admitted. In addition, they must meet the admission requirements for entering freshmen at U.T. Arlington. Freshman transfer students must submit: 1) an official score report from a national administration of the SAT I or ACT, 2) an official high school transcript showing graduation and rank-in-class, 3) a completed undergraduate application form, 4) official transcripts of all college work attempted, and 5) the application fee or fee waiver documentation.

Transfer students with less than 30 hours of completed coursework who meet freshman criteria but not the 2.0 GPA may be considered for admission on probation.

### Transfers With Sophomore or Higher Classification

(30 or more college hours completed)

Applicants who have completed 30 or more hours of transferable credit must have at least a 2.0 grade point average to be admitted.

The College of Engineering requires all engineering students to submit either SAT or ACT scores.

Prospective transfer students who have completed 30 or more transferable credit hours must submit: 1) an undergraduate application for admission, 2) an official transcript from each accredited college or junior college attended, 3) the application fee or fee waiver docu-

mentation, and 4) an official high school transcript. The high school transcript is not used to determine admissibility, but is necessary to verify completion of units in language and mathematics to satisfy University requirements. In addition, federal regulations require evidence of: 1) completion of a high school or GED program before registering at the University or 2) SAT score of at least 800 or ACT score of 14. Transfer applicants are strongly encouraged to submit the high school transcript with other admission credentials prior to the established deadline.

### Transfers With Degrees

An applicant who has received a degree from another accredited senior college or university will normally be accepted for undergraduate admission. Certain academic units require a grade point average higher than 2.0 for admission. A complete application for admission, a \$25 application fee and an official transcript from each college attended as an undergraduate student must be submitted to the Office of Admissions. The applicant should submit required credentials for admission by the priority deadline date. This procedure is for undergraduate admission only; information about admission to a graduate program may be obtained from the Graduate School Office. An applicant who wishes to take graduate coursework before obtaining admission to the Graduate School should contact the Graduate School Office or the graduate advisor in the appropriate academic department.

**No application for admission for the Fall or Spring semesters will be accepted after registration begins for new students.**

### Entrance Examination

Freshman applicants for admission must take the Scholastic Assessment Test (SAT) or the American College Test (ACT). The SAT is given nationally in October, November, December, January, April, May and June. Test applications and a sample test bulletin can be obtained from the Educational Testing Service, College Board ATP, CN 6200, Princeton, N.J. 08541-6200. The ACT is given nationally in October, December, February, March and June. Test applications and a sample test bulletin can be obtained from American College Testing Program, P.O. Box 414, Iowa City, Iowa 52243. Test applications can also be obtained from a local high school or from the Office of Counseling and Career Development at U.T. Arlington. Applications will not be accepted later than one month prior to the test date. The applicant should complete one of the examinations at least three months prior to the start of the semester for which admission is sought.



## Credit Evaluation

Evaluation by the Office of Admissions of course credit earned at other institutions does not constitute approval of the credit for use toward a degree; such approval is solely within the jurisdiction of a student's academic dean. Policies governing the evaluation of transfer credit include the following:

- Transfer credit is generally awarded for academic course credit earned from regionally accredited institutions or from institutions that are candidates for regional accreditation if the course credit was earned during the candidacy period. At the discretion of the director of admissions, in rare circumstances course credit earned at other institutions may also be accepted in transfer.
- Occupational or vocational courses from junior community colleges, developmental or remedial courses, and courses classified as below freshman level by the sending institution are not transferable and will not count toward a degree.
- Junior community college courses transfer as lower-division (freshman or sophomore) credit. Undergraduate courses from senior colleges transfer at the same level, lower- or upper-division, as they were taken. Graduate level coursework is not transferable as undergraduate credit.
- No limit is placed on the total amount of course credit accepted in transfer from either junior or senior institutions. However, use of transfer credit toward a degree may be limited by the student's academic dean.
- Credit-by-examination earned at other institutions is treated as transfer credit only if the sending institution posts such credit on the student's transcript with regular catalog course numbers and with a grade of at least C, with the symbol CR, or with a similar designation representing credit earned without letter grade.
- All academic courses except developmental courses, whether passed, failed or repeated, including those in which a grade of D was earned, are used to compute the applicant's grade point average for admission purposes. Credit in which a grade of D was earned is not transferable and will not count toward a degree.
- Grades earned at other institutions are not averaged with grades earned at The University of Texas at Arlington to determine the student's internal University grade point average.
- Transfer credit evaluations
  - a. University course numbers may be modified in transfer credit evaluations to reflect more or less credit value than is normally offered in a course at the University. For example, Mathematics 1302, a three-semester-hour course, is rendered as Mathematics 14XO when taken as a four-semester hour course at another institution, thereby allowing the full amount of earned credit to transfer. Course numbers may also be modified to accommodate sequences not normally offered at the University. For example, Mathematics 1302 may be rendered as 16XO when comparable content is taken as two three-semester-hour courses at another institution.
  - b. Courses taught at other institutions often have no direct U.T. Arlington equivalents, but may be accepted in transfer. If such a course is in a discipline offered at the University, credit without a specific course number is awarded in the appropriate academic department. General elective credit may be awarded if no equivalent department exists at the University; use of elective credit toward a degree may be restricted by the student's academic dean.

- If the University refuses to accept lower-division credit earned at another Texas public institution of higher education, the student and the sending institution will be given written notice that transfer credit was refused. If nontransfer of credit is disputed, the University will attempt to resolve the matter with the student and the sending institution according to applicable rules and guidelines of the Texas Higher Education Coordinating Board. If the dispute is not resolved to the student's or the sending institution's satisfaction within 45 days of the initial notification, the University will notify the Coordinating Board of the refusal of the transfer credit and the reasons for refusal. The Coordinating Board will resolve the dispute and notify the parties of its findings.

## Catalog Eligibility for Texas Junior College Transfers

A student transferring from an accredited public junior college in Texas has the same choice of catalog, designating degree requirements, that would have been possible if the student's dates of attendance at the University had been the same as the dates of attendance at the junior college. However, the student's choice of major may affect whether or not transferable coursework may be counted toward a degree.

## Former and Continuing Students

A student who has attended U.T. Arlington previously but has not been enrolled during the last four consecutive semesters (a one year period of time) **must reapply for admission**. Continuing students (those who have been officially enrolled at U.T. Arlington at least one semester of the last four consecutive semesters) do not need to reapply for admission.

If the student has attended another college or university since last enrolling at U.T. Arlington, the student must submit an official transcript and a \$25 application fee with the application for admission to the Office of Admissions. A student's grade performance at another college or university will be considered in the readmission decision.

Applicants cannot be admitted without required credentials. Former international students seeking readmission must refer to the section titled International Students and Permanent Residents.

**No application for readmission for the Fall or Spring semesters will be accepted after registration begins for new students.**

## Transient Admission (Summer Only)

Undergraduate students who are pursuing degrees at other colleges and universities during the long session (Fall and Spring semesters) and wish to continue their studies at the University during the summer only may be admitted to some undergraduate programs as transient students. A transient student who wishes to be admitted to the University on a regular basis must apply for admission in accordance with the procedures and deadlines governing transfer admission. Students who attend the University as transient students and then are admitted on a regular basis are immediately subject to the University's academic regulations. In particular, such students will be placed on scholastic probation upon enrollment if their grade point average for work undertaken as a transient student at the University is below 2.0.

## Texas Academic Skills Program

Undergraduate students who have not fulfilled requirements of the Texas Academic Skills Program (TASP) may be subject to enrollment restrictions or barred from registration. See the Registration section of this catalog. TASP requirements are listed in the Office of Counseling and Career Development section of this catalog. For more information regarding TASP regulations, contact the academic advisor in the TASP Office in the University Advising Center.

## Academic Foundations Program

All entering students who are not ready to declare a major will be admitted to the Academic Foundations Program and will be advised by staff in the University Advising Center. All entering students will be classified either undeclared majors or pre-departmental majors. Pre-departmental majors will be advised by departmental advisors. General engineering majors will be advised by College of Engineering advisors.

## Enrollment as a Nondegree Student

A student who holds a bachelor's degree from an accredited institution, including The University of Texas at Arlington, may choose to apply for admission as a nondegree student in one of the undergraduate colleges or schools and is subject to the rules that apply to other undergraduates. The student may, with the approval of the director of admissions and the academic dean, change to degree-seeking status in an undergraduate college if his or her grade point average is at least a 2.0. For a student with a bachelor's degree from another college or university, only transferable coursework will be used in computing the grade point average.

Application for the nondegree option is made by completing an admission application form and submitting it with an official transcript showing the awarding of at least a bachelor's degree. Materials must be submitted by the deadline for undergraduate admission.

## Admission to a Degree Program

Admission to the University's degree programs is determined by application to the academic unit offering the degree. Before being admitted to a degree program, students must complete:

30 credit hours of the University's core curriculum (including advanced placement and transfer credit) and 30 credit hours at U.T. Arlington (including core credit hours but not including advanced placement).

or

40 credit hours of the University's core curriculum (including advanced placement and transfer credit hours) and 12 credit hours at U.T. Arlington (including core credit hours but not including advanced placement).

Degree programs may require students to complete additional courses or hours in residence prior to applying for admission to the degree program.

Students may continue at the University without being accepted into a degree program (undeclared or pre-departmental status) until they have accumulated 75 semester credit hours **attempted** (including transfer hours and credit by examination or advanced placement), and 45 hours **attempted** in residence (not including credit by examination). After reaching **both** of these limits, students will not be permitted to register until they are accepted into a degree program. Courses in which the student receives a W will not be included in calculating these limits.

**Admission to upper division work:** In addition to the requirements outlined in the preceding section, some academic programs have established minimum standards for admission to upper division or professional sequence courses. The student should consult departmental advisors about eligibility to register for upper division coursework.

## Academic Fresh Start

Section 51.931 of the *Texas Education Code* provides that a resident of Texas may apply for admission to the University as an undergraduate student without consideration of course credit or grades earned 10 or more years prior to the semester the applicant plans to enroll. To be admitted, the applicant must meet the admissions standards in effect at the time of application. Students admitted under the "fresh start" option may not receive credit for any coursework taken 10 or more years prior to enrollment.

## Orientation and Early Registration

Orientation and Early Registration is a program which includes placement testing, group sessions to prepare for the transition to U.T. Arlington, resources for academic success and an introduction to social and extracurricular opportunities. A highlight of the program is early registration for classes.

Upon completion of the admission requirements and acceptance to the University, students are assigned a special orientation date. Students are strongly encouraged to start the admission process early to ensure a space at orientation.

For students starting U.T. Arlington in the Fall Semester, several orientation options are available. New freshman students may attend one of several two-day programs offered in June, July and August. Parents of freshman students are invited to attend the program for parents which includes separate sessions for both students and parents. Transfer students and adult students may attend a one-day program or an evening program in July or August.

For students starting U.T. Arlington in the Spring Semester, an Orientation and Early Registration program is offered in late November. This program is available for new transfer students as well as incoming freshman students.

Students who are unable to attend one of the Orientation and Early Registration programs are invited to attend New Student Advisement Day. Although this program does not involve any form of early registration for classes, it does include academic advisement and information about the University. It is scheduled just prior to regular registration for the Fall and Spring semesters.

## International Student Orientation

A New International Student Orientation is held on the Monday before classes begin. Attendance at this orientation program is required for all non-immigrants who are new to U.T. Arlington, including transfer students. Information specific to the needs of international students is covered in this orientation. Students are notified by letter of this New International Student Orientation at the time of notification of admission or shortly thereafter. Attendance at any other U.T. Arlington orientation does not substitute for attendance at the New International Student Orientation. Those who do not attend will not be allowed to register during regular registration and must attend a makeup orientation program before being allowed to register in late registration.

## College Credit by Examination

U.T. Arlington recognizes that many excellent students have gained academic achievement in certain subject areas prior to entering an institution of higher education. U.T. Arlington strongly encourages such superior attainment, recognizes it for academic purposes and permits students who have done such work to obtain course credit through examination. Students will be given the opportunity to receive credit by examination in courses within the regular curricular offerings of the University where proficiency may be practically and validly determined by examination.

U.T. Arlington uses several examination programs to assess the prior academic achievement of undergraduate students. The University awards credit for scores on certain tests from the College Board Advanced Placement Program (AP), the College Board College Level Examination Program (CLEP), the College Board SAT II: Subject Tests, the Defense Activity for Nontraditional Support Program (DANTES), the International Baccalaureate Program (IB), and the National League of Nursing Mobility Profile II and Achievement examinations. U.T. Arlington also offers advanced standing examinations prepared by departmental faculties.

The following policies govern the awarding of credit by examination by U.T. Arlington:

- Credit by examination is available to admitted undergraduate students who are currently enrolled or who are formerly enrolled. There is no limit to the amount of credit that can be earned by examination.
- Credit by examination can be awarded only for courses in which a student has neither a passing nor failing grade at U.T. Arlington or transfer credit from another institution of higher education. Official test scores must be sent to Measurement and Testing Service for credit by examination to be awarded. Additional eligibility requirements for certain courses are listed in Measurement and Testing Service's Credit by Examination brochure.
- Credit by examination can be used to meet prerequisites for higher-level courses.
- Credit earned by examination satisfies degree requirements in the same way as credit earned by passing courses except that it does not count as credit earned in residence. Credit by examination cannot be used to satisfy general degree requirements for: (a) 30 semester hours in residence, (b) at least 24 of the last 30 semester hours in residence, and (c) at least 18 semester hours

in residence of advanced coursework (courses numbered 3000 and 4000), to include 12 hours of advanced coursework in the major field.

- After the official Census Date, students may earn credit by examination for a course they are enrolled in only upon written approval of the chair of the appropriate academic department.
- Most academic departments award semester hours of credit, but no letter grades. In a few subjects, credit may be awarded with grades of A, B or C, depending on the level of test performance. For each course in which grades are assigned, students may choose to accept credit hours recorded either with the letter grade or as credit only. Accepting credit only will not affect a student's cumulative grade point average. After credit has been posted to the academic record, a student's choice, letter grade or credit only, cannot be changed.
- To have credit reported to the registrar, students must complete the form Petition to Record Credit by Examination and submit it to Measurement and Testing Service. A student's test results will be evaluated for eligibility in accordance with academic departmental policies in effect on the date the Petition to Record Credit by Examination form is received at Testing Services. Credit by examination will be posted to a student's official record after the student has enrolled and completed one semester at U.T. Arlington. Unsuccessful attempts to earn credit by examination are not recorded on students' academic records.
- Credit by examination on a transcript from another institution of higher education is considered transfer work and will transfer to U.T. Arlington, subject to the same conditions as corresponding resident coursework from that institution. An exception is the multiple choice CLEP test in English which is accepted by some universities in Texas for credit in English but which is not accepted at U.T. Arlington. Only the version of the CLEP test that is accompanied by a writing sample will be accepted for English credit at U.T. Arlington. Transfer students who have tested out of freshman English at other universities with the multiple choice CLEP test are required to pass the U.T. Arlington writing tests prepared by the English Department to receive credit for ENGL 1301 and 1302 at U.T. Arlington. The Office of Admissions is responsible for evaluating all transfer work.

Further information regarding test dates, registration procedures and deadlines, fees, current eligibility criteria and the Petition to Record Credit by Examination form may be obtained from Measurement and Testing Service in Room 216, Davis Hall. Students may write to Measurement and Testing Service, University of Texas at Arlington, P.O. Box 19156, Arlington, Texas 76019; or call 817-272-3670; or FAX to 817-272-5792.

## Placement Examinations

Certain departments offer (or require of) the student an exemption from taking courses based on departmental placement examinations. Such exemption does not grant credit for the course but permits the student to enroll in the next course in the subject area.

### Foreign Language Placement Examination

Students who have high school credit for a foreign language or equivalent knowledge must take the foreign language placement examination prior to registering for a course in the language.

# Registration

Registration Center, B17 Davis Hall • Box 19088 • 817-272-3165

To attend The University of Texas at Arlington any given semester, a student must register and pay fees. All registration at U.T. Arlington may be done by SAM, the University's touch-tone telephone system, by calling 817-272-2726. The current semester's Schedule of Classes gives the exact dates and times for registration and should be consulted each semester, not only for registration information but advising instructions as well. The Spring Schedule of Classes is available in mid-October; the Summer/Fall Schedule of Classes is available in mid-March. All currently enrolled, continuing students will register by SAM prior to the semester. New students register by SAM the week before classes begin. New students, most readmitted former students and continuing students in certain majors must be advised. **If advising is required, it must be done prior to registration.**

**Scheduling Classes:** All students must register every semester and pay fees before the Census Date to attend that semester. If registering by SAM during early registration, students are mailed a copy of their class schedule and a fee statement. These students may mail their payment, pay in person or pay by credit card using SAM. Those registering by SAM in the later registration are expected to pay fees the same day because there is not enough time to send bills before the first day of class. Changes to course schedules may be made by SAM during the four add-drop days (the two days before classes begin and the first two class days). Students who are no longer eligible for enrollment at the start of the semester will have their registration canceled and their tuition and fees refunded.

**Payment of Fees:** All fees and any bills owed to U.T. Arlington must be paid by the due date or late fees will be added. If fees are not paid, those students eventually will have their registrations canceled. Fees may be paid by credit card through SAM as well as in person.

**Late Registration:** Two days of late registration, the first two class days, are held each semester for students who are unable to register on their regular dates. Late registration takes place by SAM. Students should try to register on their earliest date since classes close during late registration and a late fee is added.

**An undergraduate student taking 12 or more semester hours during a Fall or Spring Semester is considered to be a full-time student.**

## Class Schedules

Trial schedules which follow approved degree programs should be planned prior to registration. If advisement is required, it must be done prior to registration. The advisor assists the student in preparing a course of study for the semester. All students are advised to balance their programs over a five-day week. Working students are urged to consult their advisors about how to establish a reasonable ratio between academic load and work hours and are reminded that two hours of preparation is generally needed for each classroom hour.

## Texas Academic Skills Program

Undergraduate students who have not fulfilled requirements of the Texas Academic Skills Program (TASP) may be subject to enrollment restrictions or barred from registration. See requirements listed in the Office of Counseling and Career Development section of this catalog. For more information regarding TASP regulations, contact the academic advisor in the TASP Office in the University Advising Center, Room 101, University Hall.

## Fall and Spring School Hours

Classes during the Fall and Spring semesters are scheduled from 8 a.m. to 10 p.m. There is no separate evening school.

## Five-Week Summer Sessions

The Summer sessions during the day hours are divided into two terms of approximately five weeks. A three-semester-credit-hour lecture course is typically scheduled for two hours daily Monday through Thursday. Without permission from the academic dean, the maximum load a student may take during a five-week summer term is seven credit hours.

## Eleven-Week Summer Session

Evening classes in the summer are scheduled for one term of 11 weeks. Some day classes may be scheduled for a term of 11 weeks as well. A three-semester-credit-hour lecture course is scheduled for two hours twice weekly.

## Auditing a Course

Arrangements to audit an undergraduate course may be made during the late registration period only. The required form, obtained in the Admissions Office, must be completed and taken to the instructor for approval. After obtaining the instructor's approval, the applicant pays a fee at Bursar Services of \$20 per course if enrolled for coursework at U.T. Arlington or \$100 per course if not enrolled for coursework in residence at U.T. Arlington. Persons 65 years of age or older may audit courses without paying an audit fee. The auditor has the privilege of hearing and observing only; no University credit is granted for auditing. An academic department may place restrictions on the privilege of auditing or may deny permission to audit certain courses.

## Adds, Drops and Section Changes

During the four add-drop days, students may drop, add or change sections by SAM. Under special circumstances, a department may require a student to change sections. A student will not be permitted to add a course for credit or make a section change after the last day of late registration. Drops after late registration are handled in the department offering the course.

To change a major course of study, a student should file an application in the proposed major department before arranging a class schedule.

## Withdrawals (Resignations)

A student who wishes to withdraw (resign) voluntarily from U.T. Arlington must complete the proper resignation form in the Registrar's Office. A student who withdraws after the sixth week of class in a regular semester or the equivalent time in a Summer Session will be awarded a grade of W if passing a course or a grade of F if failing a course. A student may not withdraw (resign) after the 12th week of class in a regular semester or the equivalent time in a Summer Session as noted on the Summer Session calendar.

## Course Identification System

Courses at U.T. Arlington are designated by a combination of letters and numbers. The letters indicate the department, or the area within a department, that offers the course. A list of these code letters is given on the inside back cover of this catalog. The numbers furnish information such as level, credit and hours of theory or practice. Please see the sample course below for an explanation.

### **CHEM 1301 (3-0) 3 hours credit**

- "CHEM" indicates that the course is offered by the Chemistry Department.
- The first digit (1 in the example above) denotes the year in which the course is usually taken: 1 and 2 indicate freshman and sophomore courses; 3 and 4 indicate advanced undergraduate courses; and 5 and 6 indicate graduate courses.
- The second digit (3) denotes the semester hours credit of the course.
- The third and fourth digits (0 and 1) distinguish the individual course. Course numbers 90 through 99 indicate individual or small group instruction.
- The first figure in parentheses (3) indicates the clock hours per week in the Spring and Fall semesters devoted to theory. Theory includes recitations and lectures.
- The second figure in parentheses (0) indicates the clock hours per week in the Spring and Fall semesters devoted to practice. Practice includes work done in the laboratory, shop, drawing room or field.
- The final figure is the credit value of the course. The unit of credit is the "semester hour," which involves one hour of theory and/or from two to four hours of practice per week for one semester of 16 weeks.

## Name and Address Change

If students change name or home address after registration, they are expected to notify the registrar in writing at once. Addresses also may be changed by calling SAM, U.T. Arlington's voice response system, at 817-272-2726. The student will be held responsible for correspondence from University offices sent to the address last given. Students may not claim, due to a change of name or lodging, that they have not received the correspondence.

## Report of Medical History

Prior to registration, a student should submit a Report of Medical History to Student Health Services. A physical examination is required only if the student is medically unfit for exercise and sport activity (EXSA). It is the responsibility of the student to complete the health form and mail it to Student Health Services at least two weeks prior to registration. A Report of Medical History form will be sent to students when they are accepted for admission.

## Change of Major Program of Study

Undergraduate students who wish to change their major program of study must have the approval of the proposed major department to initiate the change. A student may request a change of major at any time during a semester; however, if the form is processed after the 12th week of classes, the new major will not appear on University records until the following semester.

An academic unit may require students to change their major program of study if the students do not meet the academic standards or the professional conduct standards of the unit. For information concerning specific standards in a program of study, students should contact the office of the appropriate academic dean.

## Exercise and Sport Activities Requirement

All students must complete four semester hours of required exercise and sport activities (EXSA). This requirement may be satisfied by completing either the one-credit-hour courses or the two-credit-hour courses or by a combination of the two. The following are exceptions to the four-semester-hour requirement:

- A student will be exempt from one semester of required EXSA for each semester of basic Army ROTC or Air Force ROTC completed or for each Fall Semester of marching band completed.
- A student 21 years old or older at time of first entrance in college will be exempt from required EXSA.
- Upon reaching the age of 25, a student will be considered as having fulfilled his/her requirements for EXSA.

- A student who presents adequate documentation of service will be exempt from two semester hours of required EXSA for each six months of active duty in the armed forces of the United States.
- A student may be excused from required EXSA at the discretion of the academic dean when unusual or extraordinary circumstances exist.
- A student desiring to be excused for reasons of physical disability should initiate such a request with the chief of staff, Student Health Services.
- A student may receive credit for no more than two EXSA courses taken concurrently.
- EXSA courses may be used only to satisfy degree plan requirements for such courses. They may not be used for elective credit nor as substitutes for any other required courses. Grades earned in activity courses other than those required for the degree will not be used in determining official grade point averages.

**Note:** Only four semester hours of required EXSA courses may be counted for graduation. Additional activity courses taken will not be calculated in the student's grade point average.

## Concurrent Enrollment

### University of Texas System Components

A student concurrently enrolling at two or more of the three University of Texas System components in North Texas (U.T. Arlington, U.T. Dallas and U.T. Southwestern Medical Center at Dallas) may register and pay tuition and fees for all courses through the student's home campus. Detailed procedures may be obtained from the registrar of the student's home campus. The concurrent enrollment agreement and waiver of specified fees applies only to students following the concurrent enrollment procedures specified by the registrar of the home campus.

The charges for the following will be assessed and collected at the home institution for the other institution(s):

- Tuition at an appropriate rate
- Applicable laboratory fees
- General Use Fee at the appropriate rate for courses taken at U.T. Arlington and U.T. Dallas
- Any other fees that are required at the host institution that are not charged at the home institution

Student services at the second institution will be made available to concurrently enrolled students paying the appropriate student service fees at the second institution.

The three institutions have a reciprocal agreement for honoring parking permits. Details may be obtained from the police departments on each campus.

Concurrently enrolled students should report any problems concerning registration, payment of fees or other matters related to concurrent enrollment procedures to the registrar of the home institution.

### Other Public Institutions of Higher Education

When students register at more than one public institution of higher education in Texas, they shall pay the full tuition charges to the first institution at which they are registered. A student who is first registered at another institution must present a copy of the fee receipt from that institution to Bursar Services when registering at U.T. Arlington. Any reduction in tuition per the following guidelines will be refunded to the student approximately one month after the beginning of the semester.

- If the minimum tuition at the first institution is the same as or *greater* than the U.T. Arlington minimum, the amount charged for tuition will be the U.T. Arlington hourly rate.
- If the minimum tuition at the first institution is *lower* than the U.T. Arlington minimum, the amount charged for tuition will include the difference in the minimum charges. In no case will the amount charged be less than the U.T. Arlington hourly rate.
- All other applicable fees will be charged.

## Televised Instruction

The University of Texas at Arlington is a member of a consortium of colleges and universities in the North Texas area called the Alliance for Higher Education (AHE). U.T. Arlington utilizes a closed-circuit television network operated by AHE to transmit a limited number of graduate and undergraduate courses. Currently, U.T. Arlington transmits engineering, computer science and nursing courses to selected industrial sites, business locations and hospitals in the Dallas/Fort Worth area and to the campuses of certain AHE members. Selected courses not offered by U.T. Arlington but which are offered by neighboring colleges and universities via the AHE network can be received.

For further information or for a bulletin of courses available via the AHE closed-circuit television network (ETV), contact the College of Engineering at 817-272-3271 or the School of Nursing at 817-272-2776.

# Finances

Tuition and fees are subject to change by legislation and by action of The University of Texas System Board of Regents. Changes in tuition or fees will be effective upon date of enactment and will be reflected in fees and tuition charged.

## Summary of Tuition and Fee Charges for 1997-98 Academic Year

### RESIDENT STUDENTS

The following table can be used to estimate the full costs of one semester for Texas resident students. For undergraduates, the amounts are shown for 12 and 15 semester credit hours (SCHs). For graduate students, the table gives amounts for 9 SCHs. If students enroll for a different number of hours, they may use the extra column to calculate those costs using the per semester credit hour charges for tuition and fees that are based on the number of hours of credit. Since the table shows only average charges for college and course related fees, a more precise total would have to be calculated by determining the actual fees for the student's school or college and the courses for which the student has enrolled. Necessary information may be obtained from the Office of Accounting and Business Services or the institutional Home Page on the World Wide Web at: <http://ais.uta.edu/oabs>

Name of Charge	Undergraduate		Graduate	For Individual Calculations
	12 SCH	15 SCH	9 SCH	
<b>Resident Tuition<sup>1</sup></b>	\$ 408.00	\$ 510.00	\$ 612.00	\$
<b>Add: Required Fees<sup>2</sup></b>				
Registration Fee	5.00	5.00	5.00	
General Use Fee	360.00	450.00	270.00	
Student Services Fee	125.40	125.40	94.05	
Student Union Fee	39.00	39.00	39.00	
Medical Services Fee	25.00	25.00	25.00	
International Education Fee	1.00	1.00	1.00	
I.D. Card Fee	8.00	8.00	8.00	
Computer Information and Technology Fee	48.00	60.00	36.00	
Library Services Fee	24.00	30.00	18.00	
<b>Subtotal - Required Fees</b>	<b>635.40</b>	<b>743.40</b>	<b>496.05</b>	
<b>Add: Average<sup>3</sup> for college and course related laboratory, incidental and supplemental fees, and/or optional student service fees</b>				
	100.00	105.00	85.00	
<b>Total Charges</b>				
(Tuition <i>plus</i> subtotal - required fees <i>plus</i> average for college and course-related fees and/or optional student service fees	\$1,143.40	\$1,358.40	\$1,193.05	\$

<sup>1</sup> Resident undergraduate tuition as established by the Texas Legislature is \$34/SCH (\$120 minimum). Resident graduate tuition is authorized at \$68/SCH in accordance with Section 54.008 of the *Texas Education Code*.

<sup>2</sup> Required fees, those charged to all students, may be based on semester credit hours and/or may be per semester. Descriptions of the fees may be found in the table, "Summary Description of Student Fees."

<sup>3</sup> Averages only are given for college and course related fee charges (laboratory, incidental, supplemental/individual instruction fees) since charges vary according to academic program and courses. Summary descriptions for these fees and the optional student services fees may be found in the Schedule of Classes and in the Miscellaneous Fees section of this catalog

**Note:** Changes in tuition and fee charges may occur after the information is first published. Updated information may be obtained from the Office of Accounting and Business Services or from the institutional Home Page on the World Wide Web at: <http://ais.uta.edu/oabs>

## Summary of Tuition and Fee Charges for 1997-98 Academic Year NONRESIDENT STUDENTS

The following table can be used to estimate the full costs of one semester for nonresident students. For undergraduates, the amounts are shown for 12 and 15 semester credit hours (SCHs). For graduate students, the table gives amounts for 9 SCHs. If students enroll for a different number of hours, they may use the extra column to calculate those costs using the per semester credit hour charges for tuition and fees that are based on the number of hours of credit. Since the table shows only average charges for college and course related fees, a more precise total would have to be calculated by determining the actual fees for the student's school or college and the courses for which the student has enrolled. Necessary information may be obtained from the Office of Accounting and Business Services or the institutional Home Page on the World Wide Web at: <http://ais.uta.edu/oabs>

Name of Charge	Undergraduate		Graduate 9 SCH	For Individual Calculations
	12 SCH	15 SCH		
Resident Tuition <sup>1</sup>	\$2,976.00	\$3,720.00	\$2,628.00	\$
<b>Add: Required Fees<sup>2</sup></b>				
Registration Fee	5.00	5.00	5.00	
General Use Fee	360.00	450.00	270.00	
Student Services Fee	125.40	125.40	94.05	
Student Union Fee	39.00	39.00	39.00	
Medical Services Fee	25.00	25.00	25.00	
International Education Fee	1.00	1.00	1.00	
I.D. Card Fee	8.00	8.00	8.00	
Computer Information & Technology Fee	48.00	60.00	36.00	
Library Services Fee	24.00	30.00	18.00	
<b>Subtotal - Required Fees</b>	<b>635.40</b>	<b>743.40</b>	<b>496.05</b>	
<b>Add: Average<sup>3</sup> for college and course related laboratory, incidental and supplemental fees, and/or optional student service fees</b>				
	100.00	105.00	85.00	
<b>Total Charges</b> (Tuition <i>plus</i> subtotal - required fees <i>plus</i> average for college and course-related fees and/or optional student service fees)				
	\$3,711.40	\$4,568.40	\$3,209.05	\$

<sup>1</sup> Nonresident undergraduate tuition as established by the Texas Legislature is \$248/SCH. Nonresident graduate tuition is charged at the rate authorized in accordance with Section 54.008 of the *Texas Education Code*.

<sup>2</sup> Required fees, those charged to all students, may be based on semester credit hours and/or may be per semester. Descriptions of the fees may be found in the table, "Summary Description of Student Fees."

<sup>3</sup> Averages only are given for college and course related fee charges (laboratory, incidental, supplemental/individual instruction fees) since charges vary according to academic program and courses. Summary descriptions for these fees and the optional student services fees may be found in the Schedule of Classes and in the Miscellaneous Fees section of this catalog

**Note:** Changes in tuition and fee charges may occur after the information is first published. Updated information may be obtained from the Office of Accounting and Business Services or from the institutional Home Page on the World Wide Web at: <http://ais.uta.edu/oabs>



## Summary Description of Student Fees for 1997-98

Name of Charge	Classification	Residency	Amount	Notes
<b>Tuition:</b>				
	Undergraduate	Resident	\$34/SCH	Set by Legislature
		Nonresident	\$248/SCH	Set by Coordinating Board per statutory requirement
	Graduate	Resident	\$68/SCH	Governing board may set at twice statutory rates for undergraduate programs.
		Nonresident	\$292/SCH	Governing board may set at twice statutory rates for undergraduate programs. Includes \$10 Graduate Enhancement Fee for nonresidents
<b>Required Fees:</b>				Fees charged to all students; may be based on semester credit hours or a set charge per semester
Registration Fee	All students	All students	\$5/semester	Fee used to offset the cost of registration
General Use Fee	All students	All students	\$30/SCH	A general fee for university services and operations and use of facilities and activities; the governing board may set the fee at a rate up to the statutory tuition for resident undergraduate students
Student Services	All students	All students	\$10.45/SCH \$125.40/max	A compulsory fee to fund student-related services such as recreational activities, student government and organizations, transportation services, student publications, intercollegiate athletics, others
Student Union Fee	All students	All students	\$39/semester	Fee may be used for finance, construction, operation and maintenance of the student union building and its programs
Medical Services Fee	All students	All students	\$25/semester	In addition to portions of the semester student services fee, board may approve a fee up to \$55/semester specifically for providing medical services to students
International Education Fee	All students	All students	\$1/semester	For funding an international education financial aid fund
Computer Information and Technology Fee	All students	All students	\$4/SCH	An incidental fee that provides for development of campus and network facilities for academic programs
I.D. Card Fee	All students	All students	\$8/semester	All university card fee
Library Services Fee	All students	All students	\$2/SCH	Fee used for enhancement of library collections and services
<b>Incidental Fees:</b>				
Variety (see catalog)	All students	All students	Variable	For specific services such as late registration, library fines, special course fees, application processing fees and others as approved by the governing board
Foreign Student Service Fee	Foreign	All students	\$50/semester	For services provided to foreign students by the International Office
<b>Laboratory Fees:</b>				
Variety (see catalog)	All students (depending on courses taken)	All students	Variable	Mandatory charges for certain laboratory courses; may not be less than \$2/course nor more than \$30/course and must not exceed the cost of actual materials and supplies used by student
<b>Supplemental Fees:</b>				
Variety (see catalog)	All students	All students	Variable	Charges in addition to regular tuition for students registered in art, architecture, drama, speech or music where individual coaching or instruction is the usual method of instruction
<b>Voluntary Fees:</b>				
Variety (see catalog)	Students desiring a specific service	All students	Variable	May include such items as parking fees of \$48/year

## Tuition Exceptions

State law provides for several exceptions to the tuition rates. Students qualified for a reduced rate in any of the following categories must have that eligibility certified prior to registration.

- Teaching assistants and research assistants employed at least half-time in positions which relate to their degree programs and their spouses and children will be charged the same rate as a Texas resident.
- Holders of certain competitive scholarships in the amount of \$1000 per year or more awarded through The University of Texas at Arlington scholarship committee will be charged the same rate as a Texas resident.
- Section 54.203 of the *Texas Education Code* provides an exemption from tuition and some fees. Texas veterans may qualify for this exemption provided they:
  - a. Had Texas resident status at the time they entered the service and are currently on Texas resident status for tuition assessment
  - b. Had active military duty (excluding training) for more than 180 days during specified periods of the Cold War; the Vietnam, Grenada, Lebanon and Panama eras; and the Persian Gulf War
  - c. Are honorably discharged from active service
  - d. Are not eligible for Pell Grant, SEOG (Supplemental Education Opportunity Grant) or Veterans Educational Benefits under federal legislation which exceed the value of the exemption
- Section 54.204 of the *Texas Education Code* provides an exemption from tuition for children of certain disabled firefighters and peace officers. To qualify for this exemption, the applicant must:
  - a. Be a child of a disabled (1) full-paid or volunteer firefighter; or (2) full-paid municipal, county or state peace officer or custodian of the Department of Corrections or game warden
  - b. Be under 21 years of age
- An exemption from tuition and some fees is provided for Texas residents who are blind or whose sense of hearing is nonfunctional as provided under Section 54.205 of the *Texas Education Code*.
- Students under 25 years of age who receive a majority of support from a parent who has been classified by the Defense Department as a prisoner of war or missing in action at the time of their registration may be exempt from tuition and some fees as provided by Section 54.209 of the *Texas Education Code*.
- Individuals or a member of a family who have located to Texas as an employee of a business or organization that became established in this state as part of the program of state economic development and diversification will be charged the same tuition rate as a Texas resident if such individual meets the terms and conditions set forth in Section 54.052(h) of the *Texas Education Code*.
- Children of members of the armed forces who were killed in action in World War II, the Korean Conflict, or the Cold War, and orphans of the Texas National Guard killed since Jan. 1, 1946, while on active duty may be exempt from tuition and some fees.
- Certain students who were in foster or other residential care or who were dependent children receiving AFDC during their last year of public high school in Texas may be exempt from tuition

and fees if the terms and conditions set forth under the *Texas Education Code* are met.

Application forms and instructions for the aforementioned tuition exceptions are available at the Office of Admissions.

## Accounts Receivable System and Payment of Fees

Invoices are mailed on a monthly basis to all students who have current activity, generally on the fifth of the month. Most University charges are billed on the student accounts receivable system with payments applying to the oldest debt first. **Short-term and emergency loans are invoiced separately and can result in registration cancellation if not paid as billed.** Financial aid and scholarship awards are applied to student accounts. Most charges and credits, other than short-term and emergency tuition loans, are consolidated into one monthly invoice and may be paid with a single remittance. Payments should be made immediately upon receipt of the student's statement of account in the return envelope provided. Payments by check may also be placed in the drop box located adjacent to Bursar Services, Room 130, Davis Hall, and on the Lower Level of the University Center (include the top portion of your statement).

Cash payments must be made in person at the cashier window in either Davis Hall, the University Center or the Parking Office (loan payments cannot be made at the Parking Office). **Cash should not be mailed.** Credit card payments can be made at the same cashier stations or by telephone using SAM, U.T. Arlington's automated voice response system, at 817-272-2726. Account balance information is available as well as the ability to change the installment or parking options. The University accepts American Express, Discover, Mastercard and Visa, as well as cash, check, money order, cashier's check and travelers checks. **Payments must be credited to the student's account by the due date to avoid a \$10 late charge as well as possible registration cancellation and additional penalties.** It is critical that students maintain their current addresses with the Registrar's Office at all times. If students do not receive a statement or have questions regarding their accounts, they should contact Bursar Services at 817-272-2172/5690 or SAM at 817-272-2726.

Registration charges are added to the accounts receivable system when the student registers. Students who register on or before the semester invoice date will be billed for their registration as follows (Refer to the statement for exact due date):

	Invoice Date	Typical Due Date
Fall	August 5	September 1
Spring	December 5	January 1
Summer I	May 5	June 1
Summer II	June 5	July 1

**Notice: Financial aid and scholarship recipients must follow instructions in the Financial Aid section of the Schedule of Classes. Sponsored students should contact the Sponsored Student area of Bursar Services in Room 130, Davis Hall, 817-272-2178.**

Students who register after the above-noted invoice dates will not be billed prior to the registration due date. It is the student's responsibility to pay registration fees prior to the first University class date. Payment may be made in person at Bursar Services. In addition, credit card payments may be made by telephone using SAM at 817-272-2726.

Any student whose registration fees are not paid prior to the first University class day will be charged a \$25 Late Registration Fee. In the Fall and Spring semesters, if registration fees are not paid by the Friday after the end of Late Registration, the student's registration will be canceled. If approved for reinstatement, all past due balances and current amounts due on accounts receivable and loan accounts, all registration fees, plus a \$25 Late Registration Fee, and a \$25 Reinstatement Fee must be paid in full prior to the Census Date or the student will be canceled again. Reinstatements after the Census Date will require the payment of a \$150 Reinstatement Fee to offset the loss of state formula funding to the University.

**Important Notice:** In the Summer semesters, there will be one cancellation for nonpayment of fees on the Census Date; therefore, there will be no opportunity for reinstatement in the summer without the payment of a \$150 Reinstatement Fee.

## Installment Tuition Payment Plan

For Fall and Spring semesters only, students may choose to use the installment tuition payment plan for registration fees that are above and beyond financial aid or scholarship assistance. To use this system, it is necessary to make a declaration at the time of scheduling. The service charge for participating in the installment payment plan is \$10. Under this plan, a student may defer payment for approximately one-half of U.T. Arlington registration fees. The invoiced amount due will be reduced by this deferred amount. The current amount due must be paid by the due date printed on the invoice. Those registering after the semester due date cannot wait to be billed on the initial payment.

The amount that was deferred will be invoiced in two equal installments as shown on the schedule that follows:

	Invoice Date	Due Date
Fall	September 5	October 1
	October 5	November 1
Spring	February 5	March 1
	March 5	April 1

## Concurrent Enrollment

### University of Texas System Components

A student concurrently enrolling at two or more of the three University of Texas System components in North Texas (U.T. Arlington, U.T. Dallas and U.T. Southwestern Medical Center at Dallas) may register and pay tuition and fees for all courses through the student's home campus. Detailed procedures may be obtained from the registrar of the student's home campus. The concurrent enrollment agreement and waiver of specified fees applies only to students following the concurrent enrollment procedures specified by the registrar of the home campus.

The charges for the following will be assessed and collected at the home institution for the other institution(s):

- Tuition at an appropriate rate
- Applicable laboratory fees
- General Use Fee at the appropriate rate for courses taken at U.T. Arlington and U.T. Dallas

- Any other fees that are required at the host institution that are not charged at the home institution

Student services at the second institution will be made available to concurrently enrolled students paying the appropriate student service fees at the second institution.

The three institutions have a reciprocal agreement for honoring parking permits. Details may be obtained from the police departments on each campus.

Concurrently enrolled students should report any problems concerning registration, payment of fees or other matters related to concurrent enrollment procedures to the registrar of the home institution.

## Other Public Institutions of Higher Education

When a student registers at more than one public institution of higher education in Texas, the student shall pay the full tuition charges to the first institution at which the student is registered. A student who is first registered at another institution must present a copy of the fee receipt from that institution to Bursar Services when registering at U.T. Arlington. Any reduction in tuition per the following guidelines will be refunded to the student approximately one month after the beginning of the semester.

- If the minimum tuition at the first institution is the same as or *greater* than the U.T. Arlington minimum, the amount charged for tuition will be the U.T. Arlington hourly rate.
- If the minimum tuition at the first institution is *lower* than the U.T. Arlington minimum, the amount charged for tuition will include the difference in the minimum charges. In no case will the amount charged be less than the U.T. Arlington hourly rate.
- All other applicable fees will be charged.

## Estimated Expenses

The Student Financial Aid Office estimates that average expenses for a full-time Texas resident student for two semesters at U.T. Arlington are:

Tuition and Fees	\$2300
Books and Supplies	\$ 500
Housing and food	\$4500
Total	\$7300

(Students residing on campus or at home can probably lower the housing and food cost significantly.)

## Miscellaneous Fees and Expenses

### General Property Deposit

The Texas Education Code, Section 54.502(a) directs that "an institution of higher education shall collect a reasonable deposit not to exceed \$10 from each student to insure the institution against losses, damages and breakage in libraries and laboratories. The deposit shall be returned on the withdrawal or graduation of a student, less any loss, damage or breakage caused by the student." The deposit collected at The University of Texas at Arlington is \$10.

Deposits are refunded automatically at the end of the semester to students who graduate or withdraw. Deposits are refunded by request at the end of the semester to students who neither graduate nor withdraw, but do not plan to return. Property deposits which are dormant for four years are forfeited into the Student Deposit Scholarship Fund.

## Parking Fee

All students who drive to campus need a permit to park legally on campus. At registration, students should indicate which type of permit they need for their vehicle. If students early register by telephone or register during regular registration periods, a permit will be mailed to their university mailing address. If students register the week before school begins or during late registration, they may pick up their parking permits from Parking Office clerks in the basement of Davis Hall. To obtain residence hall or rental property permits, students must show proof of residency in the residence hall or rental property. If students withdraw from school any time before classes begin or before the census date, they must bring their permit to the Parking Office to receive a full/partial refund. **If the permit is not returned, a refund cannot be given.** Students who lose or misplace their permits will be charged full price for a replacement.

Students are encouraged to pick up a copy of the Rules and Regulations booklet which contains campus parking policies. The University Police Parking Office is located at 700 S. Davis and is open 7:30 a.m.-7 p.m. Monday-Thursday, and 7:30 a.m.-5 p.m. on Fridays. All disabled students with appropriate documentation should obtain their parking permits from the Office for Students with Disabilities, Lower Level of the University Center.

For additional parking information, call 817-272-3907 or visit the following Web site: <http://www.uta.edu/police/>

The following fees will be charged for autos at the initial period of registration:

All Vehicles	Regular	Remote
Fall Semester	\$48.00	\$12.00
Spring Semester	\$32.00	\$10.00
First Summer Session	\$20.00	\$ 8.00
Second Summer Session	\$12.00	\$ 6.00

## Maverick Parking Garage

Semester Parking Passes:*	1997-98	1998-99
Day student	\$275.00	\$300.00
Night student (5 p.m. or later)	\$ 95.00	\$102.00
Reserved	\$395.00	\$420.00

\* In addition to the above rates, a \$10 deposit for a gate card is required.

Hourly parking is subject to availability on a first-come, first-served basis. The cost is \$2 for the first hour and \$1.50 for each additional hour, with a maximum of \$7.00 per day. After 5 p.m. parking is \$1.40 per hour, with a maximum of \$3.00.

## International Student Health Insurance

International students are required to purchase The University of Texas at Arlington Student Health Insurance Plan while enrolled at the University. Exceptions to this requirement are:

- Coverage by the U.T. Arlington faculty/staff insurance
- Continuing coverage under a mandatory government-sponsored health plan
- Continuing coverage under a mandatory employer-sponsored insurance plan

Proof of coverage and benefits provided must be documented and must be comparable to the University-sponsored plan. All policies under the three categories of exceptions must contain at least a \$7,500 repatriation benefit and a \$10,000 medical evacuation benefit. All

policies must meet USIA regulations for those in "J" status. If coverage does not include medical evacuation and repatriation, supplemental policies covering those items will be made available.

## Graduation Fees

A graduation fee is charged each baccalaureate degree candidate when application is made for graduation. If graduation is delayed past the stated semester, the student must reapply for graduation and repay the graduation fee. An additional fee to cover the cost of cap and gown is charged each candidate who plans to attend any graduation ceremony. Students who request that their diplomas be mailed after graduation will be required to pay the first class mailing cost.

## Instrument User Fees

Students who are enrolled in certain biology and geology courses which require extensive use of microscopes and related equipment will have an instrument users fee assessed as part of the fee for that course. Students enrolled in certain chemistry courses which require use of chemical instrumentation equipment will have an instrument users fee assessed as part of the fee for that course.

## Late Registration Fee

A fee of \$25 for late registration will be charged per late registrant.

## Nursing Liability Insurance Fee

A Liability Insurance Fee of \$7.25 per semester will be assessed to any student taking an undergraduate nursing course.

## Math Clinic Fee

Certain math courses require laboratory instruction. To cover the cost, a \$15 Math Clinic Fee will be charged.

## Locker Room, Towel and Uniform Service Fee

Students registering in activities requiring special uniforms are required to pay a uniform and towel fee each semester.

## Cost of Books

Cost of books depends upon the courses selected. Generally, books for technical subjects are somewhat higher than those for other academic subjects. In certain technical, scientific and fine arts fields, there are extra expenses for equipment and supplies.

The University Bookstore has available both new and used textbooks. The bookstore will purchase used textbooks which are in good condition at any time during the year provided such textbooks continue to be used by the academic departments and if needed by the bookstore.

## Transcripts

The Registrar's Office will mail an official copy of an academic transcript at the written request of a student for a fee of \$5 each. When working conditions permit, the office will provide one-day transcript service if requested. An official transcript will not be issued unless all financial obligations to the University have been satisfied.

## Housing and Food Expenses

Information about University housing may be found in the Student Housing section of this catalog. Information about campus food service may be found in the University Center section of this catalog.

## Residency Regulations

Resident classifications are determined in accordance with Subchapter B, Chapter 54, *Texas Education Code*, and the rules of the Texas Higher Education Coordinating Board for determining residency status. Except as specifically provided by law, an individual classified as a nonresident student must pay tuition and fees required of nonresident students.

An independent individual 18 years of age or older who moves to Texas and is gainfully employed in Texas for a period of 12 months prior to enrolling in an institution of higher education is entitled to classification as a resident student unless the individual is in Texas for some purpose other than establishing residence in the state. A student enrolling in an institution of higher education prior to having resided in Texas for 12 months immediately preceding the time of enrollment will be classified as a nonresident student.

The residence of a dependent who is under 18 years old is generally the residence of the parent with whom the individual lives. The residence of a dependent 18 years of age or older is the residence of the parent who claims the individual as a dependent for federal income tax purposes.

After living in Texas for at least 12 months, a nonresident student may be reclassified as a resident student if business and personal facts or actions are unequivocally indicative of a fixed intention to reside permanently in Texas. A nonresident student classification is presumed to be correct as long as the residence of the individual in Texas is primarily for the purpose of attending an educational institution.

Each student claiming resident status must provide documentation to confirm that the student has a legal right to be classified as a resident student. Each student must also affirm under oath that the individual is entitled to be classified as a resident for purposes of tuition. Foreign students living in the United States under a visa permitting permanent residence and aliens who are permitted by Congress to adopt the United States as their domicile while they are in this country have the same privilege of qualifying for Texas resident status for tuition purposes as do citizens of the United States.

Generally, a student attending The University of Texas at Arlington who is not classified as a resident student will be charged nonresident tuition. Certain nonresident students, however, are entitled to pay tuition and other fees required of Texas residents. For example, military personnel assigned to duty in Texas, and their spouses and dependent children, are entitled to pay the same tuition as a Texas resident if certain documentation is provided. Similarly, a student who holds a competitive scholarship of at least \$1000 for the academic or summer term for which the student is enrolled is entitled to pay resident fees and charges. Other exceptions to the requirement that nonresident students pay nonresident tuition and fees are included in the Texas Higher Education Coordinating Board rules for determining residence status.

The responsibility of registering under and maintaining the proper residence classification rests with the student. If there is any question concerning the student's classification at the time of registration, or any time thereafter, it is the student's obligation to consult with the residence advisor in the Admissions Office and have his/her classification officially determined. All requests for reclassification should be submitted to the Admissions Office at least 30 days prior to the registration period in question.

## Audit of Student's Schedule and Fee Audit Charges

All adds, drops and other tuition adjustments through the Census Date each semester will cause an immediate, automatic fee recalculation. **All withdrawals once classes begin as well as add/drops or tuition adjustments done after the Census Date will be computer audited approximately six weeks into the semester.** At that time, the appropriate charges or credits will be added to the student's accounts receivable account. Refunds will be applied to any University charges, with any remaining balance being mailed to the student.

## Refunds

### Total Withdrawal from School

A student who officially withdraws through the Registrar's Office will receive a refund according to the schedule indicated below.

1. A student who withdraws prior to the first class day will receive a 100% refund.
2. If a student withdraws on or after the first class day, then the refund shall be determined as indicated\*:

#### Fall and Spring Semesters

During class days 1 through 5	80%
During class days 6 through 10	70%
During class days 11 through 15	50%
During class days 16 through 20	25%
After 20th class day	no refund

#### Summer Sessions

During class days 1 through 3	80%
During class days 4 through 6	50%
After sixth class day	no refund

\* Please Note: Class days noted are official University class days. They are not the individual student's class meeting days.

3. Parking refunds must be applied for separately at the Parking Office, Room 106, University Police Building, 700 S. Davis.

## Dropping Course(s) and Remaining in School

If a student remains enrolled in at least one course, the student will be refunded in full for any course dropped by the Census Date. However, if a course is dropped after the Census Date, the student is responsible for the full cost of the course.

**Refunds for First-Time Enrollees Receiving Title IV Funds**

As an institution participating in programs under Title IV of the Higher Education Act of 1965 as amended, U.T. Arlington is required to refund unearned tuition, fees, room and board, and other charges to students attending the institution for the first time who have received a grant, loan or work assistance under Title IV of the act or whose parents have received a loan on their behalf under 20 U.S.C. Section 1087-2. The refund is required if the student does not register for, withdraws from or otherwise fails to complete the period of enrollment for which the financial assistance was intended. No refund is required if the student withdraws after 60 percent of the period of enrollment for which the charges were assessed has passed. A student who withdraws prior to that time is entitled to a refund of tuition, fees, room and board, and other charges that is the larger of the amount provided for in Section 54.006, *Texas Education Code*, or a pro rata refund calculated pursuant to Section 484B of the act. Accordingly, U.T. Arlington will use the pro rata method for determining refunds of tuition and fees based on the following:

Fall and Spring Semesters		Short Summer Sessions		Long Summer Session	
Week	% Refund	Week	% Refund	Week	% Refund
1	90	1	80	1	90
2	80	2	60	2	80
3	80	3	40	3	70
4	70			4	60
5	60			5	50
6	60			6	40
7	50				
8	50				
9	40				
10	30				

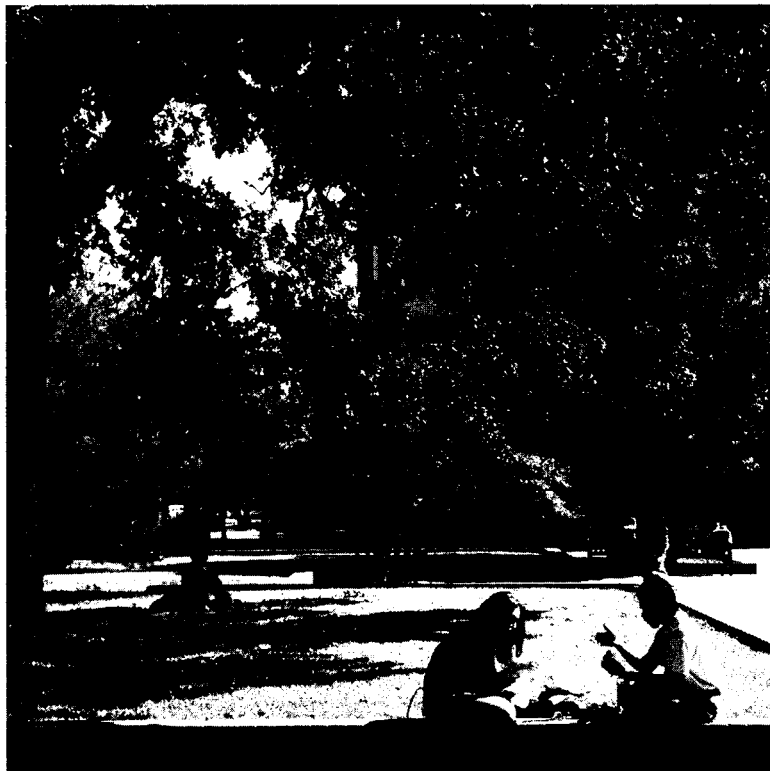
The same procedure specified for continuing students will be followed in the disposition of refunds for first-time enrollees as will the priority of distribution.

In accordance with the Higher Education Act of 1965 as amended, all or part of any refund produced for continuing U.T. Arlington students who received financial aid will be returned to the source programs. The portion to be returned will be the lesser of:

- The total amount of Title IV aid received (excluding Work-Study); or
- The amount of the refund calculated in items 1 or 2 on the preceding page multiplied by the fraction of total Title IV aid received (excluding Work-Study) divided by total aid received (excluding Work-Study).

The following priority will be used for distribution of refund proceeds:

- Federal Family Student Loans
  - a. Federal Unsubsidized Stafford
  - b. Federal Subsidized Stafford
  - c. Federal PLUS
- Federal Perkins Loan
- Federal Pell Grant
- Federal SEOG
- Institutional debt (including short-term loans)
- Scholarships, grants and sponsors
- Student



# Financial Aid

252 Davis Hall • Box 19199 • 817-272-3561

Many sources of student financial aid exist at The University of Texas at Arlington. Any interested student should apply for assistance each year, as eligibility can vary from one year to the next. Financial aid is generally limited to U.S. citizens or those in this country on other than a temporary visa. A minimum of half-time enrollment with the intent of obtaining a degree or certificate and the maintenance of satisfactory scholastic progress are required to participate in most aid programs.

## Scholarships

The University of Texas at Arlington provides a variety of scholarship programs for students who have demonstrated exceptional academic achievement. These funds have been contributed by individual donors, U.T. Arlington alumni, corporations, government agencies and others to recognize and reward academic excellence. Detailed information about the scholarships offered through the University are contained in a brochure available in the Financial Aid Office. A self-directed national computer search service, College Fund Finder, developed by the College Board, is available to students in the Financial Aid Office. Additional information regarding local scholarships is also available.

## Student Employment Service

Located at the west entrance of the University Center, Student Employment Service can help students obtain suitable off-campus employment. The staff maintains daily communication with Metroplex employers who list thousands of jobs every year. Also, students who are eligible for college work-study can be referred to off-campus agencies which have jobs related to their majors.

Counselors advise students to plan at least four consecutive hours for a job, either in the morning or afternoon. In addition to the regular job referral service, the staff has information of continuous listings, summer camps, resorts, federal and state parks, and certain overseas summer employment opportunities.

Any persons currently enrolled or accepted for admission to U.T. Arlington, or their spouses, may use the service.

## Emergency Tuition Loan

Emergency Tuition and Fee Loans are available on a funds-available basis to students enrolling at least half-time who are receiving no other financial aid and who are not on academic probation. Applications will be processed on a first-come, first-served basis. For further information, contact the Institutional Loan Office at 817-272-3089.

## Alumni Loan Fund

The U.T. Arlington Alumni Association and other friends of the University have established loan funds for the benefit of students who need to borrow to meet current expenses. These loans are for amounts up to \$500 and are to be repaid during the semester in which the money is borrowed. Applicants must have completed 12 semester hours at U.T. Arlington and have at least a 2.0 GPA. Contact the Institutional Loan Office at 817-272-3089 for more information.

## Federal and State Programs

The University participates in most of the federal student financial aid programs offered through the U.S. Department of Education. In addition, several state and institutional programs are available for students with exceptional financial need. Among the programs in which the University participates are Federal Pell Grants, Federal Work-Study, Federal Supplemental Educational Opportunity Grants, Federal Perkins Loan, Federal Stafford Loan, Federal PLUS and Texas Public Education Grants. Information regarding eligibility and application procedures for these programs is available from the Financial Aid Office.

Aid applicants may check the status of their financial aid applications by calling the SAM voice response system at 817-272-2115.

**Assistance Based on Need:** Students wishing to participate in any of the need-based student financial aid programs should complete a Free Application for Federal Student Aid (FAFSA) and a U.T. Arlington Financial Aid Application as early as possible prior to their actual enrollment at the University. The awarding process requires 6-12 weeks for completion and is governed by the availability of funds. The FAFSA can be obtained from any local college or high school counselor. The U.T. Arlington Application for Financial Aid may be obtained from the Financial Aid Office.

**Loans Not Based on Financial Need:** Federal PLUS (Parent Loan for Undergraduate Students) loans are available to parents to finance their dependents' educational costs. Application is made by filling out the U.T. Arlington PLUS application and a bank application. Although it is possible to apply for a loan through the PLUS program without applying for need-based financial aid, the student and parent should consider the PLUS as the last alternative for financing an education since its terms are not as attractive as the other forms of financial aid.

Students who are determined to be ineligible for federally subsidized loans may apply for unsubsidized Federal Stafford Loans. Application is made by completing a Free Application for Federal Student Aid (FAFSA), a U.T. Arlington Financial Aid Application and a bank application. Further information is available from the Financial Aid Office.

## Financial Counseling

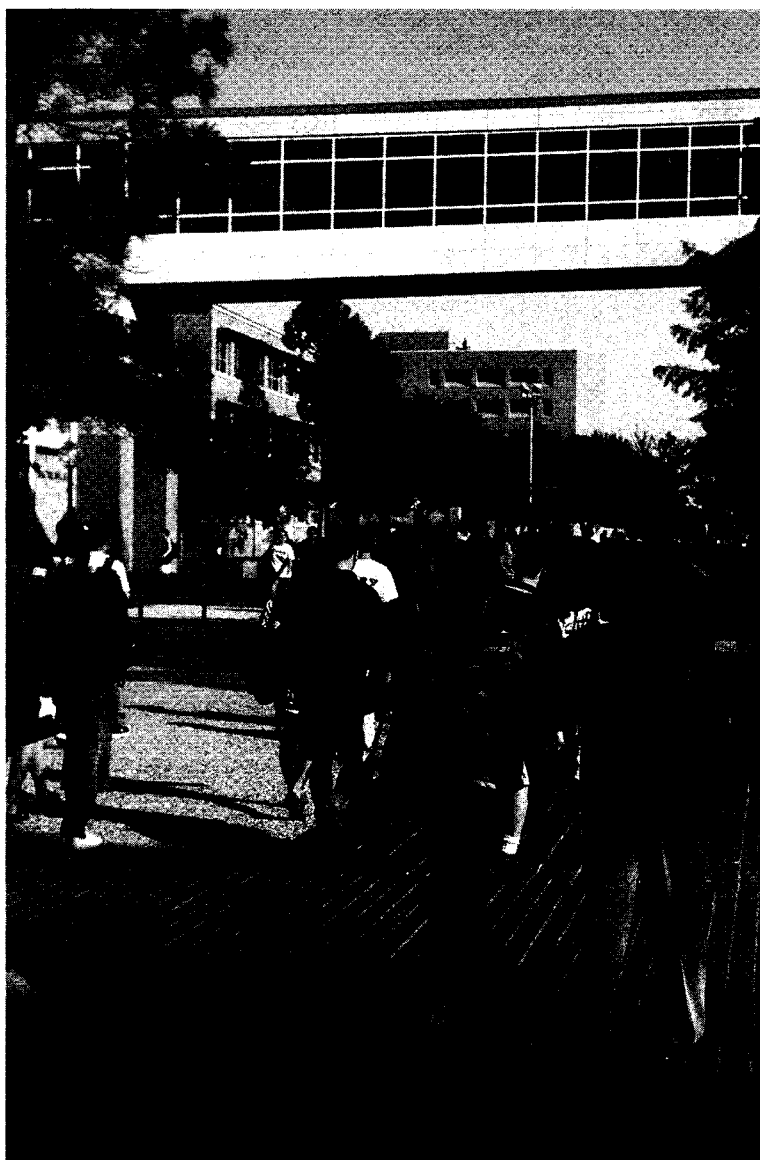
The Financial Aid Office provides financial or budgetary counseling for any and all students whether or not they qualify for other types of financial assistance. Please call the Financial Aid Office at 817-272-3561 for an appointment.

## Out-of-State Student Assistance

Several states offer aid to their students attending schools in other states. Amounts and requirements for this assistance vary greatly. Information may be obtained from the Financial Aid Office or your state educational agency.

## International Student Assistance

Students who are not eligible for federal financial assistance may apply for a Texas Public Education Grant (TPEG). Funding for the program is limited; applications for this grant for each academic year are available in the Financial Aid Office during the month of June. The deadline for submission of completed applications is July 1. Selection is based on need and academic performance. Recipients must be maintaining satisfactory scholastic progress and must pay out-of-state tuition to be eligible.





# Academic Regulations

Notice: The regulations contained in this catalog are based upon present conditions and are subject to change without notice. The University of Texas at Arlington reserves the right to modify any statement in accordance with unforeseen conditions.

## General

Any student who registers to attend classes at The University of Texas at Arlington and is ineligible to attend for academic or disciplinary reasons will be dropped automatically from the rolls of the University.

Students are required to report promptly any change in United States address to the Office of the Registrar or change it through SAM, U.T. Arlington's automated voice response system, by calling 817-272-2726.

## Maximum Semester Load

Without permission from the appropriate academic dean, a student may not register in a Fall or Spring Semester for more than 19 hours at U.T. Arlington or concurrently at U.T. Arlington and another institution. Any student who violates this regulation may be required to drop hours to comply with the 19-hour rule or may be denied transfer credit for those hours in excess of 19 taken at another institution.

A student who registers in the Summer sessions for more than 14 hours without permission from the academic dean may be required to drop sufficient hours to comply with the 14-hour limit. The table below indicates the combinations of coursework for which a student may enroll and stay within the maximum load of 14 hours.

### Combination of Summer Semester Hours Permitted

Maximum each:		
5-week session	+	11-week session
7	+	0
6	+	2
5	+	4
4	+	6
3	+	8
2	+	10
1	+	12
0	+	14

## Class Attendance

Class attendance and lateness regulations will be established by instructors and announced to their classes. At the discretion of the instructor, such regulations may or may not include provisions for making up work missed by the student as a consequence of an absence. Students who are late to class are responsible for reporting their presence to the instructor after the class is dismissed.

## University Authorized Absences

The Office of the Vice President for Student Affairs provides lists of students who have absences authorized by the University (e.g., participation in athletic events or scholastic activities that are officially sponsored University functions). The student must contact the instructor one week in advance of the excused absence and arrange with the instructor to make up missed work or missed examinations. Instructors will provide those students an opportunity to make up the work or otherwise adjust the grading to ensure that the student is not penalized for the absence. Failure to notify the instructor or failure to comply with the arrangements to make up the work will void the excused absence.

## Observance of Religious Holy Days

A student who misses an examination, work assignment or other project because of an observance of a religious holy day will be given the opportunity to complete the work missed within a reasonable time after the absence provided the student has properly notified each instructor. To meet the proper notification requirements, students must notify each instructor in writing of classes scheduled on the dates they will be absent in observance of a religious holy day.

Notification must be made within the first 15 class days and either personally delivered, acknowledged and dated by the instructor, or sent certified mail, return receipt requested. The student may not be penalized for these excused absences, but the instructor may appropriately respond if the student fails to complete satisfactorily the missed assignment or examination within a reasonable amount of time after the excused absence.

A "religious holy day" means a holy day observed by a religion whose places of worship are exempt from property taxation under Section 11.20 of the Tax Code.

## Academic Probation

All undergraduate students with grade point averages below 2.0 will be placed on academic probation and will remain on probation until their GPA reaches 2.0. Students on academic probation cannot hold office in any club or organization, represent U.T. Arlington at any official or social event, or make any University trip without the permission of the appropriate dean or director.

Rules governing scholastic probation and dismissal, as well as exceptions permitting continuance and special college regulations, are stated below.

### Change of Scholastic Status

Scholastic status is determined when grades are reported at the end of each Fall and Spring Semester and at the end of the entire Summer Session. Although a student's cumulative grade point average may change between these grade-reporting periods (e.g., by recording a final grade in place of an X), the student's scholastic status is not changed until the next official grade-reporting period during which the student is enrolled at the University.

### Effect of Grades in Courses Repeated

All grades earned in University courses, whether repeated or not, count in a student's grade point average. A student may repeat any course except as limited by individual colleges and schools, provided the student's grade earned in an earlier semester is below C. Courses transferred for credit to U.T. Arlington from another college or university may not be repeated for credit. A student may not repeat a course for additional hours toward a degree unless the catalog description specifically states that the course may be repeated for credit.

Courses originally taken or repeated at another college will not affect a student's grade point average at U.T. Arlington. If a student earned a grade of less than C in a course taken at U.T. Arlington, the student may take that course or its equivalent at another college or university for transfer to U.T. Arlington only with the prior written approval of the student's major department chair or academic advisor.

### Grade Replacement Policy

Upon receiving a grade of D or F in a course, a student may, after filing an intent to do so, retake the course. The second grade earned, whether higher or lower, will be used in calculating the grade point average unless the second grade is a W. This policy applies only the second time a course is attempted. Both grades received will be shown on the student's transcript. This policy will apply to a maximum of 10 credit hours at U.T. Arlington. Students must file their intention to retake a course with the registrar by the Census Date. All withdrawals after the Census Date will be considered an attempt, and the initial grade will be used. This policy will not apply to courses that may be repeated for credit nor to courses taken on a pass/fail basis. This policy will not be applicable to graduate students and will not be retroactive in that a grade in a course taken prior to adoption may be replaced, but a grade earned in a course prior to adoption may not be used as a replacement. Individual colleges and schools may limit this policy.

## Pass-Fail Program (Engineering, Liberal Arts, Science, Nursing)

Students who are majors in the colleges of Engineering, Liberal Arts or Science, or in the School of Nursing may take courses on a pass/fail basis, **subject to differing rules established by these academic units.** The intent of this policy is to offer students an opportunity to take courses which will broaden their education with less immediate emphasis on the need to achieve grade points. However, an F received on a pass-fail course will be evaluated the same as an F made on a regular basis, adversely affecting the grade point average. Students must declare their intention to the instructor to take a course on a pass/fail basis by the Census Date of the semester. Complete details and requirements of each college are available in the offices of the academic deans and in the departmental offices of the colleges.

### Student Grievance Procedures Related to Grades

Academic grievances involving grade disputes should be discussed first with the course instructor. Grade disputes that are not resolved and all other academic grievances should be submitted in writing to the department chair or other designated administrator of the academic program to which the grievance relates. Appeals may be directed to the appropriate academic dean who will render the final decision.

The dean of the college or school in which a student is enrolled, or the director of the Undergraduate Advising Center if the student has not declared a (pre)major, has jurisdiction over the student's program of study, degree requirements and all other academic matters including grievances. However, students taking a course in a college or school other than the one in which they are primarily registered are subject to the dean of the college or school in which the course is offered concerning the course and academic grievances regarding the course.

For issues involving scholastic dishonesty, see the Academic Dishonesty entry in this section of the catalog.

### Computation of the Grade Point Average

The cumulative University grade point average for an undergraduate student is calculated on the basis of all work undertaken at U.T. Arlington (including credit by examination, correspondence and extension) for which a letter grade is recorded unless the course is repeated under the Grade Replacement Policy. Courses in which the symbol X, W, P or Z is recorded are excluded in calculating grade point average.

The following grade procedure is used:

Grade	Description	Grade Points Per Semester Hour
A	Excellent	4
B	Good	3
C	Fair	2
D	Passing, Below Average	1
F	Failure	0
X	Incomplete	0
W	Withdrawn	0
P	Pass	0
Z	No Credit (freshman English only)	

### Grade Scores

Although a grade of D is sufficient for an undergraduate to earn credit in a course, a cumulative University grade point average of at least 2.0 (C) is necessary for satisfactory progress toward a degree. A grade of X (incomplete) may be assigned for a course if, in the opinion of the instructor, there are extenuating circumstances which prevent the student from completing the required work within the semester of enrollment for the course. The incomplete must be removed by the end of the final examination period of the following semester, excluding the Summer Session, for the student to receive credit for the course. If the incomplete is not removed during the allotted time period, it will revert automatically to an F. As long as the grade is carried as an X, it will not be used in the calculation of the student's grade point average. A student should not re-enroll in a course for which an X remains the grade of record. A course for which the symbol X, W, P or Z is given does not count as hours undertaken for the purpose of calculating the grade point average, and no grade points are earned. A course taken on the pass/fail basis, including developmental courses, does count as hours undertaken, but no grade points are earned.

### Grade Reports

**Semester Reports from the Registrar:** Grade reports are sent to all students at the end of each semester and Summer Session. Reports are mailed to the student's current address on file in the Office of the Registrar.

**Midsemester Reports for Freshmen:** First-time college freshmen will receive a mid-semester grade report. The mid-semester grade is not recorded on the student's permanent record. It is for informational purposes only and is intended to benefit the student, parents, advisor and instructors. The grade reported at the end of a semester or term is the official permanent evaluation of a student's performance in a given course.

## Academic Foundations Program Students on Academic Probation

Academic Foundations Program (AFP) students on academic probation may not take more than 14 semester hours without permission of the director of the University Advising Center. Academic advisors may further limit the number of hours and overall difficulty of the student's schedule, require a student to take specific courses deemed necessary to the student's education, prevent a student from taking unsuitable courses, require a student to attend advising sessions, and take other actions approved by the director of the University Advising Center to assure the student's attention to his/her academic deficiencies.

### Minimum GPA for Academic Foundations Program Students

AFP students who by earning a GPA of 3.0 on the remaining total hours and hours in residence allowed them in the AFP would not achieve a 2.0 cumulative GPA will be permanently barred from re-enrolling. The tables below give the minimum grade point averages allowable for specific levels of hours attempted by the student. Students who are deficient in both the total hours and hours in residence tables will be permanently barred from re-enrolling.

#### Academic Probation Tables

Total Hours Attempted	Minimum Allowable GPA at UTA
30	0.50
36	0.92
45	1.33
51	1.53
60	1.75
75	2.00

Hours Attempted in Residence	Minimum Allowable GPA at UTA
18	0.50
24	1.13
30	1.50
45	2.00

### Students in Degree Programs

Students on academic probation who have been accepted into a degree program are subject to all additional rules governing the definition and terms of academic probation established by the program in which they are enrolled. The appropriate sections of this catalog and the offices of the academic deans should be consulted for specific requirements.

Students dismissed from a degree program or leaving a degree program voluntarily may return to undeclared status provided they have not exceeded the limits for total hours attempted and hours attempted in residence.

Students dismissed from a degree program and unable to return to undeclared student status are not permitted to re-enroll unless and until they are accepted into another degree program.

Academic dismissal is reflected on the student's permanent academic record.

## Schedule Changes (Adds and Drops)

Adds and drops may be made during the four add-drop days (two days before classes begin and the first two class days) either by SAM or in person in the academic department offering the course. Drops may continue in person through the 12th week of class. Students are responsible for adhering to the following regulations concerning adds and drops. These rules apply to regular semesters and to equivalent time limits in Summer sessions as noted on the Summer Session calendar.

- A student may not add a course after the end of late registration.
- No grade is given if a student drops a course before the Census Date of that semester.
- A student may drop a course with a grade of W during the first six weeks of class.
- From the seventh week of class through the 12th week of class, a student may drop a course with a grade of W if passing or a grade of F if failing.
- A student may not drop a course after the 12th week of class.
- The dean of the college or school in which the student is majoring may require a student to drop a course at any time upon the recommendation of the instructor and the concurrence of the department chair.
- Students wanting to drop all courses for which they are enrolled must withdraw from the University. The student should complete a resignation form in the Registrar's Office (see the following Withdrawals section).

## Withdrawals (Resignations)

A student who wishes to withdraw (resign) voluntarily from U.T. Arlington must complete the proper resignation form in the Registrar's Office. A student who withdraws after the sixth week of class in a regular semester or the equivalent time in a Summer Session will be awarded a grade of W if passing a course or a grade of F if failing a course. A student may not withdraw (resign) after the 12th week of class in a regular semester or the equivalent time in a Summer Session as noted on the Summer Session calendar.

## Honor Roll

Students with excellent grades will be recognized by being listed on the Honor Roll. The Honor Roll will include those students who have both:

30 semester credit hours earned in residence with a GPA of not less than 3.0

and

12 semester credit hours earned in the current semester, not including pass/fail work, with a GPA for the semester of not less than 3.0

## Satisfactory Scholastic Progress

A student is considered to be making satisfactory scholastic progress when:

- The student meets the following minimum grade point average standards:

Total Credit Hours Completed*	Minimum GPA**
0-29	1.6
30-59	1.8
60+	2.0

\*Including transfer credit; based on classification at the end of the first semester at U.T. Arlington

\*\*Based on U.T. Arlington courses only

- The student has completed the following minimum number of hours in the last semester in which the student enrolled for six or more hours at U.T. Arlington:

Enrollment as of Census Date	Minimum Completion
12+	8
9-11	6
6-8	3
0-5	0

- The student has completed an increment of the declared degree objective sufficient to permit completion of the baccalaureate degree or other undergraduate study with 12 semesters of full-time study or its equivalent. All summer terms are considered together as one semester.

In extenuating circumstances, exceptions to the satisfactory scholastic progress regulations may be approved.

## Academic Dishonesty

Academic dishonesty is a completely unacceptable mode of conduct and will not be tolerated in any form at The University of Texas at Arlington. All persons involved in academic dishonesty will be disciplined in accordance with University regulations and procedures. Discipline may include suspension or expulsion from the University.

"Academic dishonesty includes, but is not limited to, cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another person, any act designed to give unfair advantage to a student or the attempt to commit such acts." (Regents' Rules and Regulations, Part One, Chapter VI, Section 3, Subsection 3.2., Subdivision 3.22)

Institutional procedures regarding charges of academic dishonesty are outlined in Part II, Chapter 2, of the *Handbook of Operating Procedures* of The University of Texas at Arlington. Copies of the handbook are available at more than 75 locations on campus, including the Student Congress Office, the Library and departmental offices.

## Final Review Week

A period of five class days prior to the first day of final examinations in the long sessions shall be designated as Final Review Week. The purpose of this week is to allow students sufficient time to prepare for final examinations. During this week, there shall be no scheduled activities such as required field trips or performances; and no instructor shall assign any themes, research problems or exercises of similar scope that have a completion date during or following this week unless specified in the class syllabi. During Final Review Week, an instructor shall not give any examinations constituting 10% or more of the final grade, except makeup tests and laboratory examinations. In addition, no instructor shall give any portion of the final examination during Final Review Week.

## Final Examinations

Final examinations are scheduled at the end of each semester. In some courses, a departmental final examination is given. Final examinations will be given only at the time printed in the official class schedule. Exceptions must be approved in advance by the academic dean.

## Classification

Students at U.T. Arlington are classified in accordance with the number of semester hours earned. Hours earned are interpreted as hours passed at U.T. Arlington plus hours accepted in transfer from other institutions and/or credit by examination.

- **Freshman:** One who has earned fewer than 30 hours.
- **Sophomore:** One who has earned 30 hours but fewer than 60 hours.
- **Junior:** One who has earned 60 hours but fewer than 90 hours.
- **Senior:** One who has earned 90 hours or more. To be in good standing, a student must have a 2.0 grade point average or better on work attempted at U.T. Arlington.
- **Degreed:** One who has earned a bachelor's degree or higher and is enrolled as an undergraduate.

## Student Educational Records Policy

Students may have access to their own educational records during regular office hours by contacting the person or the office that maintains these records. A student must appear in person or send a written request for a copy of the record. Another person may not see a student's educational records unless written permission is given by that student. One exception to that rule allows a parent or guardian who is providing one-half or more of the student's financial support to obtain the educational record. Some U.T. Arlington faculty and staff members have access to student educational records in the performance of their regular duties. If an educational record contains information on more than one student, then a student desiring access may review only the parts relating to himself/herself.

Students may have official copies of their U.T. Arlington transcripts mailed to other institutions, or they may obtain copies for

their own use. A student must sign a request form in the Registrar's Office or send a signed, written request to release the transcript. Requests will not be accepted by telephone or from persons other than the student unless the student has given written permission.

The U.S. Family Rights and Privacy Act of 1974 provides that a university may release directory-type information about students. The information released may include the following items: the student's name, address, telephone number, date and place of birth, major field of study, participation in officially recognized activities and sports, weights and heights of members of athletic teams, dates of attendance, degrees and awards received, and the last educational institution attended. Each semester, U.T. Arlington publishes a student directory that is available to students and the public. It contains the following information: the student's name, classification, major field of study, address and telephone number. The act states that a student has the right to withhold this information from the public and from other students. A form to withhold this information is available in the Registrar's Office. Students also may use SAM, the University's automated voice response system, to withhold the information by calling 817-272-2726. Unless this is done before the Census Date of the semester, the data about a student will be released as public information.

Students have the right to challenge the content of their educational records to ensure that the records are not inaccurate, misleading or in violation of other rights of the students. This allows students to correct inaccurate or misleading information, or permits written explanation from students concerning the content of the records. Any evidence regarding an inaccurate or misleading record should be presented to the individual in charge of the office where the record is maintained.

For admission, applicants are asked to provide their social security number. It serves as the basis for identification of various University records. Although this is optional for admission purposes, it is required if the student applies for student financial assistance. The usage will vary according to the requirements of the office in which the record is located.

A more detailed statement of the records policy is available in the Office of the Senior Vice President for Finance and Administration, Room 300, Davis Hall.

## Student Right-to-Know Act

**Graduation Rates:** In 1995-1996, the graduation rate was 26.6% for students who entered U.T. Arlington in 1990 on a full-time basis as first-time freshmen. The projected 1996-1997 graduation rate for full-time freshmen who entered U.T. Arlington in 1991 is 27.5%.

**Campus Security:** In compliance with the federal Student Right-to-Know and Campus Security Act (P.L. 101-542, as amended), U.T. Arlington publishes specified information on campus crime statistics and campus security policies. This information is disseminated through the Office of the Chief of the University Police, 700 S. Davis.

# Degree Program Requirements

## Undergraduate Admission to a Degree Program

Admission to the University's degree programs is determined by application to the academic unit offering the degree. Before being admitted to a degree program, students must complete:

30 credit hours of the University's core curriculum (including credit by examination and transfer credit) and 30 credit hours at U.T. Arlington (including core credit hours but not including credit by examination)

or

40 credit hours of the University's core curriculum (including credit by examination and transfer hours) and 12 credit hours at U.T. Arlington (including core credit hours but not including credit by examination)

Degree programs may require students to complete additional courses or hours in residence prior to applying for admission.

## Degree Plan

Students are responsible for requesting the preparation of a degree plan through their major department advisor during the semester following admission to a degree program. No deviation from a degree plan will be allowed except with the written approval of the department advisor, the chair of the major department and the academic dean. After the student makes application for graduation, the registrar's representative will determine when the graduation requirements have been met.

## Minor Field of Study

A minor requires at least 18 semester hours in a given program, including six hours of advanced work. Specific course sequences for a minor are determined by the program offering the minor. Since some undergraduate degree programs do not offer minors, students should consult an advisor in their program of study.

## The Core Curriculum

The University of Texas at Arlington is committed to ensuring that students take a common core of courses during their tenure at the institution. These courses are central to any career a student may choose, since they provide basic skills, perspectives and knowledge. The remainder of a student's coursework will focus on the methods, skills and knowledge appropriate to whatever field or discipline he or she chooses. One virtue of a core curriculum, besides the obvious practical one of helping graduates adapt to a rapidly changing economy, is that it provides a common cultural experience. This shared experience facilitates both appreciation and criticism of the values, norms and institutions of one's culture.

The specific aims of U.T. Arlington's core curriculum are to en-

sure that each graduate: (1) be able to read and write clear, correct English; (2) understand the features and exemplars of the major literary forms; (3) understand the basic principles of critical thinking, argument and mathematical relationships (as well as the relations among these); (4) understand and appreciate the scientific method of problem analysis (as well as the principal results in various fields); (5) comprehend the nature of historical research and the relevance of historical events to contemporary situations; (6) be able to analyze political and economic phenomena, including the functioning of and relations among national, state and local governments; (7) understand various forms of art and aesthetic principles; and (8) have a practical and theoretical knowledge of various human cultures, past and present.

## Core Curriculum for a Bachelor's Degree

The University requires certain courses for each degree. These are:

### English Composition

Six hours (1301 and 1302 or suitable substitutes).

### Literature

Three hours of English or foreign language literature or other approved substitute.

### Liberal Arts Elective

Three hours above the freshman level of literature, or social and cultural studies designated as taught in the College of Liberal Arts, or fine arts or philosophy, or technical writing.

### U.S. History

Six hours of American history or three hours of American and three hours of Texas history.

### U.S. Political Science

Six hours covering U.S. and Texas constitutions.

### Mathematics

Six hours (level of college algebra or higher).

### Science

11 hours—eight hours in single lab science (biology, chemistry, geology or physics) and three hours in science or social science\*.

### Social/Cultural Studies

Three hours\*\*.

### Fine Arts and Philosophy

Three hours from art, dance, music, architecture, theatre arts, philosophy, or other approved substitute course.

\* The word science as used here is intended to include courses offered by the College of Science in biology, chemistry, geology, experimental psychology, and physics and courses which address subject matters primarily through scientific methods but may be offered by (sub-)disciplines not in the College of Science. These will include, but not necessarily be limited to, designated courses in economics, physical geography, and some sociology and anthropology courses.

\*\* The Social and Cultural Studies requirement will be satisfied by designated courses from such (sub-)disciplines as archaeology, classical studies, communication, economics, history, humanities, linguistics, political science, social or cultural anthropology, social/political/cultural geography, social psychology, sociology and women's studies or other substitutes which have been approved by the Undergraduate Assembly. For a list of approved courses, contact the University Advising Center or the student's major department.

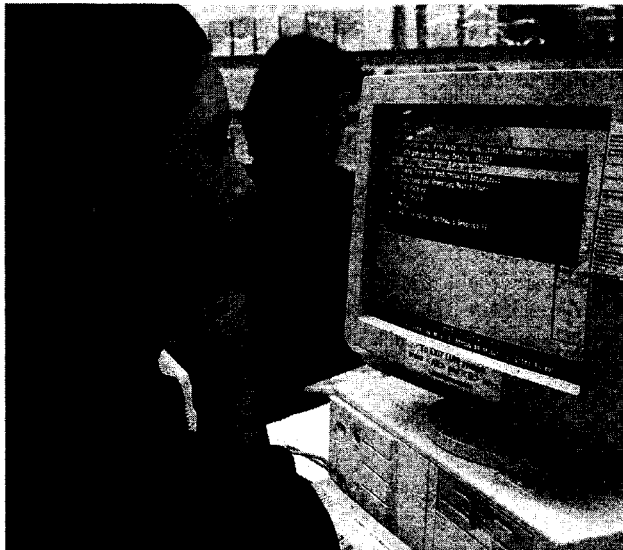
International students whose secondary education was taught in their native tongue (other than English) may meet the foreign language requirement for the Bachelor of Arts degree by successfully completing six additional hours in English beyond the general requirements for a bachelor's degree. The eight additional hours needed to fulfill the total degree requirements must be approved by the student's major department and must be included in the degree plan. The major department has the right to stipulate the foreign language permitted for the bachelor's degree, provided the language is taught at U.T. Arlington.

## Competence in Oral Presentations

Students should have proficiency in oral communication skills including interaction in classroom settings to meet the needs of coursework and the use of acceptable grammar and pronunciation in formal presentations. Students should consult their individual department, school or college advisors to determine the mechanisms by which they can demonstrate this competency. A proficiency examination or completion of a department- or college-designated course may be required.

## Competence in Computer Use

Graduating students should be proficient in the use of computers. Proficiency is understood as the ability to use word-processing, database/spreadsheet and representative software of one's major discipline. Each student should be able to tap the communications, analytical and information-retrieval potential of computers to solve research problems and be able to evaluate the results. Students should consult their departmental, school or college advisors to determine the mechanisms by which they can demonstrate proficiency. An examination or completion of a department- or college-designated course may be required.



## Residency Requirements

The degree requirements for graduation in specific divisions of the University are explained at the beginning of each division in the catalog. In addition:

- Each candidate for a degree must complete and receive credit in residence\* for:
  - (a) 25 percent of the semester credit hours required for a degree (some colleges or schools may have additional residency requirements)
  - (b) at least 24 of the last required semester hours needed for a bachelor's degree
  - (c) at least 19 semester hours of advanced (3000/4000 level) coursework, to include 12 hours of advanced courses in the major subject
- Successful completion of a course of study prescribed by the major department, including a minimum of 36 advanced hours, is required for a degree at U.T. Arlington. Courses numbered with a first digit of 3 or 4 are classified as advanced courses.
- A minimum overall grade point average of 2.0 (C average) is required. In addition, a minimum grade point average of 2.0 in the major is required. Individual units will determine the specific courses to be included in the calculation of the GPA in the major. (The College of Business Administration requires a 2.0 overall grade-point average, 2.0 on all coursework taken in the college, and 2.0 within the major and concentration area for those majors having a concentration.)
- No more than 30 of the semester hours required for any degree may be completed by correspondence and/or extension.
- Only the required four semester hours of exercise and sport activities courses may be counted for graduation. Additional activity courses taken will not be calculated in the student's grade point average.
- Graduate courses (numbered 5000 and above) cannot be used to fulfill undergraduate degree requirements.
- To qualify for a second bachelor's degree, a student must complete all the degree requirements as stated in the catalog for that degree and must complete no fewer than 30 semester hours beyond those of the bachelor's degree program requiring the greater number of hours. The additional hours must be taken in residence at U.T. Arlington.

\* The term "in residence" is defined as in residence at the (U.T. System) component which ultimately grants the degree. Residence credit does not include courses taken by extension or correspondence.

# Honors Program

209 University Hall • Box 19419 • Ph: 817-272-2338 • Fax: 817-272-3156  
E-mail: honors @ uta.edu • World Wide Web: <http://www.uta.edu/hons/>

## Goals and Purposes

The Honors Program at The University of Texas at Arlington is a community of exceptionally able and highly motivated students who want the excitement and stimulation of a major urban university and the individual attention available at a smaller college. The Honors Program promotes a general spirit of inquiry among students and faculty. Honors Scholars study together in multidisciplinary, team-taught core courses, Honors sections of lower division requirements, advanced honors courses in disciplinary majors, the Junior Colloquium and the Senior Seminar. The Honors thesis is the culmination of work in the major and draws on experiences from the Honors Program. The Honors Program is compatible with any major, and all Honors course offerings fulfill core, departmental and/or college requirements.

In addition to a challenging curriculum, the Honors Program regularly schedules a variety of social and intellectual activities that extend the learning experiences beyond the classroom. These include informal gatherings, lecture series and artistic performances. The Honors Student Advisory Council (HSAC), elected from the Honors student body, is responsible, along with the Honors Faculty Advisory Council (HFAC) and director, for the ongoing operation of the Honors Program.

## Standards for Admission

The Honors Program seeks students with broad interests, varied talents and diverse cultural backgrounds. Admission is competitive. Entering freshman Honors candidates must have a combined SAT score of 1180 or an ACT of 27 and be in the upper 25 percent of their high school graduating class. Continuing and transfer Honors candidates must have a 3.0 GPA. Admission, however, is not based solely on grades or scores. The Admissions Committee also considers faculty recommendations and student statements of purpose in the selection of potential candidates. Applications for admission are available in the Honors Program Office.

## Requirements for Honors Scholar and the Bachelor's Degree

UTA does not offer an Honor's degree; degrees are awarded by the major departments of the University's colleges. To graduate as an Honors Scholar with a bachelor's degree, Honors students must complete the degree requirements in a disciplinary major to include these Honors courses:

- At least 24 hours of Honors coursework, overall
- At least one core course (3 hours)
- The Junior Colloquium (3 hours) recommended
- The Senior Seminar (3 hours) recommended
- The Senior Thesis (3 hours)
- At least nine hours of advanced Honors coursework in the major
- A cumulative GPA of 3.0

Continuing U.T. Arlington students and transfer Honors students who join the Honors Program are not required to complete the core course.

## Scholarships

The Honors Program, in conjunction with the U.T. Arlington Scholarship Office, awards a number of Honors Presidential Scholarships each year. Applications are available in the Honors Program Office. Information on departmental and organizational scholarships and financial aid is available from the Office of Scholarships and Financial Aid.

## Honors Four-Year Program Offerings

### Freshman Year

#### Core Courses

**Freshmen Sequence: Ancient/Modern/Postmodern World Studies**

#### First Semester: Freshman Seminar I (3 hours)

The first-semester core courses bring a variety of disciplinary perspectives to bear on topics and themes from Antiquity through the Renaissance. Topics and disciplinary perspectives change from semester to semester. The core courses meet humanities, fine arts and social science requirements.

#### Second Semester: Freshman Seminar II (3 hours)

The second-semester core courses bring a variety of disciplinary perspectives to bear on topics and themes from the modern period to present. Topics and disciplinary perspectives change from semester to semester.



## Honors Math and Science

### Foundations of Science: Science 2301 (3 hours)

A study of methodologies, scope and inter-relatedness of the sciences in their respective searches for knowledge. This course fulfills a three-hour non-lab requirement.

Honors students also may choose from the Honors courses in mathematics, biology, chemistry, geology and physics. The courses satisfy math/science requirements for all majors. Honors students should consult their major advisors regarding science courses required for their degrees.

## Sophomore Year

### American Studies Sequence

The Sophomore American Studies Sequence explores American culture through the nation's history, literature and politics. Scheduling allows Honors students to attend together all three of the courses each semester. Credit hours earned in the American Studies Sequence satisfy University requirements in American History, English and Political Science.

#### First Semester (9 hours)

American History 2311 (3 hours)

American Literature 2371 (3 hours)

Political Science 2311 (3 hours)

#### Second Semester (9 hours)

American History 2312 (3 hours)

American Literature 2372 (3 hours)

Political Science 2312 (3 hours)

## Junior Year

### Honors Junior Colloquium (3 hours)

**Research Methods:** The Honors Junior Colloquium initiates the thesis project. Students choose an Honors thesis topic and faculty supervisor, prepare a thesis abstract and prospectus, and complete an annotated bibliography.

## Senior Year

### Senior Seminar (3 hours)

**Current Issues:** The final course in the Honors Program, the Senior Seminar is designed around an issue or issues of current significance. Honors students are expected to contribute to the seminar from their experience in the program and from their in-depth research.

### Honors Thesis (3 hours)

A thesis or research project is required for Honors graduation. In consultation with the faculty thesis supervisor and the Honors director, a program of research and writing will be set up. Planning for the Honors Thesis should begin early in the student's junior year.



# Graduation

## Graduation Procedures

Recognition ceremonies are held three times yearly at the end of the Fall and Spring semesters and at the end of summer. Candidates are urged to attend the recognition ceremony sponsored by their college or school; however, attendance at a ceremony is not mandatory for graduation.

A resident student must apply for the degree by filing an application with the Office of the Registrar, preferably prior to registration for the final semester. A student who is eligible to graduate at the end of the Fall or Spring Semester must make application no later than two months before the end of the semester. A summer candidate must make application no later than one month prior to the end of the final Summer Semester.

Students who complete degree requirements at another institution must file an application for graduation no later than two months prior to the graduation date of the semester in which they plan to graduate. An official transcript listing the courses completed must be received by the Registrar's Office by a date designated by the office. Failure to comply with these conditions may require the student to register in the following semester to be certified for graduation.

A graduation fee is charged.

## Graduation With Honors

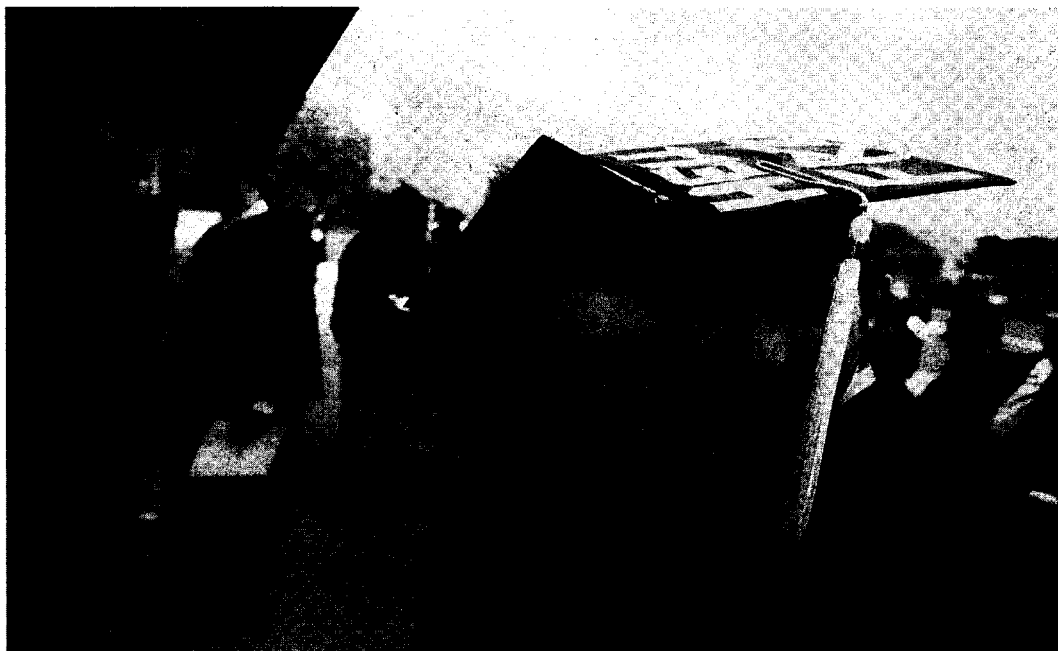
Graduating seniors who meet the following conditions will be awarded the appropriate honors designation:

- A student must complete at least 60 semester hours at U.T. Arlington.
- The last 60 semester hours in residence toward the degree plan will be used in grade point average calculation.
- One of the following grade point average categories for honors must be obtained:
  - Cum Laude: 3.50-3.69 GPA
  - Magna Cum Laude: 3.70-3.89 GPA
  - Summa Cum Laude: 3.90-4.00 GPA

## Graduation Under a Particular Catalog

Students may obtain a degree according to the course requirements for a degree stated in the catalog under which they first entered the University, provided the courses are being offered. Or, students may choose to graduate under the course requirements in effect during any subsequent year in which they are registered, provided the courses are offered. A student entering for the first time in the Summer Session may obtain a degree according to the course requirements of the catalog of the previous long session or the next long session. The above provisions, however, are subject to the restriction that all requirements for a degree must be completed in eight years from the date of the catalog chosen and that the courses are still offered.

A student may graduate under the current catalog.



# University Libraries

Box 19497 • 817-272-3000

The U.T. Arlington Libraries are one of the most important resources on campus for teaching and research. The Central Library, the Science and Engineering Library, and the Architecture and Fine Arts Library contain a rapidly growing collection of more than 2.43 million books, periodicals, documents, technical reports, microfilm, microfiche, motion pictures, sound recordings, videotapes, filmstrips, computer disks and maps. They subscribe to more than 5,000 serials. The Central Library makes available group study rooms, graduate-study carrels and faculty carrels.

The Libraries provide a full array of modern technological access to print and electronic information. All of the access to this information is listed through the MavInfo Stations. MavInfo refers to the network of electronic information resources which can be accessed from terminals in the U.T. Arlington Libraries, from workstations on campus in Academic Computing Services labs, from faculty offices and from remote sites.

These resources include the on-line catalog of local holdings known as LUIS, as well as indexing and abstracting services on many varied topics and subject specific databases. Restrictions apply on the use of these databases depending on the license agreements with the information providers, and passwords are available to U.T. Arlington students, faculty and staff. In addition, the Libraries subscribe to many CD-ROM titles, some of which have been networked for multiple users.

Assistance in the use of the Libraries' collections is provided by staff in the Central Library's Reference Department, the Science and Engineering Library, the Architecture and Fine Arts Library, and the Special Collections Division.

The Central Library is responsible for the humanities, social sciences, business, nursing, education, geology, legal materials and government publications. The Government Publications and Maps Collection contains more than 900,000 publications of the United States government and international organizations. In addition, the Libraries house the Comanche Peak Collection, which is the primary depository for documentation of the Nuclear Regulatory Commission which relates to the operation of the TU Electric Plant in Glen Rose, Texas.

The Central Library also contains the Minority Cultures Collection, a circulating and reference collection covering the political, social, cultural, economic and intellectual history of African Americans, Asian Americans, Native Americans and Mexican Americans in the southwestern United States from U.S. independence to the present, with emphasis on 20th century problems and progress. The Reading Resources Room, which provides a curriculum library and a collection of juvenile and young adult literature, is adjacent to the Reference Department on the second floor of the Central Library.

The Special Collections Division contains the Jenkins Garrett Library of Texana and Mexican War material and the Cartographic History Library. Special Collections includes the Department of Archives, which collects primary source materials relating to U.T. Arlington's history since 1895 and the history of organized labor in Texas and the Southwest. The Division also holds archives and newspapers of Yucatan, colonial archives of Honduras and collections re-



lating to the political history of Texas. The division's photograph negative collection, which includes approximately 1 million images of Texas dating from the 19th through most of the 20th centuries, is one of the best in the state.

The Science and Engineering Library is housed in the basement of Nedderman Hall. It includes materials pertinent to engineering, biology, physics, chemistry and mathematics, including reference, circulating books, reserve and periodicals.

The Architecture and Fine Arts Library is housed on the first floor of the Architecture Building. Its collection includes all materials pertinent to architecture, art, photography and music, including reference, circulating books, reserve, periodicals, scores, musical records, cassettes and compact discs. It houses a music listening lab.

Materials not available in the U.T. Arlington Libraries may be borrowed from other libraries through the Interlibrary Loan Office, a unit of the Department of Access Services. The Central Library provides a microform collection with the reading/printing equipment.

Coin-operated photocopy machines are available throughout the Central Library and in the branches. A Photocopy Center that provides mediated copying for patrons on a fee basis is located in the basement of the Central Library. A PC Lab operated by Academic Computing Services on the fifth floor of the Central Library includes both IBM and Apple hardware and a variety of software packages. Many of the PCs are networked to the campus backbone. The ACS Lab is available to U.T. Arlington students and faculty.

Additional library information may be obtained at any of the reference or circulation desks of the three library locations. Regular library hours are posted, as well as the hours for semester breaks, holidays, summer sessions and other special circumstances. For more information, call 817-272-3000.

# Student Services

Several offices on campus offer specific services to students. Refer to the following directory for information regarding the following services.

## Offices of the Academic Deans

- General advising
- Conferences on curricula and degree plans
- Conferences concerning academic probation
- Requests for additional loads
- Cooperative education programs
- Administration of attendance regulations
- Readmission of students on scholastic suspension
- Notification of instructors for student illness

## Department Offices

- Transfer from one section to another in the same department
- Conferences about major or minor courses
- Conferences concerning academic probation
- Dropping single courses
- Adding single courses
- Preparation of degree plans
- Change of major

## Academic Assistance

- Academic Advising
  - a. University Advising Center (for undeclared majors only)  
Room 101, University Hall.
  - b. Declared majors should see major department
- Math Tutorial Clinic: Room 314, Pickard Hall
- Nursing Learning Resource Center: Room 124, Pickard Hall
- Reading Lab: See Reading Specialist in Office of Counseling and Career Development, Room 216, Davis Hall
- Science Learning Center: Room 105, Life Science Building  
(See College of Science introductory material in this catalog)
- SOAR (Students Obtaining Academic Readiness):  
Information regarding tutoring, counseling, course-related seminars and review sessions, Room 132, Hammond Hall
- Writing Lab: Fifth floor, Carlisle Hall

## Office of the Vice President for Student Affairs

Room 241, Davis Hall

- A. Policy matters pertaining to student life and activities
- B. General administration responsibility for the following:
- Counseling and Career Development
  - Student Employment
  - Student Health Services
  - Office for Students with Disabilities
  - International Office
  - Office of Multicultural Services
  - Center for Multicultural Cooperation (CMC)
  - Student discipline
  - Office of Student Governance and Organizations
  - Student Activities Office
  - Fraternities and sororities
  - Student photo ID card

- Attorney for the Students
- Student Publications
- Housing (facilities, policies and regulations)
- University Center (operations and food service)
- Student Support Services
- Cost-Share Tutorial Program
- McNair Scholars Program
- Recreational Sports
- Upward Bound Programs
- Educational Opportunity Center

## International Office

Lower Level, University Center

- Assistance and counseling for international students
- Coordination of special activities for international students
- Coordination with community groups of activities involving international students
- Liaison with the Immigration and Naturalization Service regarding non-immigrant students, faculty and staff
- Documentation for non-immigrants for travel, extension of stay, passport extension, employment authorization, etc.
- Coordination for U.T. Arlington Study Abroad Programs
- Advising for U.T. Arlington students wishing to study, work or travel abroad

## Office of Multicultural Services

Lower Level, University Center

- Aids in the recruitment of students from diverse ethnic backgrounds
- Encourages minority group involvement in the University community
- Facilitates the development of minority student programs and activities
- Provides opportunities for minority students to achieve their academic aspirations through counseling and coordination with other University offices.

## Office of Admissions

Room 123, Davis Hall

- Information concerning undergraduate admission
- Filing of either high school or college transcripts
- Transferring credits from another institution

## Office of the Registrar

Room 129, Davis Hall

- Withdrawals (resignations) from the University
- Application for graduation
- Class schedules
- Information concerning degrees
- Change of address
- Veterans' advising and enrollment certification
- Grade reports at termination of semester
- Request for transcript
- Registration

### Bursar Services

Room 130, Davis Hall

- Payment of debts to the University
- Conferences on all problems arising in connection with fees and bills
- Information concerning repayment of loans
- Check cashing services

**Check Cashing Procedures:** A current University identification card and a driver's license are required to cash a personal check. A student may cash a personal check for an amount not to exceed \$25.

**Returned Checks:** A charge of \$15 will be made for each returned check. A person who gives U.T. Arlington a bad check (one in which the bank is not at fault) will be subject to one or more of the following actions: (1) a bar against readmission of the student, (2) withholding of the student's grades and official transcript, (3) withholding of degree to which the student otherwise would be entitled until the debt and any applicable fees have been paid, (4) all other penalties and actions authorized by law.

Additionally, the University will not accept a check from anyone who has given a total of two bad checks unless the person submits a written statement from the bank stating "bank error or unusual circumstance" to be the cause of the bad checks.

### Police Department

University Police Building, 700 S. Davis

- Provides motorist assistance and patrols campus 24 hours a day
- Investigates traffic accidents
- Investigates, makes arrests, assists prosecution as necessary
- Conducts crime prevention programs
- Provides public service speakers for classes, clubs and special events
- Recovers, returns found and stolen property
- Provides parking hang tags, rules and information (see Parking Fees)
- Maintains and operates University shuttle bus services
- Provides escort services for personal safety as requested

### Academic Computing Facilities

Room B66, Davis Hall

- Available to all current U.T. Arlington students, faculty and staff
- Large-scale computers (located in the basement of Davis Hall)
  - a. CONVEX C220 Supercomputer with 512 Megabytes (MB) of memory, 12 Gigabytes (GB) of disk capacity, two 9-track tape drives, UNIX operating system
  - b. DEC Alphaserver 4000 5/400 with 1GB main memory, 50 (GB) of RAID disk capacity, one high-capacity Digital Linear Tape Library System, three CD-ROM readers, Digital UNIX operating system
  - c. DECstation 3000/300LX with 160 MB main memory, 6 GB disk capacity, one 4mm tape drive, one CD-ROM reader, Digital UNIX operating system
  - d. Sun Ultra 1 Model. 170 with 512 MB main memory, 18.9 GB disk capacity, one 4mm tape drive, 1 CD-ROM reader, Sun Solaris operating system
  - e. Aspen 275xs with 256 MB main memory, 22 GB disk capacity, one 8mm cartridge tape drive, 4 CD-ROM readers, Open VMS operating system
- Major programming languages and applications are available
- IBM PCs and Apple Macintosh computers in the ACS Library Computing facility

- IBM PCs, Sun workstations, terminals and printers in the ACS Business Computing Facility and ACS Nedderman Computing Facility
- IBM PCs in the ACS University Hall Computing Facility
- IBM PCs, Apple Macintosh computers and UNIX-based workstations in the ACS Ransom Hall Computing Facility

### Disabled Students

Lower Level, University Center

The Office for Students with Disabilities is responsible for verifying and implementing accommodations to ensure equal opportunities in all programs and activities at The University of Texas at Arlington. The accommodations may include preregistration, personal academic and career counseling, wheelchair repair, adaptive testing, note-copying, adaptive exercise and sport activities (EXSA) courses, wheelchair athletics and agency interface. The director encourages all disabled students to visit the office prior to registration to receive information on a variety of services designed for specific disabilities. Additional information may be obtained on the Lower Level of the University Center or by calling 817-272-3364; TDD 817-272-3323.

### Y.W.C.A. Child Care Center

106 Sixth St.

Children six weeks through 12 years whose parents are U.T. Arlington students, faculty or staff are given first enrollment priority at the on-campus child care center at the corner of Sixth and Speer streets. The center is operated by the Y.W.C.A. of Metropolitan Dallas and offers full-time infant, toddler and preschool child care in addition to before- and after-school care and private kindergarten. For enrollment information, call (metro) 817-261-4070 or 275-4066 (local).

### Attorney for the Students

Lower Level, University Center

The Attorney for the Students is available to all currently enrolled students for legal advice and consultation. The students' attorney may not act as counsel of record nor represent any student, faculty member, staff member, or any group or combination of students, faculty members or staff members:

- In any matter that requires an administrative decision to be made by any officer, committee board or agency of a component institution of the U.T. System or the Board of Regents
- At any stage of any criminal proceeding in any federal, state, county or local court
- At any stage of any civil proceeding in any federal, state, county or local court where such proceeding is directly or indirectly antagonistic to the interest of the U.T. System or its component institutions

Students must bring their Mav Express card to the appointment for verification of current enrollment.

### SOAR (Students Obtaining Academic Readiness)

Room 132, Hammond Hall

**Student Support Services:** Free academic support for qualifying students: tutoring, counseling, seminars, self-paced computer lab.

**Cost-Share Tutorial Program:** Low-cost tutorial services for all students: individual tutoring, study groups, algebra, TASP test reviews.

**McNair Scholars Program:** Prepares qualifying undergraduate students for graduate school: academic skill building, research technique training, fellowship research program with stipend.

**TASP Test Reviews:** Noncredit courses for the math, reading and writing sections of the TASP examination. Special writing section offered for speakers of other languages. Satisfies state mandated requirements. See Schedule of Classes.

### Health Information Resource Center

Room 529, Pickard Hall

The Health Information Resource Center provides free health related pamphlets on a wide variety of consumer topics. The center also offers free computer screening programs addressing health concerns. The center is located in the School of Nursing, Room 529, Pickard Hall, 411 S. Nedderman Drive. Operating hours from Noon-5 p.m., Monday through Friday.

### MAVMAIL

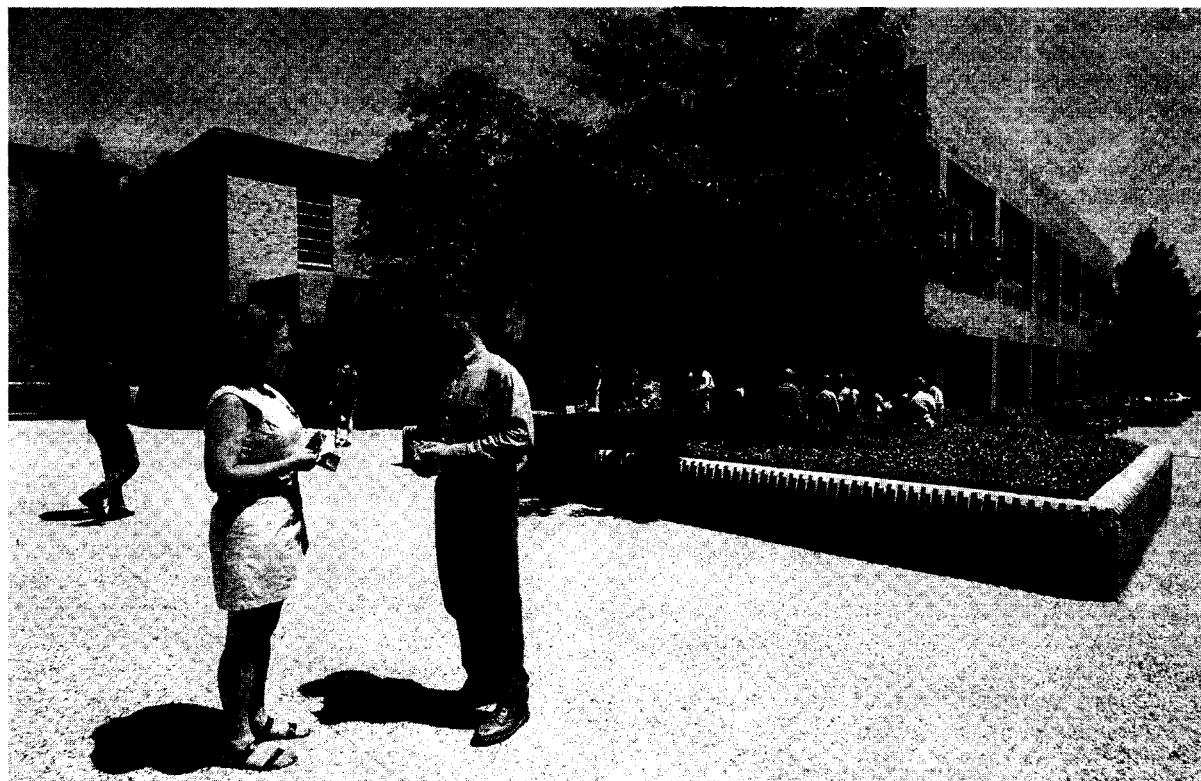
MAVMAIL is designed to provide answers to questions, direct inquirers to the appropriate office(s), and forward suggestions or compliments to the correct individuals or offices. Staff members in the Office of the Vice President for Student Affairs provide responses after contacting appropriate individuals to gain answers to the questions posed.

#### To contact MAVMAIL:

Send an E-mail message to [MAVMAIL@UTA.EDU](mailto:MAVMAIL@UTA.EDU)

Drop a note in campus mail to MAVMAIL (no box number needed)

Use U.S. mail and address it to MAVMAIL, U.T. Arlington, Arlington, TX 76019



# Office of Counseling and Career Development

216 Davis Hall • Box 19156 • 817-272-3671

The major programs of service to undergraduate students offered by the U.T. Arlington Office of Counseling and Career Development include orientation, the college adjustment course, personal/academic/career counseling, testing and career services.

## Orientation and Early Registration

Orientation and Early Registration is a program which includes placement testing, group sessions to prepare for the transition to U.T. Arlington, resources for academic success and an introduction to social and extracurricular opportunities. A highlight of the program is early registration for classes.

Upon completion of the admission requirements and acceptance to the University, students are assigned a special orientation date. Students are strongly encouraged to start the admission process early to ensure a space at orientation.

For students starting U.T. Arlington in the fall semester, several orientation options are available. New freshman students may attend one of several two-day programs offered in June, July and August. Parents of freshman students are invited to attend the program for parents which includes separate sessions for both students and parents. Transfer students and adult students may attend a one-day program or an evening program in July or August.

For students starting U.T. Arlington in the spring semester, an Orientation and Early Registration program is offered in late November. This program is available for new transfer students as well as incoming freshman students.

Students who are unable to attend one of the Orientation and Early Registration programs are invited to attend New Student Advisement Day. Although this program does not involve any form of early registration for classes, it does include academic advisement and information about the University. It is scheduled just prior to regular registration for the Fall and Spring semesters.

## College Adjustment Course

Freshman students have the opportunity to take EDUC 1131, a one-credit-hour course titled "College Adjustment," taught by trained, upperclass peer counselors. Special sections are available for adult students who have been out of the educational environment for any length of time. Subjects covered in the course are development of academic and study skills, career planning and using the resources at the University. This course is an excellent way to learn the requirements, procedures and skills necessary for successful completion of a degree.

## Counseling

Assistance with questions or problems concerning personal matters, academic skill development and career planning is offered. In addition to the opportunity for individual counseling, there are a large number of training workshops provided to students covering a full range of topics relating to academic skills and career planning. A computerized guidance system is available to those students who need a start in the career planning process.

## Measurement and Testing Service

Four types of testing programs are offered:

- **Admissions Tests:** SAT, ACT, Graduate Record Exam, Graduate Management Admission Test, Law School Admissions Test, Medical College Aptitude Test and Test of English as a Foreign Language.
- **TASP Test:** Required by Texas law to ensure that students in state colleges possess the academic skills to perform effectively. Review sessions are available through SOAR/Student Support Services located in Room 132, Hammond Hall.
- **Credit by Examination:** Several programs are available for advanced standing credit. Contact Measurement and Testing Service in Counseling and Career Development for a current list of credit by examination options.
- **Individual Tests:** Aptitude, interest and ability tests given in conjunction with counseling.

Students who wish to prepare for an admissions test may locate manuals in bookstores or may take a test preparation course from the Division of Continuing Education.

## TASP Examination

The Texas Academic Skills Program (TASP) is required by Texas law to ensure that students in Texas public colleges possess the academic skills needed to perform effectively. TASP includes a testing component designed to identify and diagnose the reading, writing and mathematics skills of each student.

Students required to take the TASP test must do so before accumulating nine or more college-level semester credit hours or its equivalent. The receipt of scores from a regular TASP test administration, the Verification of Attendance Form from a supplemental TASP test administration, or an Unofficial Examinee Test Results Form from a Computer-Administered TASP test are the accepted methods of verification of having taken the TASP test. Students expecting to attend

U.T. Arlington are strongly urged to take the TASP test on the first test date following the start of classes for their first semester.

The TASP office is located in the University Advising Center, Room 101, University Hall.

Students who qualify for and want to receive an exemption from TASP requirements are responsible for providing documentation to the University to establish the exemption. Students are eligible for an exemption if they meet any of the following criteria:

- The student earned three or more hours of college credit, including credit earned by examination, prior to September 1, 1989.
- The student was exempted from another Texas public college or university on the basis of any of the permitted criteria.
- April 1995 and thereafter, the student earned a total SAT score of 1180 on the "Recentered Scale" combined with a minimum of 550 on each of the mathematical and verbal tests. Prior to April 1995, the student earned a total SAT score of 1090 combined with a minimum of 530 on the mathematical test and a 470 on the verbal test. Scores more than five years old will not be used.
- The student earned an ACT composite score of 26 with a 22 minimum on each of the mathematics and English tests. Scores more than five years old will not be used.
- On the TAAS test, the student earned a minimum scale score of 1780 on the writing test and a Texas Learning Index (TLI) of 86 on the mathematics test and 89 on the reading test. Scores more than three years old will not be used.
- Blind students will take the TASP test with appropriate accommodations, and deaf students will take the Stanford Achievement Test.

Students may prepare or remediate for one or all of the three parts of the exam by registering for credit courses through the English and math departments. These classes are ENGL 0300 (Writing), ENGL 0303 (Reading) and MATH (0300). Noncredit review sessions are also available through SOAR Cost-Share Tutorial located in Room 130, Hammond Hall, 817-272-2617.

**None of these courses/review sessions fulfill any degree requirements.**

**Important:** Students who fail one or more sections of the TASP examination are required by state law to remediate by registering for the appropriate courses/review sessions when registering for other

credit courses. **Failure to attend TASP-required remedial activities will result in students being dropped from all of their classes.** Students must continue to enroll in remedial courses until passing test scores in all three areas are reported to the Admissions Office.

Students must pass all sections of the TASP test by the time they have completed 60 hours credit or its equivalent in order to enroll in upper division courses. For more information regarding TASP regulations, contact the academic advisor in the TASP Office in the University Advising Center.

A fee of \$29 (\$85 for the computer-administered test), all fees subject to change, must be paid when registering to take the test. For more information on registering for the TASP test, contact the Office of Counseling and Career Development, 216 Davis Hall, 817-272-3670, or contact TASP, Texas Higher Education Coordinating Board, P.O. Box 12780, Austin, Texas, 78711, 512-926-0743.

## Career Services

All graduating students can benefit from the opportunity of having on-campus employment interviews with national, state and local firms. On-campus recruiting is conducted in the fall (October and November) and in the spring (February and March). "UTA Career Classifieds," an additional career service, lists immediate job openings for U.T. Arlington alumni and graduating seniors. The media lab and career library provide printed and audiovisual information about careers, job search skills and employers.

Career Services also assists students and their spouses in finding full- or part-time off-campus employment. Any student currently enrolled or accepted for admission at U.T. Arlington for the following semester may register for assistance from this employment service. Career Services actively develops jobs for students interested in positions that offer an opportunity for quality, on-the-job, professional development and interaction.

### Career Services Locations

**University Career Services:** Room 216, Davis Hall, 817-272-2932

**Career Services-Business:** Room 514, Business Bldg., 817-272-5201

**Career Services-Student Employment Service:**

First Level, University Center (West Entrance), 817-272-2895

**Website:** [http://www.uta.edu/career\\_services/homepage.htm](http://www.uta.edu/career_services/homepage.htm)





# Student Health Services

605 S. West Street • Box 19329 • 817-272-2771

Student Health Services, located at 605 S. West St., 817-272-2771, is staffed and equipped to care for most routine health needs of students. Financial support is provided primarily by a Medical Services Fee. Many services are free. A reasonable fee is assessed for services such as medications, x-rays, laboratory tests, etc.

**Staffing:** The staff includes full-time physicians and registered nurses, registered pharmacists, registered laboratory technologists, clinical psychologists, a health educator, a substance abuse specialist and related personnel. The Health Center provides medical services for the students during those times when the University is open. Services are not available during scheduled University holidays. During these periods, medical care received by students from another source will be their financial responsibility.

**Services:** Students are eligible to receive medical services of the staff physicians, nursing services, pharmacy services, routine laboratory procedures and diagnostic x-ray studies as ordered by staff physicians. Consultations on matters related to health and illness, and psychological counseling are available.

Services not currently available are obstetrical care, dental care and specialized diagnostic services. In cases beyond the center's scope, referral advice will be given.

**HIV Infection/AIDS and Hepatitis B:** Student Health Services is the University resource center for HIV/AIDS and Hepatitis B education/prevention information. The University's written policy statement on HIV/AIDS and Hepatitis B, and the Texas Department of Health's educational HIV/AIDS pamphlet may be obtained at the Health Center. HIV/AIDS and Hepatitis B education for individuals and campus groups is available. HIV antibody testing/counseling/referral is available upon request to students, faculty and staff.

**Substance Abuse Prevention:** Student Health Services houses the Office for Substance Abuse Prevention which is available to all students, faculty and staff needing assistance in addressing alcohol and other drug-related issues. All services are free and include education, programming, support intervention, short-term counseling and referral. The University policy statement on illicit drugs and alcohol abuse is available at the Health Center.

**Peer Education:** Peer Educators are students who become involved in helping other students by providing accurate, non-judgmental information about alcohol and other drugs and their relationship to sexual issues and health. Students are required to take a Student Health Peer Training course for three credit hours offered through the Department of Exercise, Sport and Health Studies. Peer Educators develop presentations and résumé building skills.

**Education:** In the spirit of this educational community, it is hoped that students will also use Student Health Services as a resource for information on health related issues and preventive medicine.

**Report of Medical History:** Prior to registration, a student should submit a Report of Medical History to Student Health Services. A physical examination is required only if the student is medically unfit for exercise and sport activity (EXSA). It is the responsibility of the student to complete the health form and mail it to Student Health Services at least two weeks prior to registration. A Report of Medical History form will be sent to students when they are accepted for admission.

**Transportation:** Student are responsible for their own transportation to the Health Center. For major emergencies or when the seriousness of the victim's condition is uncertain, a call to 911 should be made. This will summon city police and/or an ambulance, depending on the nature of the emergency. A second call to the University Police at 817-272-3003 should also be made. U.T. Arlington Police are trained in CPR and first aid and can stabilize the patient until an ambulance arrives.

**Indebtedness:** It is the student's responsibility to satisfy indebtedness to Student Health Services with reasonable promptness. Upon payment, receipts will be issued which can be used by the student for submitting claims to personal insurance companies.

**Health Insurance:** Student Health Services is an outpatient facility and, as such, is not equipped to perform the more extensive diagnostic procedures and services offered by a general hospital. Therefore, all U.T. Arlington students are strongly urged to have adequate medical insurance coverage.

Students on non-immigrant visas enrolled at U.T. Arlington are required to carry health insurance and must show proof of coverage at the time of registration.

An optional system-wide student health insurance plan is available through an insurance carrier by contract with the University. The Health Center will direct bill this insurance company for the covered charges that are incurred by the student. In addition, the deductible is waived when treatment is received at the Health Center.

For more information about the Student Health Insurance Plan, contact Student Health Services at 817-272-2771. Insurance applications and claim forms are available at the Health Center, corner of Third and S. West streets, and at the Office of Student Affairs, Room 241, Davis Hall.

**Blood Reserve Fund Plan:** The University of Texas at Arlington, in cooperation with Carter Blood Center, sponsors a blood reserve fund plan for U.T. Arlington students, faculty and staff. To participate in the reserve fund, members are requested to donate regularly during semiannual blood drives held on campus. The release of blood units and the reserve fund drives are coordinated through Student Health Services and Student Governance and Organizations.

# Student Housing

University Center • Box 19349 • 817-272-2791

## Advantage of Living on Campus

All University housing is within walking distance to classes. Being close to campus can save time and money and may facilitate getting involved in activities and campus life.

## Types of Housing and Reservations

### U.T. Arlington Residence Halls

University housing facilities include one residence hall for men, one for women and three areas that are coed. (This distribution could change to meet the demand for space by men or women.) A total of 808 students can be housed in the residence halls. All residence halls are air-conditioned, and most rooms house two students.

**Brazos House:** A coed residence hall with a capacity for 53 women and 51 men. Women and men live in separate areas. The rooms are arranged in two-room suites with adjoining bath facilities.

**Lipscomb Hall:** A residence hall that is coed on the north wing and houses women only on the south wing with a capacity of 330 students. The south wing is arranged in two-room suites with connecting bath. The north wing is arranged in three-room suites with private bath facilities for each suite.

**Pachl Hall:** A residence hall for men with a capacity of 135 students. The rooms are arranged in single units with two community hall bath units on each of its three floors.

**Trinity House:** A coed residence hall with a capacity of 119 women and 119 men. The rooms are arranged in three-room suites with private bath facilities for each suite.

### Interim Summer School Housing

Students desiring residence hall space for the Summer sessions are usually housed in one hall, which becomes coed during summer school. Limited space is also available in the summer hall in the interim between Spring and Summer sessions and in the Conference Center Apartments during Christmas break.

### Applications

Students must make application for admission to the University before an application for housing can be processed. Acceptance to the University is not essential before submitting a housing application; however, acceptance is required before a student will be assigned to a residence hall. A student's name will be placed on the assignment list for the appropriate semester, according to the date the application is received in the Housing Office. The deposit is not required with the application. A security deposit is required upon receiving an assignment and will be paid in conjunction with prepayment of rent at the time the contract is to be returned.

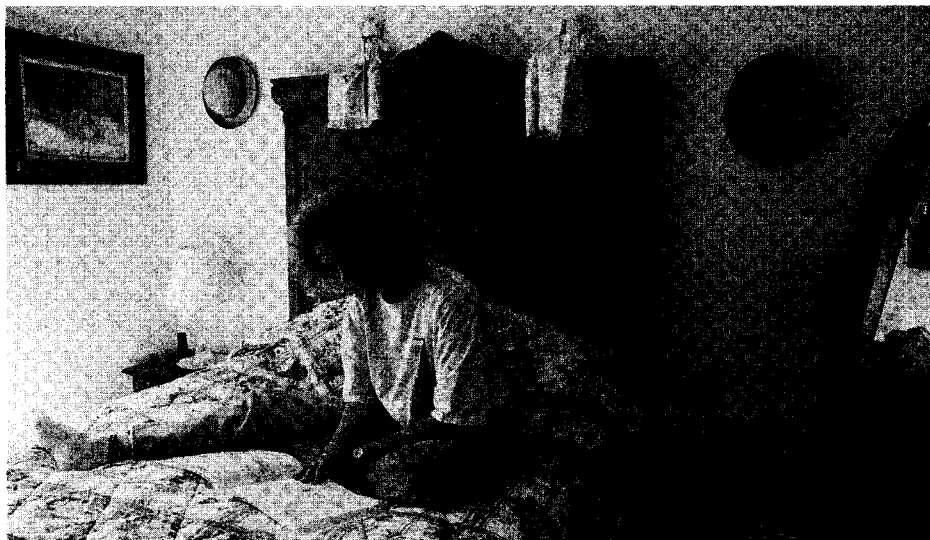
### Assignments

Assignments for new students for the Fall Semester will be made in April. Assignments for the Spring Semester will be made late in the Fall Semester. Students who do not receive an assignment will remain on the assignment list according to the date an application is received in the Housing Office. As cancellations occur, assignments will be made from this list.

### Cost\*

The 1996-97 rental rate for residence halls ranged from \$1344 to \$1534 per academic year. This rate does not include meals. Please refer to the section of the catalog on University Dining Services for information regarding meal options.

\* Contact the Housing Office for 1997-98 and 1998-99 rental rates.



## Apartments and Houses

The University owns 16 apartment communities with 482 one-bedroom and 58 two-bedroom apartment units. All apartments are located within walking distance of the campus. Fifteen apartment communities are unfurnished; University Village is furnished. All apartments have air-conditioning, heating, kitchen appliances, carpeting, mini-blinds and deadbolt locks. Additional features vary by community and may include: swimming pools, volleyball courts, barbecues, laundry facilities, dishwashers, and cable TV availability. Several apartment communities allow pets less than 30 pounds provided the required pet deposit and agreement are submitted in advance.

The University also owns and leases 52 two-, three- and four-bedroom houses. All houses are unfurnished, air-conditioned and have fences. Many are equipped with kitchen appliances.

Students must be enrolled at least part-time with the University to live in a University-owned apartment or house.

### Applications

Application for an apartment or house may be submitted at any time and will be held, if necessary, until the appropriate period before being entered on the waiting list. Contact the Housing Office and request the brochure on apartments and houses for an application and additional information.

### U.T. Arlington Apartment/House Rental Rates\*

The 1996-97 rental rates for University-owned houses ranged from \$360 to \$653 per month plus all utilities. The apartments ranged from \$282 to \$494 per month, plus electricity in some of the communities.

\* Contact the Housing Office for the 1997-98 and 1998-99 rental rates.

### Centennial Court Apartments

Centennial Court is a privately owned student housing community operating in cooperation with The University of Texas at Arlington. The Centennial Court complex provides a unique on-campus housing environment for U.T. Arlington students. The community operates similar to a residence hall with the amenities of an apartment complex. The following services are included:

- Efficiency, one-, two- and four-bedroom options
- Individual lease liability
- Two study rooms
- Community assistant staff
- Full feature kitchens
- Two pools and spas
- Volleyball court
- Barbecue pits
- Exercise room
- Two on-site laundry facilities
- Basic cable TV

For more information, call 817-436-4800 or take a tour at 700 W. Mitchell Circle, Arlington, Texas, 76013.

## Housing Refund

The security deposit for apartments, houses and residence halls will be refunded at the end of the lease period pursuant to the rental contract, providing the following steps have been taken:

- Resident's room/facility is thoroughly cleaned
- No damage has been incurred
- Inventory form is completed and signed
- Keys and security cards are checked in

If the student has no debt to the University, the Office of Accounting and Business Services will mail the refund to the student at the address specified on the inventory form. If the University retains all or any part of a security deposit under this section, the University shall give to the student the balance of the security deposit, if any, and a written description and itemized list of all deductions, in accordance with the provisions of Section 92.104, Texas Property Code.

## Resident Responsibilities

Resident students are cautioned to read carefully and to assume full responsibility for terms and conditions stated on application forms, information sheets and contracts.

Upon occupying student housing, each student is responsible for all property in the facility and must pay for any damages beyond normal wear and tear.

All residents are expected to be familiar with and abide by housing regulations, University rules and regulations, and the **Rules and Regulations of the Board of Regents of The University of Texas System**, all of which are available in the Office of the Director of Housing and University Center. Students who violate these rules are subject to disciplinary action by the Office of the Vice President for Student Affairs.

# Student Involvement

## Student Activities

The Student Activities Office is the center for out-of-class activities at U.T. Arlington. Participating in extracurricular activities helps students gain valuable leadership skills which complement their academic work and enhance and enrich their collegiate experience. The Student Activities area includes the U.T. Arlington cheerleaders, Greek life, leadership programs and EX-CEL Campus Activities.

### Cheerleaders

The U.T. Arlington cheerleaders provide support for University athletic teams. They also host clinics, competitions and demonstrations throughout the Metroplex. Sam Maverick, the school mascot, assists in promoting school spirit.

### Greek Life

The fraternity and sorority system is made up of 14 national fraternities and eight national sororities. The governing bodies are the Interfraternity and Panhellenic councils. Their offices are located within the Student Activities Office.

- **Fraternities:** Alpha Phi Alpha, Beta Theta Pi, Delta Tau Delta, Delta Upsilon, Kappa Alpha Order, Kappa Alpha Psi, Phi Delta Theta, Phi Gamma Delta, Pi Kappa Alpha, Pi Kappa Phi, Sigma Chi, Sigma Nu, Sigma Phi Epsilon, Triangle
- **Sororities:** Alpha Chi Omega, Alpha Kappa Alpha, Delta Delta Delta, Delta Sigma Theta, Delta Zeta, Phi Mu Zeta Phi Beta, Zeta Tau Alpha

### EX-CEL

(Excellence in Campus and Community Service, Entertainment, and Leadership and Development)

EX-CEL's primary focus is to plan and implement campus-wide cultural, social, recreational and educational activities for students, faculty, staff and the surrounding community. Students can get involved in the following EX-CEL committees:

- **Campus and Community Service:** Organizes events that reach out to the University and surrounding community. Events include Bed Races, Blood Drives, Charity Week and the Last Day Blast.
- **Entertainment and Arts:** Plans activities and programs featuring the performing and visual arts, concerts, comedians and cultural events. Popular performers have included the Shangri-La Chinese Acrobats, Van Cliburne Medalist Fabio Bidini, and entertainers Spike Lee and David Alan Grier.
- **Leadership and Development:** Presents ongoing lecture series on topics that improve leadership skills or personal growth. Speakers have included Sarah Weddington, Phyllis Schlafly, Joe Clark and Maya Angelou.
- **Marketing:** Creates and produces marketing strategies for each program sponsored through EX-CEL. The group works with all media at U.T. Arlington and the Metroplex.
- **Membership:** Responsible for the recruitment and retention of members for the organization. This committee promotes positive internal relations by providing opportunities for interaction through team-building exercises and group outings.



### Leadership Program

The University has made an effort to strengthen and unify its leadership programs to produce capable and effective leaders. The program currently has four primary components: the Campus and Community Involvement Record (CCIR), the Peer Leadership Class (EDUC 1130), the Leadership Retreat and the Leadership Recognition Ceremony.

- **Campus and Community Involvement Record:** The CCIR is a transcript, similar to an academic transcript, which chronologically lists all co-curricular activities—both on and off campus activities—of a student while attending U.T. Arlington. The CCIR is an official document of the University and lists each activity, the level of involvement in that activity and the skills the student develops through participation. The CCIR can be used as a record of activities, as a supplement to a résumé or placement file, as documentation for scholarship applications or as a guide to developing career objectives. To register, a student needs to complete a form in the Student Activities Office. A \$5 registration fee entitles students to five official copies of their transcript. Students complete Involvement Record Updates which must be verified by the advisor or staff member in charge to be added to the transcript. Students are encouraged to sign up early to ensure that no activities are left off the record and that activities can be properly verified.
- **The Peer Leadership Class:** An accredited course through the Center for Professional Teacher Education developed for emerging leaders. Students learn basic leadership skills which they can use to assume leadership positions and roles on campus. The class is taught by current U.T. Arlington leaders who have knowledge and experience and are able to relate to potential leaders in a productive and relaxed environment.
- **Leadership Retreat and Leadership Recognition Ceremony:** These events are sponsored through the Student Activities Office and are open to U.T. Arlington leaders. These programs help develop and recognize current leaders on campus and provide them with the information and tools needed to be successful.

## Office of Student Governance and Organizations

U.T. Arlington recognizes that a balanced program of activities which provides an opportunity for the expression and development of student interests will stimulate a student academically and facilitate development as an individual.

The varied activities of student organizations and student government provide a major means through which students may give expression to their talents, develop worthwhile skills and improve their knowledge of the principles and processes by which democracy works. On the U.T. Arlington campus, there are more than 200 registered student organizations to meet nearly every student's need, including honorary, professional, international, cultural, political, religious and other types of organizations. Students are encouraged to enter activities in organized student life both for personal value and for the unique contribution each student can make to the campus community.

For more information regarding specific organizations on campus, contact Student Governance and Organizations, Box 19348, Arlington, Texas 76019-0348, 817-272-2964.

### Student Government

The organs of student government on The University of Texas at Arlington campus are the Student Congress, Graduate Student Council, constituent councils, HOSTS!, student representatives on various University committees, the ambassador program and student organizations. The Student Congress is the official means whereby a student can express views to the student body, the faculty and the administration. It is composed of elected members who work in conjunction with various committees. Each fall and spring, elections are held by the student body. For further information, visit the Student Congress Office in the E.H. Hereford University Center or contact the Office of the Vice President for Student Affairs.

### Scholastic Honor Societies

The following scholastic honor societies are registered on the U.T. Arlington campus. Specific information regarding these organizations is available in the Office of Student Governance and Organizations, Box 19348, Arlington, Texas 76019-0348, 817-272-2964.

- Alpha Chi (Scholastic)
- Alpha Iota Delta (Science)
- Alpha Kappa Delta (Sociology)
- Alpha Phi Sigma (Criminal Justice)
- Alpha Psi Omega (Drama)
- Beta Alpha Psi (Accounting)
- Beta Gamma Sigma (Business)
- Chi Epsilon (Civil Engineering)
- Delta Phi Alpha (German)
- Eta Kappa Nu (Electrical Engineering)
- Eta Sigma Phi (Classical Language)
- Golden Key National Honor Society (Scholastic)
- Honors Student Association
- Kappa Delta Pi (Education)
- Kappa Kappa Psi (Band)
- Kappa Tau Alpha (Journalism)
- Lambda Alpha (Anthropology)
- Omicron Delta Epsilon (Economics)
- Omicron Delta Kappa (Leadership)

- Order of Omega (Greek)
- Phi Alpha Theta (History)
- Phi Sigma (Biology)
- Phi Sigma Iota (Foreign Language)
- Pi Mu Epsilon (Math)
- Pi Sigma Alpha (Political Science)
- Pi Tau Sigma (Mechanical Engineering)
- Psi Chi (Psychology)
- Sigma Gamma Tau (Aerospace Engineering)
- Sigma Tau Delta (English)
- Tau Beta Pi (Engineering)
- Tau Beta Sigma (Music)

### Professional Organizations

The following professional student organizations are registered on the U.T. Arlington campus. Specific information regarding these organizations is available in the Office of Student Governance and Organizations, Box 19348, Arlington, Texas 76019-0348, 817-272-2964.

- Ad3
- Air Force Student Association
- Allied Health Society
- American Association of Petroleum Geologists
- American Astronautical Society
- American Helicopter Society
- American Institute of Aeronautics & Astronautics
- American Institute of Architecture Students
- American Marketing Association
- American Production and Inventory Control Society
- American Society of Civil Engineers
- American Society of Landscape Architects
- American Society of Mechanical Engineers
- Anthropology Club
- Arlington Nursing Students Association
- Association of Computing Machinery/IEEE-CS
- Biological Society
- Biomedical Engineering Society
- Black Student Nurses Association
- Chemistry and Biochemistry Association
- Chemistry Graduate Students' Association
- Criminal Justice Student Organization
- Data Processing Management Association
- Delta Sigma Pi (Business)
- Exercise and Sports Studies Majors Club
- Finance Society
- Geological Society
- Institute of Business Designers
- Institute of Electrical & Electronic Engineers
- Institute of Industrial Engineers
- Institute of Transportation Engineers
- Lingua: Linguistics Circle at UTA
- Medical and Dental Preparatory Association
- Mu Sigma Microbiology Society
- National Association of Black Accountants
- National Association of Black Journalists
- National Association of Blacks in Criminal Justice
- National Association of Business Economists
- National Society of Black Engineers
- Phi Alpha Delta Pre-Law Society
- Phi Mu Alpha Sinfonia (Music)
- Pi Sigma Epsilon (Marketing)

Political Science Graduate Student Organization  
 Pre-Pharmacy Students Association  
 Pre-Vet Society  
 Psychological Society  
 Public Relations Student Society of America  
 Real Estate Group  
 Sigma Alpha Iota (Music)  
 Social Work Association  
 Society of Automotive Engineers  
 Society of Graduate Business Students  
 Society of Hispanic Professional Engineers  
 Society of Human Resource Management  
 Society of Physics Students  
 Society of Professional Journalists  
 Society of Television and Radio Students  
 Society of Women Engineers  
 Student Art Association  
 Student Auxiliary of the Accounting Alumni Association  
 Student Planning Association  
 Student Reading Association of UTA

### Religious Life

The following religious organizations are registered on the U.T. Arlington campus. Information concerning these groups is available from the Office of Student Governance and Organizations, Box 19348, Arlington, Texas 76019-0348, 817-272-2964. Organizations with an asterisk(\*) maintain student centers adjacent to the campus.

All Nations Seventh-Day Adventist at UTA  
 Asian Christian Fellowship  
 Baha'i Club  
 Baptist Student Ministry\*  
 Bhakti Yoga Club  
 Campus Crusade  
 Chi Alpha Christian Fellowship\*  
 Chinese Buddhist Association  
 Christians on Campus  
 Latter-Day Saint Student Association  
 Lutheran Student Organization\*  
 Mavericks for Christ  
 Muslim Student Association  
 University Catholic Community\*  
 Voices of Christ  
 Wesley Foundation\*

### HOSTS!

Student welfare and retention are of primary concern for the U.T. Arlington community. UTA-HOSTS! (Helping Other Students To Succeed) is a peer mentor program sponsored by the Office of Student Governance and Organizations to help new students achieve success their first year on campus. UTA-HOSTS! matches first-year students with upperclass students with a similar major. The upperclass students, or mentors, will help students new to U.T. Arlington gain insight into campus opportunities and resources including important dates and deadlines, academic services and extracurricular activities. Participation in the program is voluntary and open to the student body.

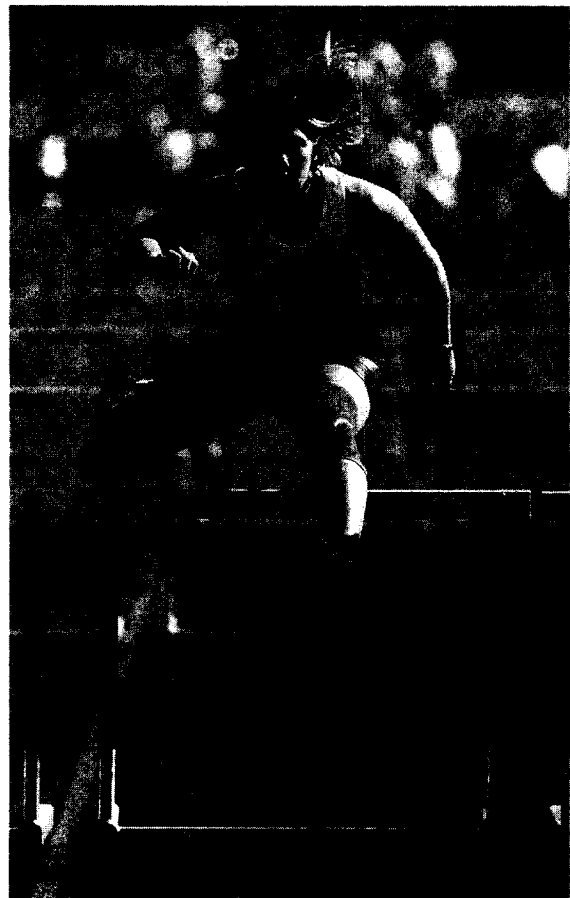
For further information about the program or to apply for a mentee or mentor position, contact the UTA-HOSTS! Office, Lower Level, University Center, Box 19350, Arlington, TX 76019, 817-272-2293.

## Intercollegiate Athletics

All men's and women's intercollegiate teams representing U.T. Arlington are members of the Southland Conference. Other conference members are McNeese State University, Nicholls State University, Northeast Louisiana University, Northwestern State University, Sam Houston State University, Southwest Texas State University, Stephen F. Austin State University and the University of Texas at San Antonio. All U.T. Arlington athletic teams compete in the highest division (Division I) of the National Collegiate Athletic Association.

- **Men's Athletics:** Men's intercollegiate teams are fielded in baseball, basketball, cross country, golf, tennis, and track and field. Individuals interested in participating in the U.T. Arlington athletic programs should contact the Athletic Office in the Gilstrap Center, 1309 W. Mitchell St., 817-272-2261.
- **Women's Athletics:** Women's intercollegiate teams are fielded in basketball, cross country, softball, tennis, track and field, and volleyball. Individuals wanting to participate should contact the Athletic Office in the Gilstrap Center, 1309 W. Mitchell St., 817-272-2261.

U.T. Arlington students with valid ID cards are admitted without charge to all regular season home athletic contests. All home men's and women's track and field meets will be held in Maverick Stadium. Men's and women's home basketball games and women's home volleyball games are played in Texas Hall. Baseball and softball games are played in Allan Saxe Stadium at Fielder Road and Park Row. Men's and women's tennis matches are played at the Tennis Center.



## Department of Recreational Sports

The Department of Recreational Sports provides a diverse offering of recreational and leisure experiences for students, faculty and staff. More than 80 activities in competitive and recreational areas—team, individual and co-recreational—are scheduled throughout the year. For more information, stop by Room 212 of the Activities Building or call 817-272-3277.

Program areas:

- **Intramural Sports:** Activities range from traditional (volleyball, softball, basketball, football) to nontraditional (bed races, dodgeball, trivia contests).
- **Informal Recreation:** This program centers around the Activities Building which contains racquetball courts, weight rooms, a jogging track and gymnasiums for basketball, volleyball and badminton.
- **QUEST University Wellness:** This program promotes positive wellness behavior through the seven aspects of wellness: social, physical, emotional, occupational, intellectual, environmental and spiritual.
- **Sports Clubs:** Individuals with common sports interests can participate in a variety of sports and activities ranging from soccer to skydiving.
- **Outdoor Adventure Center:** The center provides specialty camping and recreational equipment on a rental basis.
- **Recreational Swim:** This program utilizes two pools located directly south of the Activities Building. Specific hours are established for the program.

## Student Publications

*The Shorthorn* is the official newspaper of the University community. It is published Tuesday through Friday during long semesters except on holidays and during examination weeks. *The Summer Shorthorn* is published twice weekly. *Tempo*, a features and entertainment magazine, is published weekly during fall and spring. *Tempo* prints a campus calendar each week.

Funded by the student activity fee and advertising sales, the newspaper and magazines are distributed in all campus buildings and in 40 off-campus locations.

Students with journalism training and experience may apply for scholarships or paid positions. For information, call 817-272-3661.

## Photo Identification Cards

Students are strongly urged to retain possession of their photo identification cards at all times. Misuse of University identification is an offense which subjects students to discipline. Students lending their photo identification cards for fraudulent purposes, as well as those making use of them, will be disciplined. The student photo identification card is the property of the University, and a student may be asked to surrender the card for appropriate reasons.

## Student Discipline

By enrolling in the University, a student neither loses the rights nor escapes the responsibilities of citizenship. All students are expected to comply with state and federal law, the **Rules and Regulations of the Board of Regents of The University of Texas System**, U.T. Arlington regulations, and instructions issued by University administrative officials in the course of their duties.

When a student violates the prescribed codes of behavior, disciplinary action may be initiated through the discipline coordinator, Lower Level, University Center.

Information about the rules of conduct, due process procedures and disciplinary penalties is published in the **Rules and Regulations of the Board of Regents of The University of Texas System**, and the *Handbook of Operating Procedures* of The University of Texas at Arlington. Copies of these documents are in the Office of the Vice President for Student Affairs, Room 241, Davis Hall.

## Hazing

Under Texas law, individuals or organizations engaging in hazing could be subject to fines and charged with a criminal offense.

According to the law, a person can commit a hazing offense not only by engaging in a hazing activity, but also by soliciting, directing, encouraging, aiding or attempting to aid another in hazing; by intentionally, knowingly or recklessly allowing hazing to occur; or by failing to report firsthand information that a hazing incident is planned or has occurred in writing to the Vice President for Student Affairs. The fact that a person consented to or acquiesced in a hazing activity is not a defense to prosecution for hazing under this law.

In an effort to encourage reporting of hazing incidents, the law grants immunity from civil or criminal liability to any person who reports a specific hazing event to the Office of Student Affairs and immunizes that person from participation in any judicial proceeding resulting from that report. The penalty for failure to report is a fine of up to \$1,000, up to 180 days in jail, or both. Penalties for other hazing offenses vary according to the severity of the injury which results and range from \$500 to \$10,000 in fines and up to two years confinement.

The law defines hazing as an intentional, knowing or reckless act, occurring on or off the campus of an educational institution, by one person alone or acting with others, directed against a student, that endangers the mental or physical health or safety of a student for the purpose of pledging, being initiated into, affiliating with, holding office in, or maintaining membership in any organization whose members are or include students at an educational institution. Hazing includes but is not limited to:

- Any type of physical brutality, such as whipping, beating, striking, branding, electronic shocking, placing of a harmful substance on the body or similar activity
- Any type of physical activity, such as sleep deprivation, exposure to the elements, confinement in a small space, calisthenics or other activity that subjects the student to an unreasonable

risk of harm or that adversely affects the mental or physical health or safety of the student

- Any activity involving consumption of food, liquid, alcoholic beverage, liquor, drug or other substance which subjects the student to an unreasonable risk of harm or which adversely affects the mental or physical health of the student
- Any activity that intimidates or threatens the student with ostracism, that subjects the student to extreme mental stress, shame or humiliation, or that adversely affects the mental health or dignity of the student or discourages the student from entering or remaining registered in an educational institution, or that may reasonably be expected to cause a student to leave the organization or the institution rather than submit to acts described in this subsection
- Any activity that includes, causes or requires the student to perform a duty or task which involves a violation of the Penal Code

The University may take disciplinary action for conduct that constitutes hazing regardless of whether authorities prosecute students under provisions of the state statute regarding hazing.

## Academic Dishonesty

All students are expected to pursue their scholastic careers with honesty and integrity. Academic dishonesty includes, but is not limited to, cheating on a test or other coursework, plagiarism (offering the work of another as one's own), and unauthorized collaboration with another person. Students found guilty of dishonesty in their scholastic pursuits are subject to penalties which may include suspension or expulsion from the University.

Institutional procedures regarding charges of academic dishonesty are outlined in Part II, Chapter 2, of the *Handbook of Operating Procedures* of The University of Texas at Arlington. Copies of the handbook are available at more than 75 locations on campus, including the Student Congress Office, the Central Library and departmental offices.

## Grievances Other Than Grades

In attempting to resolve any student grievance, it is the obligation of the student first to make a serious effort to resolve the matter with the individual with whom the grievance originated. Grievances involving matters other than grades are appealed to the department chair or office director, the academic dean if appropriate, then to the senior vice president for finance and administration, the provost and vice president for academic affairs, or the vice president for student affairs. If the matter remains unresolved at this level, the student may make a final appeal to the president. Appeals to the provost and vice president for academic affairs must be submitted in writing on an appeal form available in academic departments or the Office of the Registrar. (For grievances involving grades, see instructions in the Academic Regulations section of this catalog.)

## Campus Solicitations

"Solicitation," as defined by the **Rules and Regulations of the Board of Regents of The University of Texas System**, means the sale, lease, rental or offer for sale, lease, rental of any property, product, merchandise, publication or service, whether for immediate or future delivery; an oral statement or the distribution or display of printed material, merchandise or products that is designed to encourage the purchase, use or rental of any property, product, merchandise, publication or service; the oral or written appeal or request to support or join an organization other than a registered student, faculty or staff organization; the receipt of or request for any gift or contribution; and the request to support or oppose or to vote for or against a candidate, issue or proposition appearing on the ballot at any election held pursuant to state or federal law or local ordinances. All solicitations on the U.T. Arlington campus must conform to the **Regents' Rules**, copies of which are available in the offices of the president, vice presidents, academic deans, numerous other administrative offices and the Central Library.



# University Center

210 University Center • Box 19349 • 817-272-2791

The E.H. Hereford University Center is what its name implies—the center of University activity. As the “living room” or the “hearthstone” of U.T. Arlington, the University Center is a gathering place for informal association outside the classroom. Its services, conveniences and amenities include:

- Lounges
- One theater
- Two ballrooms
- 10 meeting rooms
- Four food service areas
- Bowling and Billiards
- Art gallery
- Video room
- Campus Information (817-272-2222)
- Automated Teller Machines
- Check cashing
- Discount ticket sales
- Auto registration
- Fast Copy Center
- General Store
- U.S. Post Office

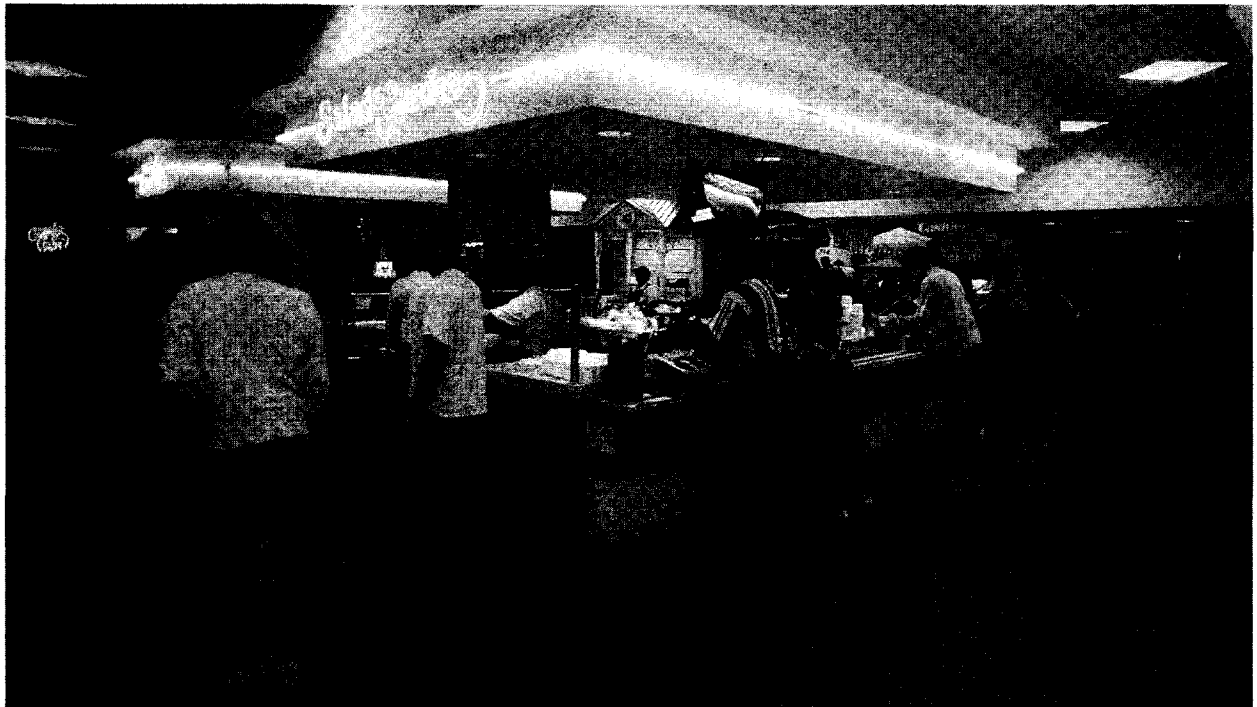
The University Center is also home for more than 200 campus student organizations, Student Congress, the Graduate Student Council and the offices for Student Activities, Student Development, Student Governance and Organizations, International Students, Multicultural Services, Center for Multicultural Cooperation, Student Employment Services, Disabled Student Services and Attorney for the Students.

## University Dining Services

University Center • Box 19349 • 817-272-2919

University Dining Services (ARAMARK) provides a variety of services including dining and production facilities, catering services, meeting areas and special events. The following dining and production divisions are found within and outside the E.H. Hereford University Center: Paradise Cafe (cafeteria), the Corral (fast food) and the Plaza. The Plaza is a food mall that includes Burger King, Blimpie and Pizza Hut as well as Mexican food, baked goods and salads. Services are offered through the week and on weekends at the Corral.

The catering division of University Dining Services offers banquets, receptions, beverage services and special dining assistance as requested by groups utilizing the University Center or other campus facilities.



# Graduate Admission and Programs

333 Davis Hall • Box 19167 • 817-272-2688

## Admission to the Graduate School

All correspondence concerning admission to The University of Texas at Arlington Graduate School should be addressed to the dean of graduate studies. All U.S. citizens and permanent residents with no foreign university work are required to pay a nonrefundable application evaluation charge of \$25. International students, permanent residents and U.S. citizens who have educational documents from outside the U.S. to be evaluated are required to pay a nonrefundable application evaluation charge of U.S. \$50. In addition to the following requirements, most departments recommend that a potential applicant arrange a personal interview with the appropriate graduate advisor before applying to the Graduate School.

Applicants for admission to most graduate programs must take, at their own expense, the Aptitude Test of the Graduate Record Examination (GRE) administered by the Educational Testing Service. The required aptitude test for the graduate programs in the College of Business Administration (with the exception of economics) is the Graduate Management Admission Test (GMAT). The Test of English as a Foreign Language (TOEFL), administered by the Educational Testing Service, is required of international students whose native language is not English and who do not hold a bachelor's or master's degree from an accredited U.S. institution. The Test of Spoken English (TSE-A) is required for non-native speakers of English who plan to apply for teaching assistantships. If the TSE-A is taken, the TOEFL may not be required. The test scores will be used, with other data, to determine eligibility for admission and to aid in counseling the applicant after admission. The GRE, GMAT, TOEFL and TSE-A are given at various centers in the United States and in many other countries on at least four regularly established dates each year.

- Information bulletins and test application blanks for the GRE may be obtained from Educational Testing Service, Box 6000, Princeton, New Jersey 08541-6000, U.S.A.
- Information bulletins and test application blanks for the GMAT may be obtained from Educational Testing Service, Box 6103, Princeton, New Jersey 08541-6103, U.S.A.
- Information bulletins and test application blanks for the TOEFL and TSE-A examinations may be obtained from the Test of English as a Foreign Language, Box 6151, Princeton, New Jersey 08541-6151, U.S.A., or in foreign countries from American embassies and consulates and offices of the United States Information Service.

Bulletins and test applications for these tests may also be obtained from the U.T. Arlington Office of Counseling and Career Development. **Since applications must be received by Educational Testing Service two to four weeks in advance of each test, applicants should secure bulletins at least a month in advance of the test date.**

For admission to certain graduate programs, additional tests may be required. This information is given in the individual program listings in the Graduate Catalog.

Application deadlines are published on the Graduate School Calendar on the inside covers of the Graduate Catalog. U.S. citizens should apply to the dean of graduate studies at least 90 days prior to

beginning a semester or Summer Session in which they wish to register. International applicants or permanent residents should file an application, with the required official transcripts of all previous college work and the application evaluation charge, at least 120 days prior to beginning a semester or Summer Session in which they plan to register.

## Admission

To be eligible for consideration for admission to the Graduate School, applicants must: (1) hold a bachelor's degree from an accredited university or its equivalent from a foreign university; (2) make a satisfactory score on the Graduate Record Examination or Graduate Management Admission Test, as specified by the department or program to which application is being made, and the Test of English as a Foreign Language or the Test of Spoken English (TSE-A) as indicated previously if a non-native English speaker; (3) have demonstrated through previous academic performance the potential for graduate work in their chosen field.

After evaluation of an applicant's credentials by the graduate advisor in the applicant's major area and by the dean of graduate studies, applicants will be notified that (1) they have been accepted, (2) their application has been denied, or (3) a decision has been deferred for reasons listed in the notice. For those who have been accepted for admission, an acceptance letter will be issued by the dean of graduate studies stating the conditions of admission and period of validity for the acceptance.

## Procedure After Admission

After being admitted, the student should confer with the graduate advisor of the major area, preferably by personal interview, to become acquainted with specific departmental regulations, particularly in the case of areas that require additional examinations upon entrance. After receiving registration materials, students should consult the graduate advisor in the major area at the time and place indicated in registration instructions concerning the details of registration, course program and other routine matters.

**It is important that a student wishing to take courses for graduate credit consult with the appropriate graduate advisor before registering, as each student's program of work for an advanced degree must eventually be approved by the graduate advisor, the student's supervising committee and the dean of graduate studies. Failure to consult with the graduate advisor could result in the student's enrolling for courses which would not be applied toward meeting the degree requirements.**

## Restriction on Admission

Because there may be more applicants than facilities can accommodate, it may be necessary to limit the number of students accepted for graduate work in certain areas.

Social Work considers new applicants for admission to Fall semesters only.

## Graduate Programs

U.T. Arlington currently offers the Doctor of Philosophy in:

1. Aerospace Engineering
2. Applied Chemistry
3. Biomedical Engineering
4. Business Administration
5. Civil Engineering
6. Computer Science
7. Computer Science and Engineering
8. Electrical Engineering
9. Environmental Science and Engineering
10. Humanities
  - Areas of study:**
  - Languages and Linguistics
  - Literature and Rhetoric
  - Cultural Perspectives
11. Industrial Engineering
12. Materials Science and Engineering
13. Mathematical Sciences
  - Areas of study:**
  - Biology
  - Chemistry
  - Computer Science
  - Geology
  - Information Systems and Management Sciences
  - Mathematics
  - Physics
  - Psychology
14. Mechanical Engineering
15. Physics and Applied Physics
16. General Experimental Psychology
17. Quantitative Biology
18. Urban and Public Affairs
19. Social Work

Master's level programs are available in:

1. Accounting
2. Aerospace Engineering
3. Anthropology
4. Architecture
5. Biology
6. Biomedical Engineering
7. Business Administration
8. Chemistry
9. City and Regional Planning
10. Civil Engineering
11. Computer Science
12. Computer Science and Engineering
13. Criminology and Criminal Justice
14. Economics
15. Education-Teaching
16. Electrical Engineering
17. Engineering Mechanics
18. English
19. Environmental Science and Engineering
20. French
21. Geology
22. German
23. History
24. Humanities
25. Industrial Engineering
26. Information Systems
27. Interdisciplinary Studies
28. Landscape Architecture
29. Linguistics
30. Management of Technology
31. Marketing Research
32. Materials Science and Engineering
33. Mathematics
34. Mechanical Engineering
35. Nursing
36. Personnel and Human Resource Management
37. Physics
38. Political Science
39. Professional Accounting
40. Psychology
41. Public Administration
42. Real Estate
43. Social Work
44. Sociology
45. Software Engineering
46. Spanish
47. Taxation
48. Urban Affairs

# Common Course Number Index

U.T. Arlington is a participant in the Texas Common Course Numbering System designed to facilitate the transfer of lower-division academic courses between colleges and universities in Texas. Each U.T. Arlington course listed below has been determined to be substantially equivalent to the common course shown beside it. In the appropriate sections of the catalog, the dual course numbers will be listed side by side for easy identification.

U.T. Arlington Course Number	Common Course Number	U.T. Arlington Course Number	Common Course Number	U.T. Arlington Course Number	Common Course Number
ACCT 2301	ACCT 2301	ENGL 2309	ENGL 2331	MUSI 2185	MUSI 2116
ACCT 2302	ACCT 2302	ENGL 2329	ENGL 2326	MUSI 2186	MUSI 2118
ADVT 2337	COMM 2327	FREN 1441	FREN 1411	MUSI 1300	MUSI 1306
ANTH 1306	ANTH 2346	FREN 1442	FREN 1412	MUSI 1301	MUSI 1301
ANTH 2322	ANTH 2351	FREN 2313	FREN 2311	MUSI 1325	MUSI 1311
ART 1301	ARTS 1301	FREN 2314	FREN 2312	MUSI 1326	MUSI 1312
ART 1305	ARTS 1311	GEOL 1435	GEOL1403	MUSI 2325	MUSI 2311
ART 1306	ARTS 1312	GEOL 1436	GEOL 1404	MUSI 2326	MUSI 2312
ART 1307	ARTS 1316	GEOL 2445	GEOL 2409	PHIL 1300	PHIL 1301
ART 1309	ARTS 1303	GERM 1441	GERM 1411	PHIL 1301	PHIL 2302
ART 1310	ARTS 1304	GERM 1442	GERM 1412	PHIL 1304	PHIL 2306
ART 2308	ARTS 1317	GERM 2313	GERM 2311	PHYS 1445	PHYS 1411
BIOL 1301	BIOL 1322	GERM 2314	GERM 2312	PHYS 1446	PHYS 1412
BIOL 1333	BIOL 1408	HIST 1311	HIST 1301	PHYS 1401	PHYS 1405
BIOL 1282		HIST 1312	HIST 1302	PHYS 1402	PHYS 1407
BIOL 1334	BIOL 1409	HIST 2301	HIST 2311	PHYS 1441	PHYS 1401
BIOL 1441	BIOL 1406	HIST 2302	HIST 2312	PHYS 1442	PHYS 1402
BIOL 2453	BIOL 1407	JOUR 1345	COMM 2309	PHYS 1443	PHYS 2425
BIOL 2451	BIOL 2420	JOUR 2346	COMM 2310	PHYS 1444	PHYS 2426
BIOL 2457	BIOL 2401	LATN 1441	LATN 1411	POLS 2311	GOVT 2305
BIOL 2458	BIOL 2402	LATN 1442	LATN 1412	POLS 2312	GOVT 2306
CHEM 1301	CHEM 1411	LATN 2313	LATN 2311	PSYC 1315	PSYC 2301
CHEM 1284		LATN 2314	LATN 2312	PSYC 2310	PSYC 2320
CHEM 1302	CHEM 1412	MAE 1312	ENGR 2301	PSYC 2317 (BIOL)	PSYC 2306
CHEM 1445	CHEM 1405	MAE 2323	ENGR 2302	RUSS 1441	RUSS 1411
CHEM 1446	CHEM 1408	MATH 1302	MATH 1314	RUSS 1442	RUSS 1412
CHEM 2321	CHEM 2423	MATH 1303	MATH 1316	RUSS 2313	RUSS 2311
CHEM 2181, 2182		MATH 1308	MATH 1342	RUSS 2314	RUSS 2312
CHEM 2322	CHEM 2425	MATH 1315	MATH 1324	SOCI 1311	SOCI 1301
COMM 1300	COMM 1307	MATH 1316	MATH 1325	SOCI 2312	SOCI 1306
CSE 1301	COSC 1301	MATH 1325	MATH 1348	SOCW 2311	SOCW 2361
CSE 1306	COSC 1311	MATH 1426	MATH 2413	SPAN 1441	SPAN 1411
CSE 1310	COSC 1312	MATH 2325	MATH 2314	SPAN 1442	SPAN 1412
CRCJ 2334	CRIJ 1301	MATH 2326	MATH 2315	SPAN 2313	SPAN 2311
CRCJ 2340	CRIJ 2314	MUSI 0172	MUSI 1121	SPAN 2314	SPAN 2312
DG 1350	ENGR 1304	MUSI 1103	MUSI 1168	SPCH 0185	SPCH 1144
EE 2315	ENGR 2305	MUSI 1104	MUSI 1166	SPCH 1301	SPCH 1311
EE 2181	ENGR 2105	MUSI 2103	MUSI 1189	SPCH 1302	SPCH 1342
ECON 2305	ECON 2301	MUSI 2104	MUSI 1188	SPCH 2305	SPCH 1321
ECON 2306	ECON 2302	MUSI 1180	MUSI 1181	THEA 0181	DRAM 1120
ESOL 1341	ENGL 1306	MUSI 1181	MUSI 1182	THEA 1302	DRAM 2336
ESOL 1342	ENGL 1307	MUSI 2180	MUSI 2181	THEA 1304	DRAM 1330
ENGL 1301	ENGL 1301	MUSI 2181	MUSI 2182	THEA 1307	DRAM 1351
ENGL 1302	ENGL 1302	MUSI 1185	MUSI 1216	THEA 1343	DRAM 1310
ENGL 2319	ENGL 2322	MUSI 1186	MUSI 1217	THEA 2352	DRAM 1352

# The School of Architecture

203 Architecture Bldg. • Box 19108 • 817-272-2801

The design disciplines—**Architecture, Interior Design, Landscape Architecture**—teach us to understand and to shape the space we live in: rooms, buildings, gardens, cities. These disciplines are old, among the first activities of civilization itself. They are also new, requiring advanced knowledge and skills to serve contemporary culture. The design disciplines operate at many levels of thought and concern. On one hand they are very practical, dealing with a host of concrete realities; on the other they are highly conceptual, having to do with meaning and society's highest aspirations.

The purpose of the School's undergraduate curriculum is to pursue professional studies within the context of a liberal education. This goal is a natural one for the design disciplines, drawn as they are from the arts, the sciences, and the humanities.

The School of Architecture offers programs leading to the following degrees:

**Bachelor of Science in Architecture**  
**Bachelor of Science in Interior Design**  
**Master of Architecture**  
**Master of Landscape Architecture**

The four-year Bachelor of Science in Architecture degree is a pre-professional degree. It provides the basis for various career possibilities, including the professional degree of Master of Architecture or the Master of Landscape Architecture; these advanced degrees are normally awarded after two years of graduate study (refer to the graduate catalog for details). The four-year Bachelor of Science in Interior Design degree is an accredited professional degree.

The baccalaureate degree programs combine a core liberal arts curriculum with a structured sequence of courses in architecture and design. A large number of electives allows the student the flexibility to pursue special interests in the School and in the University.

All baccalaureate degree programs consist of two two-year segments: Basic Studies and Major Studies. The first two years (Basic Studies) is a foundation curriculum taken by all undergraduates at that level in the School. In addition to work in the arts and sciences, Basic Studies includes a series of lecture and studio courses which introduce the student to the concepts, history, skills, and vocabulary of design.

In the third and fourth years (Major Studies), the student concentrates in one of the design disciplines, taking courses and studios of a more advanced and professional nature. Those pursuing the Bachelor of Science in Architecture degree follow the architecture sequence. Candidates for the Bachelor of Science in Interior Design take the professional courses required by that program.

The School of Architecture will assist each student in selecting the path most appropriate to his or her interests and abilities. Academic advising is provided for all students in the school.

**Bachelor of Science in Architecture:** A four-year program of studies comprising, with a later two-year graduate program, the six-year Master of Architecture curriculum. This sequence, called the 4 + 2 model, has been adopted by many major universities as the most effective way of combining liberal education with professional education. (See the Graduate Catalog for the Master of Architecture program, which is accredited by the National Architectural

Accrediting Board. The school is a member of the Association of Collegiate Schools of Architecture.)

**Bachelor of Science in Interior Design:** A four-year program of studies, interdisciplinary with architecture, on the design of interior environments. Following the two-year Basic Studies sequence, the student completes two years of Major Studies, an intensive series of courses and studios on the theory, history, skill, and practice of interior design. The program leads to the professional degree in interior design, accredited by the Foundation for Interior Design Research (FIDER).

**Master of Architecture:** The Master of Architecture is an NAAB-accredited professional degree offered only at the graduate level. The Master of Architecture curriculum is coordinated with the Bachelor of Science in Architecture curriculum degree to form a six-year professional program.

**Master of Landscape Architecture:** Landscape Architecture is offered only at the graduate level and is accredited by the American Society of Landscape Architects.

**Minor in History of Architecture:** For students in disciplines requiring a minor, the School of Architecture offers a minor in History of Architecture. The school offers numerous courses from which to select the 18 hours required for a minor. ARCH 2303, 2304, 4305, 4308, 4309, 4310, 4315, 4316, 4317, 4318, and 4320.

## Major Studies: Entrance Requirements

Students enrolling in Major Studies courses (3000/4000 level) within the School of Architecture must have been admitted to the School of Architecture.

To be admitted to the School of Architecture, students must have completed all requirements for admission to a degree program as stated under the Degree Program entry in this catalog and have a 2.3 GPA in all courses at UTA as well as a 2.3 GPA in all courses within the School of Architecture.

Students fulfilling all requirements for an architecture or interior design major must notify the school to confirm enrollment in the major.

## Special Academic Requirements

**Grade Requirements:** A grade of "C" or higher must be earned in each School of Architecture course used for credit toward an undergraduate degree offered by the school.

**Repetition of Courses:** Three attempts to achieve a satisfactory grade are permitted for each required course in the School of Architecture. Beyond that number of attempts, the student is denied access to the course in question, or to the sequence of courses for which it is requisite. Enrollment in the course for the time sufficient to receive a grade, including the grade "W," is considered an attempt.

**Transfer of Credit:** The extent of credit toward degree requirements for academic work done elsewhere will be determined by the associate dean or undergraduate advisor. Students applying to transfer credits from studio courses taken elsewhere must present examples of that work for evaluation and placement.

**Student Projects:** The School of Architecture reserves the right to retain, copyright, use, exhibit, reproduce, and publish any work submitted for course credit. The student is encouraged to develop a portfolio of all work accomplished in advanced courses for future professional and academic uses.

## Requirements for Bachelor of Science Degree in Architecture

### Architecture

1301, 1302, 1241, 1242, 2303, 2304, 2551, 2552, 3323, 3324, 3337, 3343, 3553, 3554, 4327, 4328, 4556, 4557.

### English

Six hours of composition.

### Literature

Three hours of English or foreign language literature or other approved substitute.

### Liberal Arts Elective

Three hours above the freshman level of literature, or social and cultural studies designated as taught in the College of Liberal Arts, or fine arts or philosophy, or technical writing.

### Political Science

Six hours covering U.S. and Texas constitutions.

### History

Six hours of American history or three hours of American and three hours of Texas history.

### Mathematics

Six hours—1324 and 1325 or approved advanced mathematics (MATH 1302 and MATH 1303 may be substituted for MATH 1324).

### Science

PHYS 1441, 1442, and three hours science as approved.

### Social/Cultural Studies

Three hours of designated courses in social or cultural anthropology, archaeology, social/political/cultural geography, economics, sociology, classical studies, or linguistics.

### University Electives

Six hours selected from University course offerings and approved by the academic advisor.

### Advanced Electives

24 hours to include three hours of advanced architectural history, three hours of advanced architectural theory and three hours of an advanced School of Architecture elective. The remaining 15 hours must be advanced and selected by the student with the advice, counsel, and approval of the designated undergraduate advisor for the option.

### Total

138 hours, of which at least 36 hours must be 3000/4000 level, plus exercise and sport activities (EXSA), ROTC, or marching band as required.

## Suggested Course Sequence

### Freshman Year

**First Semester:** ARCH 1301; ARCH 1241; ENGL 1301; Political Science, 3 hours; MATH 1324; Social Science, 3 hours; EXSA or ROTC or Marching Band—Total Credit 18 hours.

**Second Semester:** ARCH 1302; ARCH 1242; ENGL 1302; Political Science, 3 hours; MATH 1325; Science Elective, 3 hours; EXSA or ROTC—Total Credit 18 hours.

### Sophomore Year

**First Semester:** ARCH 2551; ARCH 2303; PHYS 1441; History, 3 hours; English (literature), 3 hours—Total Credit 18 hours.

**Second Semester:** ARCH 2552; ARCH 2304; PHYS 1442; History, 3 hours; English (literature), 3 hours—Total Credit 18 hours.

*Refer to catalog for Entrance Requirements to Major Studies.*

### Junior Year

**First Semester:** ARCH 3553; ARCH 3343; ARCH 3323; University Elective, 3 hours; Advanced Elective, 3 hours; EXSA or ROTC or Marching Band—Total Credit 18 hours.

**Second Semester:** ARCH 3554; ARCH 3337; ARCH 3324; University Elective, 3 hours; Advanced Elective, 3 hours; EXSA or ROTC—Total Credit 18 hours.

### Senior Year

*(Students must have an approved degree plan prior to registration for this year.)*

**First Semester:** ARCH 4556; ARCH 4327; Advanced ARCH History Elective, 3 hours; Advanced Electives, 6 hours—Total Credit 17 hours.

**Second Semester:** ARCH 4557; ARCH 4328; Advanced School Elective, 3 hours; Advanced Electives, 6 hours—Total Credit 17 hours.

## Requirements for a Bachelor of Science Degree in Interior Design

### Architecture

1301, 1302, 1241, 1242, 2303, 2304, 2551, 2552, 3323, 4325, 4329, 4348.

### Interior Design

3305, 3321, 3322, 3343, 3345, 3553, 3555, 4332, 4345, 4368, 4369, 4562, 4563.

### Art

Three hours advanced history, approved.

### English

Six hours of composition.

### Literature

Three hours of English or foreign language literature or other approved substitute.

### Liberal Arts Elective

Three hours above the freshman level of literature, or social and cultural studies designated as taught in the College of Liberal Arts, or fine arts or philosophy, or technical writing.

### Political Science

Six hours covering U.S. and Texas constitutions.

### History

Six hours of American history or three hours of American and three hours of Texas history.

### Mathematics

Six hours (1302 and 1303) or approved advanced mathematics.

**Science**

PHYS 1401, 1402, and three hours science as approved.

**Social/Cultural Studies**

Three hours of designated courses in social or cultural anthropology, archaeology, social/political/cultural geography, economics, sociology, classical studies, or linguistics.

**Advanced Electives**

Six hours selected by the student with the advice, counsel, and approval of the designated Undergraduate Advisor.

**Total**

138 hours, of which at least 36 hours must be 3000/4000 level, plus exercise and sport activities (EXSA), ROTC, or marching band as required.

**Suggested Course Sequence****Freshman Year**

**First Semester:** ARCH 1301; ARCH 1241; ENGL 1301; History, 3 hours; MATH 1302 or 1324; Political Science, 3 hours; EXSA or ROTC or Marching Band—Total Credit 18 hours.

**Second Semester:** ARCH 1302; ARCH 1242; ENGL 1302; History, 3 hours; MATH 1303 or 1325; Political Science, 3 hours; EXSA or ROTC—Total Credit 18 hours.

**Sophomore Year**

**First Semester:** ARCH 2551; ARCH 2303; PHYS 1401; English (literature), 3 hours; Social Science, 3 hours—Total Credit 18 hours.

**Second Semester:** ARCH 2552; ARCH 2304; PHYS 1402; English (literature), 3 hours; Science Elective, 3 hours—Total Credit 18 hours.

*Refer to catalog for Entrance Requirements to Major Studies.*

**Junior Year**

**First Semester:** INTD 3553; INTD 3343; ARCH 3323; INTD 3321; INTD 3305; EXSA or ROTC or Marching Band—Total Credit 18 hours.

**Second Semester:** INTD 3555; INTD 3345; INTD 3322; Advanced Art History, 3 hours; ARCH 4348; EXSA or ROTC—Total Credit 18 hours.

**Senior Year**

*(Students must have an approved degree plan prior to registration for this year.)*

**First Semester:** INTD 4562; INTD 4368; ARCH 4325; ARCH 4345; Advanced Elective, 3 hours—Total Credit 17 hours.

**Second Semester:** INTD 4563; INTD 4369; INTD 4332; ARCH 4329; Advanced Elective, 3 hours—Total Credit 17 hours.

**School of Architecture Faculty****Dean**

Professor Baum

**Professors**

Duncan, Ferrier, Hamilton, Henry, McDermott, Mehta, Price, Tatum, G. Wright

**Associate Professors**

Boswell, Gintole, Guy, Kuhner, McBride, Maruszczak, Pinno, Spears, L. Wright, Yardley

**Adjunct Associate Professor**

Millican

**Assistant Professors**

Harwood, Youssefzadeh

**Instructor**

Foster

**Senior Lecturers**

James, Lawson

**Architecture (ARCH)****Basic Studies**

*(Required for all Bachelor of Science degrees from the School of Architecture)*

**1241. DESIGN COMMUNICATION I (1-3) 2 hours credit.** The development of visual perception and graphic communication utilizing an intensive investigation of freehand drawing. \$13 lab fee.

**1242. DESIGN COMMUNICATION II (1-3) 2 hours credit.** A continuation of ARCH 1241 with emphasis on refined technique and more complex drawing problems. Prerequisite: ARCH 1241. \$13 lab fee.

**1301. INTRODUCTION TO ARCHITECTURE AND THE DESIGN PROFESSIONS I (3-0) 3 hours credit.** The interrelationships between society, culture, and the built environment. \$15 computer fee.

**1302. SURVEY OF ARCHITECTURAL PRINCIPLES IN THE DESIGN PROFESSIONS (3-0) 3 hours credit.** Architectural principles in the allied design disciplines of interior design, landscape architecture, and urban design. \$15 computer fee.

**2300. MASTERWORKS OF WESTERN ARCHITECTURE (3-0) 3 hours credit.** Selected architectural complexes as representative of various periods of Western culture. Stresses cultural relevance rather than stylistic analysis. Intended as humanities elective for non-architecture majors. \$15 computer fee.

**2303. HISTORY OF ARCHITECTURE AND DESIGN I (3-0) 3 hours credit.** An historical and analytical review of the art of architecture and design with the physical, religious, social, economic, and political factors which shaped them from pre-history through the Middle Ages. \$15 computer fee.

**2304. HISTORY OF ARCHITECTURE AND DESIGN II (3-0) 3 hours credit.** An historical and analytical review of the art of architecture and design with the physical, religious, social, economic, and political factors which shaped them from the Renaissance to the present. Prerequisite: ARCH 2303. \$15 computer fee.

**2551. BASIC DESIGN AND DRAWING I (3-6) 5 hours credit.** An introduction to design, design drawing, and color theory utilizing lectures and studio exercises. Two- and three-dimensional studio exercises develop a sensibility to design fundamentals and vocabulary. Emphasis on form, color, texture, and spatial determinants. Prerequisites: ARCH 1301 and 1241, credit or concurrent enrollment in ARCH 1302, 1242, 2303. \$13 lab fee.

**2552. BASIC DESIGN AND DRAWING II (3-6) 5 hours credit.** A continuation of ARCH 2551 with emphasis on three-dimensional design fundamentals with small-scale spatial and architectural applications. Prerequisites: ARCH 2551, credit or concurrent enrollment in ARCH 2304. \$13 lab fee.

Major Studies (Refer to Entrance Requirements to Major Studies)

**3301. URBAN SEMINAR (3-0) 3 hours credit.** A multi-disciplinary course for advanced undergraduate students in the honors program. Aspects of the built urban environment in relation to social, economic, and other factors. Prerequisite: participation in the honors program or permission of instructor.

**3323. CONSTRUCTION MATERIALS AND STRUCTURAL CONCEPTS (3-0) 3 hours credit.** The nature of materials and structural concepts to be used in the construction process. Prerequisite: junior standing in the School.

**3324. STRUCTURES I (3-0) 3 hours credit.** An introduction to architectural structures, including statics and strength of materials, with emphasis on design in timber. Prerequisites: ARCH 3323, PHYS 1441, MATH 1324, 1325.

**3337. SITE DEVELOPMENT (3-0) 3 hours credit.** The site development process including site planning relating to land use, siting of structures, infrastructure, and topography. Prerequisite: junior standing.

**3343. DESIGN COMMUNICATION III (2-4) 3 hours credit.** An advanced course to develop visual sensitivity and awareness of graphic techniques to enable the student to study design ideas and present those ideas in the various design disciplines. Emphasis on the relationship of communication skills with the design process. Prerequisite: ARCH 2552. \$13 lab fee.

**3553. DESIGN STUDIO: ARCHITECTURE I (3-6) 5 hours credit.** The application of basic design principles/spatial concepts towards the synthesis of simple building types. Credit will be given for only one of ARCH 3553 or INTD 3553. Prerequisite: ARCH 2552. \$13 lab fee.

**3554. DESIGN STUDIO: ARCHITECTURE II (3-6) 5 hours credit.** A continuation of ARCH 3553, with an increased complexity and scale of projects, incorporating a variety of design theory and technical/site considerations. Prerequisites: ARCH 3343 and 3553 and credit or concurrent enrollment in ARCH 3324 and 3337. \$13 lab fee.

**4191, 4391, 4591. CONFERENCE COURSES (Variable credit of 1, 3, or 5 semester hours as arranged).** Independent study guided by an instructor on a regular basis. May be repeated for credit. Prerequisites: consent of the School.

**4195, 4395, 4595. SELECTED TOPICS IN ARCHITECTURE (Variable credit of 1, 3, or 5 semester hours as arranged).** Studio and lecture courses to explore and present selected topics in architecture and design. May be repeated for credit as topics change. Prerequisite: consent of the School and completion of or concurrent enrollment in a 3000-level School course.

**4304. VESSELS (3-0) 3 hours credit.** The design of objects for the post-Industrial Age, including vehicles, furniture, jewelry, household objects, and clothing.

**4305. THE CITY OF ROME (3-0) 3 hours credit.** History, topography, and monuments of the city of Rome and its environs from its legendary founding in 753 B.C. until the 20th Century. Urban form and architecture will be inspected in context of contemporaneous culture, with special emphasis on imperial and papal Rome. Appropriate elective for non-majors. \$15 computer fee.

**4306. URBAN DESIGN THEORY (3-0) 3 hours credit.** Design theory and its application to the urban scale, as applied to historical and contemporary examples. Prerequisite: junior standing.

**4307. THEORY OF CITY PLANNING (3-0) 3 hours credit.** The theory and practice of the physical aspects of city planning and how it

is linked to and impacts the social, economic, and political aspects of planning. Prerequisite: junior standing.

**4308. HISTORY OF URBAN FORM (3-0) 3 hours credit.** The history of cities as physical form, influenced by political, economic, and social forces.

**4309. THE CITY OF LONDON (3-0) 3 hours credit.** History, topography, and monuments of Greater London from before the Roman colonization in the First Century until the 20th Century. Emphasis will be placed upon London's growth into a world capital since the Great Fire of 1666, stressing problems of transportation in 19th and 20th Centuries. Appropriate elective for non-majors. \$15 computer fee.

**4310. AMERICAN ARCHITECTURE (3-0) 3 hours credit.** Architecture of the United States from the 17th Century to World War I.

**4311. ARCHITECTURAL THEORY (3-0) 3 hours credit.** Concepts, philosophy, and models of architecture and allied arts of design with specific application to 20th Century problems. May be repeated for credit as specific topics vary. Prerequisites: junior standing.

**4314. HISTORIC PRESERVATION AND RESTORATION (3-0) 3 hours credit.** Concepts and implementation of the restoration and preservation of historic structures and places, including archaeological, bibliographic, legislative, institutional, and physical parameters to the retention and adaptive re-use of significant architecture. Prerequisite: junior standing.

**4315. TOPICS IN THE HISTORY OF ARCHITECTURE AND DESIGN (3-0) 3 hours credit.** Selected topics in architecture and the allied arts of design drawn from among the Ancient Mediterranean, the Classical World, the Middle Ages, Selected Great Cities, the 19th Century, and the Non-Western World. Prerequisites: ARCH 2303, 2304 and junior standing.

**4316. MODERN ARCHITECTURE I (3-0) 3 hours credit.** Development of 20th Century architecture from the origins of the modern movement in the 1890's until its diffusion in Europe and America in the 1930's. Prerequisites: ARCH 2303, 2304 and junior standing. \$15 computer fee.

**4317. MODERN ARCHITECTURE II (3-0) 3 hours credit.** Development of 20th Century architecture from the diffusion of modernism in the 1930's to the present day. Prerequisites: ARCH 2303, 2304 and junior standing. \$15 computer fee.

**4318. RENAISSANCE ARCHITECTURE (3-0) 3 hours credit.** Development of Renaissance and Mannerist architecture in Italy and its diffusion throughout Europe in the 15th and 16th Centuries. Prerequisites: ARCH 2303, 2304 and junior standing.

**4320. BAROQUE ARCHITECTURE (3-0) 3 hours credit.** The invention and development of the Baroque style in Italy in the 17th and 18th Centuries and its diffusion and interpretation throughout Europe and America. Prerequisites: ARCH 2303, 2304 and junior standing. \$15 computer fee.

**4325. ENVIRONMENTAL CONTROL SYSTEMS I (3-0) 3 hours credit.** Acoustics and illumination and their significance in the total design. Prerequisite: junior standing.

**4326. ENVIRONMENTAL CONTROL SYSTEMS II (3-0) 3 hours credit.** Climate controls, mechanical and electrical systems, and their significance in the total design. Prerequisites: ARCH 4325 and junior standing.

**4327. STRUCTURES II (3-0) 3 hours credit.** Concepts and applications of structural design in structural steel. Prerequisite: ARCH 3324, or CE 2311 and 3311.

**4328. STRUCTURES III (3-0) 3 hours credit.** Concepts and applications of structural design in reinforced concrete. Prerequisite: ARCH 4327.



**4329. COMPUTERS AND DESIGN (2-4) 3 hours credit.** The range and potential of digital computer applications in the design professions. Prerequisite: junior standing. \$50 computer fee, \$10 lab fee.

**4330. ENERGY USE AND CONSERVATION IN ARCHITECTURE (3-0) 3 hours credit.** Basic concepts of the efficient use and conservation of energy related to architectural design principles. Prerequisite: junior standing. \$15 computer fee.

**4343. PROBLEMS IN DESIGN, MATERIALS, AND FABRICATION (3-0) 3 hours credit.** The conceptualizing and making of objects lying outside the traditional scope of architectural practice, including elements of industrial and product design and the development of working prototypes. Course may be repeated for credit as emphasis varies. Prerequisite: junior standing. \$13 lab fee.

**4344. CONCEPTUAL DRAWING (3-0) 3 hours credit.** A seminar to explore the aspects of conceptual drawing for the architect and the relationship of design ideas in the drawing process. May be repeated for credit.

**4346. CONSTRUCTION DRAWINGS I (2-4) 3 hours credit.** The techniques of building construction, the communication of technical information, and the process of preparing contract drawings for construction. May be repeated for credit. \$13 lab fee.

**4347. CONSTRUCTION DRAWINGS II (2-4) 3 hours credit.** Advanced communication of technical information concerning building materials and methods of construction, life safety systems, barrier-free and handicapped design, and the process of preparing detailed contract documents for construction. Prerequisite: ARCH 4346. \$13 lab fee.

**4348. ARCHITECTURAL PHOTOGRAPHY I (2-4) 3 hours credit.** Basic photography for architects. The use of photography as an investigative and presentation device in architecture. Emphasis on composition and black and white technique. Prerequisite: junior standing. \$16 lab fee.

**4349. ARCHITECTURAL PHOTOGRAPHY II (1-6) 3 hours credit.** Architectural photography. Advanced techniques in photography, including use of view camera and lighting techniques, and their application in photographing architecture and architectural models. Prerequisite: ARCH 4348 or equivalent as approved by instructor. May be repeated for credit. \$16 lab fee.

**4353. HISTORY OF LANDSCAPE ARCHITECTURE (3-0) 3 hours credit.** Development of landscape design from prehistory through 19th Century with emphasis upon rural gardens and urban parks as representative of the social, cultural, and intellectual circumstances of the times and places in which they were created. Prerequisite: junior standing.

**4556. DESIGN STUDIO: ARCHITECTURE III (3-6) 5 hours credit.** Advanced architectural design problems in programming schematic organization, synthesis and design of buildings in their environmental context. Prerequisites: ARCH 3324, 3337, 3343, and 3554, and credit or concurrent enrollment in ARCH 4327. \$13 lab fee.

**4557. DESIGN STUDIO: ARCHITECTURE IV (3-6) 5 hours credit.** Advanced architectural design problems in programming, schematic organization, synthesis and design of buildings in their environmental context. Prerequisite: ARCH 4556. \$13 lab fee.

## Interior Design (INTD)

*(Refer to catalog for Entrance Requirements to Major Studies)*

**3305. HISTORY OF INTERIOR DESIGN (3-0) 3 hours credit.** A historical and analytical review of interior spaces and furnishings throughout history, with emphasis on the post-medieval periods. \$15 computer fee.

**3321. INTERIOR MATERIALS I (3-0) 3 hours credit.** The properties and applications of materials used in interior spaces. Prerequisite: junior standing in School or permission of advisor.

**3322. INTERIOR MATERIALS II (3-0) 3 hours credit.** A continuation of INTD 3321. Prerequisite: INTD 3321.

**3343. INTERIOR DESIGN COMMUNICATION III (2-4) 3 hours credit.** An advanced course to develop visual sensitivity and awareness of graphic techniques to enable the student to study design ideas and present those ideas in the various environmental design disciplines. Emphasis on the relationship of communication skills with the design process. \$13 lab fee.

**3345. INTERIOR DESIGN COMMUNICATION IV (2-4) 3 hours credit.** An advanced course to develop visual sensitivity and skills in graphic and media techniques for the study and presentation of interior design.

**3553. DESIGN STUDIO: INTERIOR DESIGN I (3-6) 5 hours credit.** The analysis, planning, and design of interior spaces. Prerequisites: credit or concurrent enrollment in INTD 3343 or INTD 3345. \$13 lab fee.

**3555. DESIGN STUDIO: INTERIOR DESIGN II (3-6) 5 hours credit.** The analysis, planning, and design of interior spaces. Prerequisites: credit or concurrent enrollment in INTD 3343 or INTD 3345. \$13 lab fee.

**4191, 4391, 4591. CONFERENCE COURSES (Variable credit of 1, 3, or 5 semester hours as arranged).** Independent study guided by an instructor on a regular basis. May be repeated for credit. Prerequisites: consent of the School.

**4195, 4395, 4595. SELECTED TOPICS IN INTERIOR DESIGN (Variable credit of 1, 3, or 5 semester hours as arranged).** Studio and lecture courses to explore and present selected topics in interior design. May be repeated for credit as topics change. Prerequisite: consent of the School.

**4332. PROFESSIONAL PRACTICE: INTERIOR DESIGN (3-0) 3 hours credit.** Business procedures, contracts, and ethics essential to the profession. Prerequisite: junior standing in the School.

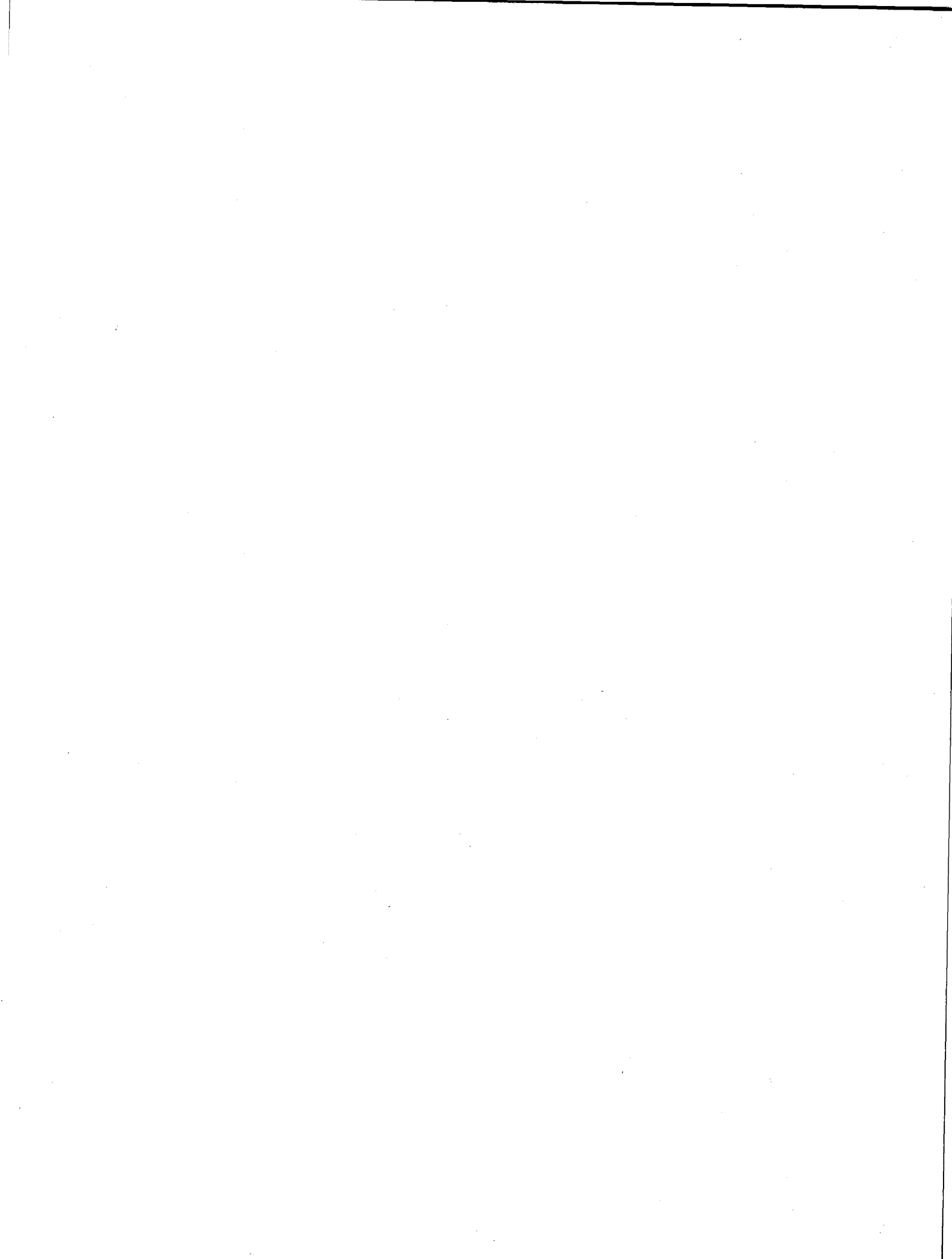
**4345. ARCHITECTURAL GRAPHICS (2-4) 3 hours credit.** Graphic and signage problems for interior and exterior environments. Visual identification programs will be developed. Materials and fabrication processes will also be addressed. Prerequisites: ARCH 3343/or INTD 3343 and junior standing in the School or Department of Art. \$13 lab fee.

**4368. INTERIOR DESIGN AND DETAILING (2-4) 3 hours credit.** A studio course in design and construction detailing. Prerequisite: senior standing in INTD.

**4369. FURNITURE DESIGN AND CONSTRUCTION (2-4) 3 hours credit.** A studio course in the design, detailing, and construction of movable furniture. Prerequisite: INTD 4368 or permission of advisor. \$13 lab fee.

**4562. DESIGN STUDIO: INTERIOR DESIGN III (3-6) 5 hours credit.** The analysis, planning, and design of interior spaces. Prerequisites: INTD 3343, 3345, and 3322 and credit or concurrent enrollment in ARCH 4325 and INTD 4368. \$13 lab fee.

**4563. DESIGN STUDIO: INTERIOR DESIGN IV (3-6) 5 hours credit.** The analysis, planning, and design of interior spaces. Prerequisites: INTD 3343, 3345, and 3322 and credit or concurrent enrollment in ARCH 4325 and INTD 4368. \$13 lab fee.



# The College of Business Administration

544 Business Bldg. • Box 19366 • 817-272-3368

The Bachelor of Business Administration, Bachelor of Science in Information Systems, Master of Business Administration, Master of Professional Accounting, Master of Science in Accounting, Master of Science in Information Systems, Master of Science in Marketing Research, Master of Science in Personnel and Human Resource Management, and Master of Science in Real Estate at The University of Texas at Arlington are fully accredited by the American Assembly of Collegiate Schools of Business.

## Philosophy

Teaching, research, and community service are the essential activities of the College of Business Administration. All three activities are aimed at enhancing the college's scholarly environment and strengthening relationships with the business community. The emphasis on excellence in the performance of these cornerstone activities enables the college to offer an outstanding business education for students over a broad spectrum of interest, age, and experience.

To be of lasting value, education for business, like education generally, must develop in its students the ability to engage in critical thinking, to project the future, and to relate effectively to others. First-rate business schools are inhabitants of the ever-expanding intellectual frontier of the American business world. Their mission is to seek out and foresee the inevitable changes ahead and, on occasion, even bring them about. They must report findings, not only to students but also to the leaders of business practice. Then they must draw on all relevant knowledge, as well as all the modern processes of thought and analysis, that will help the students to understand, and business leaders to master, the problems of change. The College of Business Administration strives to prepare the student for a lifetime career in professional management, and the heart of that profession is the making of managerial decisions in a world of change.

The college is dedicated to the development of graduates who possess not only the skill and knowledge requisite for success in business, but also the wisdom and understanding which will enable them to become productive citizens. The college's program seeks to provide a firm base of liberal arts education consistent with that of any other professional preparation, to strive for adequate breadth within its own curriculum, and to maintain a continuing, lively interchange with related fields. Effort is exerted to make the study of business a challenging intellectual adventure rather than a mere exercise in specialized techniques.

## Mission Statement

Consistent with the mission of the University, the College of Business Administration strives to be a recognized contributor in the field of business education and research. It is our mission to build and maintain a quality educational environment, creating value for our constituencies.

Our achievement-focused programs produce quality graduates at all degree levels. These programs respond to changing needs and opportunities, generate and communicate new knowledge and ideas to benefit the scholarly, public and private sectors, and provide a wide range of intellectual and professional services locally, regionally, nationally and internationally.

## Objectives

Our mission will be fulfilled by achieving the following objectives:

- To discover and disseminate knowledge that, through its relevance and rigor, benefits our students, practitioners and other constituencies.
- To continue to develop and provide instructional programs that meet the needs of our students: part-time, full-time, employed and international.
- To maintain a rigorous and effective client-focused environment that capitalizes on our urban setting.
- To continually improve all our academic programs, with special emphasis on master's programs, to effectively address the diversified needs of the Metroplex area.
- To further our community interaction by offering off-campus courses, distance education and professional development seminars.
- To enhance the visibility of the college and improve its financial strength through increased external funding.
- To provide advisory services to academic, professional and other organizations.

## Programs

To attain these objectives, guidelines have been developed to provide minimum coverage of the basic areas of human knowledge and exposure to the fundamentals in each of the functional areas of business.

There are three major degree programs, each developed within the frame of reference described above. The first is the Bachelor of Business Administration Degree, with subject area concentrations in finance, information systems, management, production/operations management, marketing, real estate, or economics. The B.B.A. (Accounting) degree, while adhering to the basic philosophy outlined, permits a maximum 33 semester hour concentration in accounting. Thus, in addition to acquiring excellent preparation for a management career in industry, a student may also pursue professional objectives leading to a career in private, governmental, or public accounting. The B.B.A. in International Business includes a dual con-

centration including specific international business coursework and 32 hours of a foreign language. A B.S. degree in information systems is offered for the student planning a professional career in business information systems. A B.S. degree in economics is also offered for the benefit of the student planning a career as a professional economist. The B.A. degree in economics is the traditional liberal arts degree, oriented toward careers in teaching and research, government, or business.

## Admission

### Business/Accounting/Information Systems/International Business/Foreign Language Degree Programs (B.B.A. and B.S.)

In addition to the general admission requirements of the University as stated elsewhere in this catalog, admission to the Bachelor of Business Administration Program is dependent upon a student's completion of at least eight courses from Group 1 and four courses from Group 2 below. The student must attain a grade point average of at least 2.25 in all courses taken in each group by the time of application for admission to the College of Business Administration. The required math courses or their equivalent must be completed before a student can be considered for admission into a degree program.

**Group 1: General Education Courses:** ENG 1301 and 1302, three hours of literature, three hours of liberal arts, POLS 2311 and 2312, HIST 1311 and 1312, MATH 1302 or 1315 and 1316, SPCH 1301, eight hours of science with laboratory, and three hours of fine arts/philosophy.

**Group 2: Lower Division Business Courses:** ACCT 2301 and 2302, ECON 2305 and 2306, BUSA 2301 (or a suitable substitute for specific degree programs), and BUSA 2303.

### Economics Degree Programs (B.S. and B.A.)

Economics majors must complete a minimum of eight courses from the Economics general education core and four College of Business Administration courses to be considered for admission into a major. Math must also be completed. The student must meet the business grade point requirements as stated in the preceding paragraphs.

### Transfer Students

A transfer student transferring in 30 or more hours will be admitted to any degree program in the College of Business Administration upon earning a cumulative grade point average of 2.25 on a minimum of 12 hours of College of Business Administration courses at U.T. Arlington. Group 1 courses are required for a degree but are not used in determining admission into a major or concentration. The required math courses or their equivalent must be completed before a student can be considered for admission into a degree program.

## Business Honors Program

The Business Honors Program (BHP) operates as a part of U.T. Arlington's Honors Program. Its primary objective is to establish a cohesive community of exceptionally intelligent and motivated students who will pursue the study of business together in a stimulating learning environment. Participation in the BHP is open to students who maintain a total cumulative grade point average of 3.0 or higher. Students who complete the program successfully will receive a special citation on their diplomas.

## Requirements for Graduation

In addition to meeting the credit hour and course requirements for a specific College of Business Administration degree program, the student must meet the following requirements:

- A minimum overall grade point average of 2.0;
- A minimum grade point average of 2.0 for all coursework taken from the College of Business Administration; and
- A minimum grade point average of 2.0 for courses taken within the major and concentration area for those majors having a concentration. This requirement also applies to foreign language coursework for International Business degree programs.
- To be considered for any undergraduate business degree, students must complete at least 50 percent of their business coursework in residence.

## Liberal Arts Major/Business Administration Minor

Liberal Arts majors planning to pursue a Master of Business Administration degree are advised to select a minor (18-24 semester hours) from the following courses: ACCT 2301, 2302, BUSA 2301, 2303, 3306, 3321, MANA 3319, FINA 3313, MARK 3321, and ECON 2305, 2306. In addition, MATH 1315 and MATH 1316 are recommended to fulfill the mathematics requirement.

Completion of the above courses will allow the student, subject to normal graduate admission requirements, to reduce the foundation MBA program requirements. A student not completing all the courses identified above will be required to enroll in the appropriate MBA foundation courses.

## Science Major/Business Administration Minor

Science majors planning to pursue a Master of Business Administration Degree are advised to select a minor (18-24 semester hours) from the following courses: ACCT 2301, 2302, BUSA 2301, 2303, 3306, 3321, MANA 3319, FINA 3313, MARK 3321, and ECON 2305, 2306.

Completion of the above courses will allow the student, subject to normal graduate admission requirements, to reduce the foundation MBA program requirements. A student not completing all the courses identified above will be required to enroll in the appropriate MBA foundation courses.

# The Department of Accounting

409 Business Bldg. • Box 19468 • 817-272-3481

## Mission Statement

The mission of the Department of Accounting is to: (1) create and disseminate knowledge of accounting and the accounting profession and (2) provide service to the accounting profession, business community, and general community.

## Objectives

The objective of the Bachelor of Business Administration Degree with a major in accounting is to provide basic conceptual accounting and business knowledge as a foundation for career development. The program enables students to pursue professional opportunities in government, industry, financial institutions, and nonprofit organizations.

## Accreditation

The undergraduate program in accounting is fully accredited by the American Assembly of Collegiate Schools of Business.

## Course Requirements

Students must meet all lower division requirements before enrolling for upper division courses. Specified prerequisites are designed for certain courses. Waiver of either of the above will require consent of the instructor and approval of the Dean of the College of Business Administration.

## Requirements for a Bachelor of Business Administration Degree

### (Accounting Option)

#### English

1301 and 1302 or suitable substitutes.

#### Literature

Three hours above the freshman level.

#### Liberal Arts Elective

Three hours above the freshman level of literature, or social and cultural studies designated as taught in the College of Liberal Arts, or fine arts or philosophy or technical writing. BUSA 3360 may be used to satisfy this requirement.

#### Political Science

2311, 2312.

#### History

1311, 1312.

#### Mathematics

1302 or 1315, and 1316.

#### Science

11 hours—eight hours in single lab science (BIOL 1333, 1334, 1282; GEOL 1435, 1436; PHYS 1447, 1448; PHYS 1445, 1446; CHEM 1301, 1302, 1284 recommended) and three hours in science or social science.\*

#### Fine Arts and Philosophy

Three hours from architecture, art, dance, music, philosophy, or theatre arts.

#### Social/Cultural Studies

BUSA 2301, or three hours from anthropology, selected economics, psychology, or sociology.

#### Speech

1301.

#### Electives

Sufficient to give the total number of hours required for the degree.

#### Business Administration

2303, 3321, 3322 (or INSY 3304), 4322.

#### Business Law

3311, 3312.

#### Marketing

3321.

#### Finance

3313.

#### Management

3319.

#### Economics

2305, 2306, and six hours of junior or senior level economics electives.

#### Accounting

2301, 2302, 3303, 3311, 3312, 3315, 4302, 4318, and six hours of accounting electives. All electives must be selected with the approval of an accounting advisor.\*\*

#### Business Electives

Six hours of advanced business, management, marketing, finance, information systems, economics, or accounting electives of which not more than three hours may be in accounting. All electives must be selected with the approval of an accounting advisor.

#### Total

128 plus exercise and sport activities (EXSA) or ROTC or marching band as required, and fulfillment of the social science requirement.

\* The word science as used here is intended to include courses offered by the College of Science in biology, chemistry, geology, experimental psychology, and physics and courses which address subject matters primarily through scientific methods but may be offered by (sub-)disciplines not in the College of Science. These will include, but not necessarily be limited to, designated courses in economics, physical geography, and some sociology and anthropology courses.

\*\* A grade of C or higher must be earned in each accounting course presented to satisfy the requirements for a degree with a major in accounting. Accounting 3309 and 3310 may not be taken by accounting majors for credit.

## Suggested Course Sequence

### Freshman Year

**First Semester:** ENGL 1301; HIST 1311; Science, 4 hours; MATH 1315; SPCH 1301; EXSA or ROTC or Marching Band—Total Credit 17 hours.

**Second Semester:** ENGL 1302; HIST 1312; Science, 4 hours; MATH 1316; Fine Arts/Philosophy, 3 hours; EXSA or ROTC or Marching Band—Total Credit 17 hours.

### Sophomore Year

**First Semester:** Literature, 3 hours; POLS 2311; ECON 2305; ACCT 2301; BUSA 2303; EXSA or ROTC or Marching Band—Total Credit 16 hours.

**Second Semester:** Liberal Arts Elective, 3 hours; POLS 2312; ECON 2306; ACCT 2302; Science, 3 hours; EXSA or ROTC or Marching Band—Total Credit 16 hours.

### Junior Year

**First Semester:** ACCT 3303; ACCT 3311; FINA 3313; Economics Elective, 3 hours; BUSA 2301 or Social and Cultural Studies, 3 hours; Elective, 3 hours—Total Credit 18 hours.

**Second Semester:** ACCT 3312; ACCT 3315; MARK 3321; BUSA 3321; MANA 3319; Economics Elective, 3 hours—Total Credit 18 hours.

### Senior Year

**First Semester:** ACCT 4302; ACCT 4318; BLAW 3311; BUSA 3322 or INSY 3304; Accounting Elective, 3 hours—Total Credit 15 hours.

**Second Semester:** Accounting Elective, 3 hours; BLAW 3312; Business Electives, 6 hours; BUSA 4322—Total Credit 15 hours.

## Career Options

The following descriptions of specialties within the field of accounting, with a suggested sequence of accounting electives for each specialty area, is presented to assist in planning a degree program. Students who plan to take the Certified Public Accountant examination should be aware that beginning in 1997, the Texas Public Accountancy Act of 1979, as amended, requires, among other things, the completion of at least 150 semester hours, of which at least 36 must be in accounting, for an individual to be licensed as a Certified Public Accountant in Texas. To fulfill this requirement and simultaneously earn an undergraduate and graduate degree in accounting, students should consider the Professional Program in Accounting option. A faculty advisor should be consulted before making final decisions relative to a degree program.

### B.B.A. Program

**Financial Accounting:** Emphasizes preparation for a career in accounting for a business enterprise, without sufficient preparation to attain the Certified Public Accountant designation. Suggested electives: ACCT 4311, 4313, 4338.

**Managerial Accounting:** Emphasizes preparation for a career in consulting or in accounting for business enterprises, government, or not-for-profit organizations. Preparation for a Certified Management Accountant designation can be gained, depending on selection of courses from these electives: ACCT 4301, 4304, 4311, 4313, and/or 4338.

**Tax Accounting:** Emphasizes preparation for a career in tax accounting in business or government; also appropriate for a tax-oriented legal career. Suggested elective: ACCT 4301.

**Accounting Information Systems:** Emphasizes preparation for a career in the design and implementation of information systems in business enterprise. Suggested electives: ACCT 4304 and INSY 3304.

### Professional Program in Accounting

This program emphasizes preparation for a career in public or other professional accounting, including emphasis on attainment of the Certified Public Accountant designation. Beginning in 1997, the Texas Public Accountancy Act of 1979, as amended, requires, among other things, the completion of at least 150 semester hours, of which at least 36 must be in accounting, for an individual to be licensed as a Certified Public Accountant in Texas. The Professional Program in Accounting is designed to fulfill this requirement and allow the simultaneous granting of an undergraduate and graduate degree in accounting. Students interested in this program option will enroll in the undergraduate program and fulfill all of the designated course requirements for the undergraduate degree except for the deletion of the requirements for the two accounting electives, BUSA 4322, and BUSA 3322 or INSY 3304. (The aforementioned deleted course content is covered in specified graduate course offerings, as described in the Graduate Catalog).

During the last semester of the junior year, interested persons should consult an advisor and apply for admission to the professional program option. Formal admission to the program will occur during the first semester of the senior year (provided the student has completed at least 90 hours of the designated coursework, and otherwise meets program admission requirements). Students admitted to the program will complete a plan of study which will result in fulfillment of the remaining undergraduate course requirements (excluding the two accounting electives, BUSA 4322, and BUSA 3322 or INSY 3304) and provide for sufficient additional graduate course offerings to complete the requirements for one of the masters degree program options (of the student's choosing). Provided certain conditions are met, students may begin to earn the graduate course credits before completing all of the undergraduate course requirements. Interested students should obtain a graduate catalog and consult an advisor for further information on the Professional Program in Accounting option.

## Department of Accounting Faculty

### Chair

Associate Professor Walther

### Professors

Courtney, Dunn, T. Hall, Hill, Petersen, Solomon, Taylor

### Associate Professors

Beehler, Ho, Jones, Mark, McConnell, Pierce, Tsay, Witt

### Senior Lecturers

Horstmann, Strickland

### Lecturers

Carpenter, Elliott, Hodge

## Accounting (ACCT)

Prefix and number in parentheses following the U.T. Arlington course number and title is the Common Course Number designation.

**2301. PRINCIPLES OF ACCOUNTING I (3-0) 3 hours credit (ACCT 2301).** The accounting process and its informational output. Financial accounting concepts, basic procedures, and the resulting reports. Recognition and creation of accounting information as bases for decisions.

**2302. PRINCIPLES OF ACCOUNTING II (3-0) 3 hours credit (ACCT 2302).** A continuation of financial accounting and a study of managerial accounting concepts and techniques. The development, presentation, analysis, and limitations of accounting information. Prerequisite: ACCT 2301.

**3303. INTRODUCTION TO ACCOUNTING INFORMATION SYSTEMS (3-0) 3 hours credit.** The structure of contemporary accounting systems with emphasis on controls, auditing, reporting, and efficient operation. Prerequisites: ACCT 2302 and BUSA 2303.

**3309. ACCOUNTING FOR MANAGERS (3-0) 3 hours credit.** Planning, controlling, decision making, and performance evaluation. Uses a variety of teaching techniques (e.g., problems, cases, and projects) and is open only to nonaccounting majors. Credit will not be given for both this course and ACCT 4302. Prerequisite: ACCT 2302.

**3310. TAX PLANNING AND FINANCIAL DECISIONS (3-0) 3 hours credit.** Designed primarily for those business students desiring a broad general understanding of tax laws and their implications for planning. Credit will not be given for both this course and ACCT 3315. Prerequisite: ACCT 2301. Accounting majors may not take this course for credit.

**3311. FINANCIAL ACCOUNTING I (3-0) 3 hours credit.** The environment of accounting, development of standards, basic theory, financial statements, worksheets, annuities and present value, receivables, inventories, liabilities, plant assets, depreciation and depletion, and intangible assets. Prerequisite: ACCT 2302.

**3312. FINANCIAL ACCOUNTING II (3-0) 3 hours credit.** Stockholders' equity, earnings per share, investments in bonds and stocks, equity method, revenue recognition, accounting changes, error analysis, income taxes, pensions, leases, and cash flows. Prerequisite: ACCT 3303 and 3311.

**3315. STUDY OF FEDERAL INCOME TAX RELATIVE TO INDIVIDUALS (3-0) 3 hours credit.** For accounting majors. Comprehensive analysis of the federal income tax consequences applicable to individuals. Concepts relating to passive and earned income, deductible expenses, and tax credits. Credit will not be given for both this course and ACCT 3310. Prerequisite: ACCT 3311.

**4191. STUDIES IN ACCOUNTING (1-0) 1 hour credit.** Advanced studies, on an individual basis, in various fields of accounting literature. May not be repeated for credit. Prerequisite: consent of the instructor.

**4301. STUDY OF INCOME TAX FOR ENTITIES OTHER THAN INDIVIDUALS(3-0) 3 hours credit.** Comprehensive analysis of the federal income tax consequences applicable to entities other than individuals. The relevant tax principles of corporations, partnerships, trusts, and estates will be undertaken. Prerequisite: ACCT 3315.

**4302. ACCOUNTING IN MANAGERIAL PLANNING AND CONTROL (3-0) 3 hours credit.** The role and development of accounting and other information for use in planning, control, decision making, and performance evaluation. Application of appropriate quantitative and statistical methods. Prerequisites: 15 hours of accounting and BUSA 2303 and 3321.

**4304. COST ACCOUNTING (3-0) 3 hours credit.** Concepts and purposes underlying the development and reporting of cost accounting information. Job order costing, process costing, standard costs, and variance analysis. Prerequisite: ACCT 2302.

**4311. ADVANCED FINANCIAL TOPICS (3-0) 3 hours credit.** Consolidated statements, partnerships, and other topics which may include price-level adjusted statements, current value statements, ratio analysis, full disclosure, multinational companies, segment reporting, interim statements, branches, estates and trusts, SEC reporting, regulated industries. Prerequisite: ACCT 3312.

**4313. ACCOUNTING THEORY (3-0) 3 hours credit.** The structure of accounting theory and its underlying concepts and standards. Emphasis on APB opinions and FASB statements. Prerequisite: ACCT 4311 or concurrent enrollment in ACCT 4311.

**4318. AUDITING (3-0) 3 hours credit.** Principles, concepts, and techniques which are appropriate to the acquisition, evaluation, and documentation of audit evidence. Internal control concepts, financial compliance, and operational auditing. Prerequisites: ACCT 3303 and 3312, BUSA 2303 and 3321.

**4325. GOVERNMENTAL ACCOUNTING (3-0) 3 hours credit.** Budgeting, accounting, and financial reporting for local governmental units, hospitals, voluntary health and welfare organizations and other non-profit entities. Prerequisite: ACCT 2302.

**4331. INTERNAL AUDITING I (3-0) 3 hours credit.** A comprehensive study of internal auditing standards, ethics, concepts, audit techniques, and reporting practices. Prerequisite: ACCT 3303 or consent of instructor.

**4332. INTERNAL AUDITING II (3-0) 3 hours credit.** An advanced study of operational, organizational, and quality control audits. Topics will include operational audit methodology, audits of administrative and support services, audits of line functions, and audits of special areas. Prerequisite: ACCT 4331 and a 3.0 GPA.

**4338. INDEPENDENT AUDITING RESPONSIBILITIES AND STANDARDS (3-0) 3 hours credit.** Thorough coverage of ethics, legal liability, and the professional standards; audit, SEC practice, management services, tax practice, quality control, and accounting and review services. Application of these standards to contemporary and emerging practice problems. Prerequisite: ACCT 4318.

**4395. SEMINAR IN ACCOUNTING (3-0) 3 hours credit.** Readings and discussions of special topics in accounting. May be repeated for credit. Prerequisite: consent of the instructor.

# Business Administration

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The Bachelor of Business Administration Degree allows the student to choose options in Economics, Finance, Information Systems, Management, Production/Operations Management, Marketing, and Real Estate. General business administration courses are found in this section of the catalog. Courses in the various option fields are found in the appropriate departmental sections of the catalog. (Production/Operations Management courses are found in the Information Systems and Management Sciences Department.)

## Requirements for a Bachelor of Business Administration Degree

### (Economics, Finance, Information Systems, Management, Marketing, Production/Operations Management, and Real Estate Options)

Students must be meeting all lower division requirements before enrolling for upper division courses. Specified prerequisites are designated for certain courses. Waiver of either of the above will require consent of the instructor and approval of the Dean of Business Administration.

#### English

1301, 1302.

#### Literature

Three hours of English or foreign language literature or other approved substitute above the freshmen level.

#### Liberal Arts Elective

Three hours above the freshman level of literature, or social and cultural studies designated as taught in the College of Liberal Arts, or fine arts or philosophy, or technical writing.

#### History

1311, 1312.

#### Political Science

2311, 2312.

#### Mathematics

1302 or 1315, and 1316.

#### Science

11 hours—eight hours in single lab science (BIOL 1333, 1334, 1282; GEOL 1435, 1436; PHYS 1447, 1448; PHYS 1445, 1446; CHEM 1301, 1302, 1284; or CHEM 1445, 1446 recommended) and three hours in science or social science. Three hours of this requirement are automatically fulfilled by ECON 2305, a social science.

#### Social/Cultural Studies

BUSA 2301\* or three hours of social or industrial psychology.

#### Fine Arts and Philosophy

Three hours from architecture, art, dance, music, philosophy, theatre arts, or other approved substitute course.

#### Speech

1301 or 2305.

#### Outside Electives

Sufficient to give the total number of hours required for the degree.

#### Core

ACCT 2301 and 2302; BLAW 3311; BUSA 2303, 3306, 3321, and 4322; ECON 2305 and 2306; FINA 3313; MANA 3319; MARK 3321.

#### Concentration and Electives

12 to 18 hours beyond the core requirement in one of the following areas of concentration: economics, finance, information systems, management, marketing, production/operations management, or real estate. Three to six hours of accounting electives. Six hours of economics electives.\*\* 12 to 18 hours of 3000/4000 level business electives selected from at least three areas of concentration excluding the primary area of concentration.

#### Total

128 hours, plus exercise and sport activities (EXSA) or ROTC or marching band as required.

\* Students planning to attend Graduate School should enroll in this course.

\*\* Students planning to attend Graduate School should take ECON 3310 and 3312 in their undergraduate program of study.

#### Suggested Course Sequence

##### Freshman Year

**First Semester:** ENGL 1301; HIST 1311; Science, 4 hours; MATH 1315; Speech, 3 hours; EXSA or ROTC or Marching Band—Total Credit 17 hours.

**Second Semester:** ENGL 1302; HIST 1312; Science, 4 hours; MATH 1316; Fine Arts/Philosophy, 3 hours; EXSA or ROTC or Marching Band—Total Credit 17 hours.

##### Sophomore Year

**First Semester:** Literature, 3 hours; POLS 2311; ECON 2305; ACCT 2301; BUSA 2303; BUSA 2301 or Social or Industrial Psychology, 3 hours; EXSA or ROTC or Marching Band—Total Credit 19 hours.

**Second Semester:** Liberal Arts Elective, 3 hours; POLS 2312; ECON 2306; ACCT 2302; Outside Elective, 3 hours; EXSA or ROTC or Marching Band—Total Credit 16 hours.

#### Economics Option

The student concentrating in economics should be certain that he/she is meeting the requirements specified previously under the heading Requirements for a Bachelor of Business Administration Degree. Within the framework of these conditions, the economics concentration is limited to 21 hours in economics. This includes 15 hours of economics beyond the courses in principles of economics, ECON 2305 and 2306. ECON 3303, 3310, 3312, and 4311 are required. The remaining three hours of concentration may be selected from among the remaining economics offerings. A three-hour accounting elective is also required. The remainder of the courses to meet degree requirements should be selected with the advice of an academic advisor.



## Suggested Course Sequence

### Junior Year

**First Semester:** ECON 3303; ECON 3310; MARK 3321; BUSA 3321; Accounting Elective, 3 hours; BLAW 3311—Total Credit 18 hours.

**Second Semester:** ECON 3312; FINA 3313; MANA 3319; BUSA 3306; Advanced Business Electives, 6 hours—Total Credit 18 hours.

### Senior Year

**First Semester:** Economics Elective, 3 hours; Advanced Business Electives, 12 hours—Total Credit 15 hours.

**Second Semester:** BUSA 4322; ECON 4311; Outside Elective, 3 hours; Advanced Business Elective, 3 hours.—Total Credit 12 hours.

## Finance Option

The student concentrating in finance should be certain that he/she is meeting the requirements specified previously under the heading Requirements for a Bachelor of Business Administration Degree. Within the framework of these conditions, the finance concentration student is limited to a maximum of 21 finance hours, to include three to nine hours of finance courses beyond FINA 3313, 3315, 3317, and 4315, which are required.

The student is also required to take ACCT 3311 and three hours of accounting at the 3000 or 4000 level. Other minimum requirements are six hours of economics. The remainder of the courses to meet degree requirements should be selected with the advice of an academic advisor. These courses may include insurance, business law, and real estate. It is recommended that students planning careers in financial institutions take ACCT 3312 and ECON 3303. Following is an outlined upper-level program, detailing required and suggested courses for finance students who choose a specific area of study. All finance students MUST counsel with the finance advisor; it is best to do this no later than in the first semester of the junior year.

## Suggested Course Sequence

### Junior Year

**First Semester:** FINA 3313; BLAW 3311; BUSA 3321; MANA 3319; ACCT 3311; Economics Elective, 3 hours—Total Credit 18 hours.

**Second Semester:** FINA 3315; FINA 3317; MARK 3321; BUSA 3306; Accounting Elective, 3 hours—Total Credit 15 hours.

### Senior Year

**First Semester:** BUSA 4322; Finance, 3 hours; Finance or Advanced Business Elective\*, 6 hours; Economics Elective, 3 hours—Total Credit 15 hours.

**Second Semester:** FINA 4315; Advanced Business Electives\*, 9 hours; Outside Elective, 3 hours—Total Credit 15 hours.

\* Suggested advanced business electives: BLAW 3312; BUSA 3326; INSU 4329; POMA 4305; REAE 3325, 4319, 4321; INSY 3305; ACCT 3311, 3312.

## Career Options in Finance

Finance is the branch of business concerned with management of money. The specific nature of the money management function depends to some extent on the type of organization. Based on similarity of the finance function, finance is generally classified into three areas: corporate finance, investments and securities, and financial

institutions. Career opportunities may be available in each of these areas. A brief description of each area along with some courses applicable to each is provided below. A faculty advisor should be consulted before making final decisions relative to a degree program.

**Financial Institutions:** Commercial banks, savings and loan associations, credit unions, mutual funds, pension funds, finance companies, and insurance companies. Also, various governmental bodies that regulate financial institutions are included.

**Investments and Securities:** Firms such as investment banks, stockbrokers, institutional investors, and investment advisory services.

**Corporate Finance:** Manufacturing firms, wholesalers, retailers, and firms engaged in providing all types of nonfinancial services.

## Information Systems Option

The student concentrating in information systems should be certain he/she is meeting the requirements specified previously under the heading Requirements for a Bachelor of Business Administration Degree. Within the framework of these conditions, a student is limited to a maximum of 21 hours in each of the concentration areas. For a concentration in information systems, a student would include 18 hours of information systems beyond BUSA 2303. INSY 3302, 3304, 3305, 3308, 4306, and 4308 are required.

The student concentrating in information systems is encouraged to take a computer science course as an outside elective. Other required electives (accounting—three hours; economics—six hours) and advanced business electives should be selected with the advice of an academic advisor.

## Suggested Course Sequence

### Junior Year

**First Semester:** INSY 3302; INSY 3304; Accounting Elective, 3 hours; MANA 3319; BUSA 3321; Economics Elective, 3 hours—Total Credit 18 hours.

**Second Semester:** INSY 3305; BUSA 3306; BLAW 3311; Economics Elective, 3 hours; FINA 3313; MARK 3321—Total Credit 18 hours.

### Senior Year

**First Semester:** INSY 3308; INSY 4306; Advanced Business Electives, 9 hours—Total Credit 15 hours.

**Second Semester:** INSY 4308; Outside Elective, 3 hours; BUSA 4322; Advanced Business Elective, 3 hours—Total Credit 12 hours.

## Management Option

The student concentrating in management should be certain that he/she is meeting the requirements specified previously under the heading Requirements for a Bachelor of Business Administration Degree. Within the framework of these conditions, a student is limited to a maximum of 21 hours in each of the concentration areas. For a concentration in management, a student would include 12 to 18 hours of management beyond MANA 3319. MANA 3320 and 3323 are required. The balance of up to 12 hours of concentration may be selected from among the remaining management offerings.

Other required courses include accounting, three hours, and economics, six hours. The remainder of the courses to meet degree requirements should be selected with the advice of an academic advisor.

### Suggested Course Sequence

#### Junior Year

**First Semester:** MANA 3319; Accounting Elective, 3 hours; BLAW 3311; BUSA 3321; Economics Elective, 3 hours; MARK 3321—Total Credit 18 hours.

**Second Semester:** MANA 3320; MANA 3323; BUSA 3306; Economics Elective, 3 hours; FINA 3313; Advanced Business Elective, 3 hours—Total Credit 18 hours.

#### Senior Year

**First Semester:** Management Elective, 3 hours; Management or Advanced Business Electives, 6 hours; Advanced Business Electives, 6 hours—Total Credit 15 hours.

**Second Semester:** Management Elective, 3 hours; BUSA 4322; Outside Elective, 3 hours; Advanced Business Elective, 3 hours—Total Credit 12 hours.

### Marketing Option

The student concentrating in marketing should be certain that he/she is meeting the requirements specified previously under the heading Requirements for a Bachelor of Business Administration Degree. Within the framework of these conditions, a student is limited to a maximum of 21 hours in the concentration area. For a student concentrating in marketing, this would include 12 to 18 hours in marketing beyond MARK 3321. MARK 4311 and MARK 4322 are required. The balance of up to 12 hours of concentration may be selected from the remaining offerings.

The student concentrating in marketing is also required to take several electives (accounting—three hours; economics—six hours). The remainder of the courses to meet degree requirements should be selected with the advice of an academic advisor.

### Suggested Course Sequence

#### Junior Year

**First Semester:** MANA 3319; Accounting Elective, 3 hours; BLAW 3311; BUSA 3321; Economics Elective, 3 hours; MARK 3321—Total Credit 18 hours.

**Second Semester:** Marketing Electives, 6 hours; BUSA 3306; Economics Elective, 3 hours; FINA 3313; Advanced Business Elective, 3 hours—Total Credit 18 hours.

#### Senior Year

**First Semester:** MARK 4311; Marketing or Advanced Business Electives, 6 hours; Advanced Business Electives, 6 hours—Total Credit 15 hours.

**Second Semester:** MARK 4322; BUSA 4322; Outside Elective, 3 hours; Advanced Elective, 3 hours—Total Credit 12 hours.

### Production/Operations Management Option

The student concentrating in production/operations management should be certain that he/she is meeting the requirements specified previously under the heading Requirements for a Bachelor of Business Administration Degree. Within the framework of these conditions, a student is limited to a maximum of 21 hours in the concentration area. For a concentration in production/operations management, the student would include 18 hours of production/operations management beyond BUSA 3306. POMA 3308, 3309, 4301, 4307,

4308 are required. The student concentrating in production/operations management is also required to take BUSA 3322, ECON 3310, ACCT 3309, and MANA 3323. Other required business electives should be selected from ACCT 4302, FINA 4320, MANA 4320, and MARK 4311.

### Suggested Course Sequence

#### Junior Year

**First Semester:** BUSA 3306 and 3308; BUSA 3321; ECON 3310; MANA 3319; ACCT 3309—Total Credit 18 hours.

**Second Semester:** POMA 3309; BLAW 3311; BUSA 3322; Economics Elective, 3 hours; MARK 3321; FINA 3313—Total Credit 18 hours.

#### Senior Year

**First Semester:** POMA 4307; MANA 3323; Production/Operations Elective, 3 hours; Advanced Business Electives, 6 hours—Total Credit 15 hours.

**Second Semester:** POMA 4301 and 4308; BUSA 4322; Outside Elective, 3 hours—Total Credit 12 hours.

### Real Estate Option

The student concentrating in real estate should be certain he/she is meeting the requirements specified previously under the heading Requirements for a Bachelor of Business Administration Degree. Within the framework of these conditions, a student is limited to a maximum of 21 hours in the concentration area. For a concentration in real estate, a student would include 12 to 18 hours of real estate beyond REAE 3325. REAE 3325, REAE 4334, and REAE 4319 are required. The remaining six to 12 hours of real estate courses may be selected from the courses listed in the Real Estate section. The remainder of the courses to meet degree requirements should be selected with the advice of an academic advisor.

A student desiring a Real Estate option must complete 15 semester hours of courses bearing a Real Estate prefix (REAE). BLAW 3314 is required. Other required courses: accounting, three hours; economics, six hours.

### Suggested Course Sequence

#### Junior Year

**First Semester:** MANA 3319; BUSA 3321; FINA 3313; BLAW 3311; REAE 3325; Economics Elective, 3 hours—Total Credit 18 hours.

**Second Semester:** MARK 3321; BUSA 3306; Accounting Elective, 3 hours; REAE 4319; Economics Elective, 3 hours; BLAW 3314—Total Credit 18 hours.

#### Senior Year

**First Semester:** Real Estate, 6 hours; Real Estate or Advanced Business Electives, 6 hours; Advanced Business Elective, 3 hours—Total Credit 15 hours.

**Second Semester:** REAE 4334; BUSA 4322; Outside Elective, 3 hours; Advanced Business Elective, 3 hours—Total Credit 12 hours.

## Requirements for a Bachelor of Business Administration Degree

### (International Business/Foreign Language Option)

Students must meet all lower division requirements before enrolling for upper division courses. Specified prerequisites are designated for certain courses. Waiver of either of the above will require consent of the instructor and approval of the Dean of Business Administration.

#### English

1301, 1302.

#### Literature

Three hours of foreign language literature above the freshman level.

#### Liberal Arts Elective

Three hours above the freshman level of literature, or social and cultural studies designated as taught in the College of Liberal Arts, or fine arts or philosophy, or technical writing.

#### History

1311, 1312.

#### Political Science

2311, 2312.

#### Mathematics

1315, 1316.

#### Social/Cultural Studies

BUSA 2301 or PSYC 3315 or SOCI 3317.

#### Fine Arts and Philosophy

Three hours from architecture, art, dance, music, philosophy, theatre arts, or other approved substitute course.

#### Speech

1301 or 2305.

#### Science

11 hours—eight hours in single lab science (BIOL 1333, 1334, 1282; GEOL 1435, 1436; PHYS 1447, 1448; PHYS 1445, 1446; CHEM 1301, 1302, 1284; or CHEM 1445, 1446 recommended) and three hours in science or social science. Three hours of this requirement are automatically fulfilled by ECON 2305, a social science.

#### Business Core

ACCT 2301, 2302, and three hours advanced accounting; BUSA 2303, 3321, and 4322; ECON 2305, 2306; FINA 3313; MANA 3319; MARK 3321; BUSA 3306.

#### International Business

BLAW 4310; ECON 4306 or 4321 or 4322; FINA 4324; MANA 4321; MARK 4325.

#### Foreign Language

32 hours beyond all other requirements in one of the following areas: French, German, Russian, or Spanish. See foreign language options for specific courses.

#### Total

130 hours, plus exercise and sport activities (EXSA) or ROTC or marching band as required.

Students are strongly encouraged to study abroad. The College of Business Administration and the Department of Foreign Languages will work together in placing students in currently existing exchange programs. Furthermore, the University will continue to develop exchange agreements with other recognized international universities.

## Foreign Language Options

**French:** The student concentrating in International Business/French should be certain that he/she is meeting the requirements specified previously under the heading Requirements for a Bachelor of Business Administration Degree. Within the framework of these conditions, a student must complete FREN 1441, 1442\*, 2313, 2314, 3315, 4314, 4334, and 4335. The student is also required to complete three hours of 3000 level and three hours of 4000 level French electives.

**German:** The student concentrating in International Business/German should be certain that he/she is meeting the requirements specified previously under the heading Requirements for a Bachelor of Business Administration Degree. Within the framework of these conditions, a student must complete GERM 1441, 1442\*, 2313, 2314, 3313, 3314, 3318 or 4322, 4317, 4334, and 4335.

**Russian:** The student concentrating in International Business/Russian should be certain that he/she is meeting the requirements specified previously under the heading Requirements for a Bachelor of Business Administration Degree. Within the framework of these conditions, a student must complete RUSS 1441, 1442\*, 2313, 2314, 3301, 3320 or 3321, 3333, 4334, 4335, and 4362.

**Spanish:** The student concentrating in International Business/Spanish should be certain that he/she is meeting the requirements specified previously under the heading Requirements for a Bachelor of Business Administration Degree. Within the framework of these conditions, a student must complete SPAN 1441, 1442\*, 2313, 2314, 3303, 3311 or 3312, 3314, 3318 or 4313, 4334, and 4335.

\* Student will be placed in appropriate language level upon completion of a written and/or a verbal competency exam administered by the Foreign Language Department.

## Business Administration (BUSA)

**2301. HUMAN BEHAVIOR IN BUSINESS ORGANIZATIONS (3-0) 3 hours credit.** Concepts, theories, and the application of the scientific method to research on human social behavior; the potential human issues all organizations must face. Scientific research method, social cognition, motivation, social perception, attitudes, conflict, power, leadership, and group behavior. Will satisfy the three-hour social and cultural studies requirement in the College of Business Administration and three hours of the science/social science requirement.

**2303. INTRODUCTION TO M.I.S. AND DATA PROCESSING (3-0) 3 hours credit.** Introduction to business data processing, computer programming, management information systems, and problems involved in business information processing systems. Selected software tools are presented and managerial applications are required.

**2304. INTRODUCTION TO BUSINESS (3-0) 3 hours credit.** Nature and functions of business: business economy, entrepreneurship and small business, the management process, human resource management, marketing, management information tools, finance, legal and tax environment, and risk and insurance. Will not serve to meet the degree requirements for College of Business Administration majors.

**3301. COMMUNICATION: INTERPERSONAL BEHAVIOR AND GROUP PROCESSES (3-0) 3 hours credit.** The development of attitudes and interpersonal communication skills essential to effective group performances. Interpersonal perception, the psychological contract, functional roles of group members, group problem solving and decision making, group norms, and intergroup processes.

**3306. MANAGEMENT SCIENCE (3-0) 3 hours credit.** Introduction to the philosophy and techniques of management science. Classical optimization theory with business applications, linear programming by the simplex method, transportation and assignment models, inventory and replacement models, and queuing theory. PERT and CPM network analysis models. Prerequisite: MATH 1316 or equivalent.

**3321. BUSINESS STATISTICS (3-0) 3 hours credit.** Application of statistical techniques to business and economic data. Descriptive statistics, probability distributions, estimation, inference, regression, correlation, and time series. Prerequisite: BUSA 2303 and MATH 1316 or calculus.

**3322. BUSINESS STATISTICS (3-0) 3 hours credit.** The application of statistical inference to problems in business and economics. Sampling theory, nonparametric methods, and forecasting. Special attention to statistical research techniques. Prerequisite: BUSA 3321.

**3326. CREDITS AND COLLECTIONS (3-0) 3 hours credit.** The use of credit in modern business; the relation of credit information, credit bureaus, collection letters, and the economic justification for credit extension. (May be included as part of the finance concentration, except that it may not be substituted for FINA 4315, Advanced Business Financial Analysis). Prerequisite: junior standing.

**3360. BUSINESS COMMUNICATION SKILLS (3-0) 3 hours credit.** Develops written and verbal skills necessary for effective communication in a business environment; resume preparation, business reports, English essentials, and oral presentations are emphasized.

**4191, 4291, 4391. STUDIES IN BUSINESS (Variable credit from 1 to 3 semester hours as arranged).** Advanced studies, on an individual basis, in the various fields of business literature. Prerequisites: senior standing and permission of instructor. May be repeated for credit with consent of department chair.

**4322. ORGANIZATIONAL POLICY AND ADMINISTRATION (3-0) 3 hours credit.** An integrative learning experience through the presentation of advanced material and study of administrative policy cases. Administrative processes in conditions of uncertainty. The total organizational environment, including social, economic, ethical, political and technological influences. Analyses of the basic organizational functions to aid in development of administrative controls. A capstone offering for the business major. Prerequisite: completion of all business core courses and senior standing.

**4325. ENTREPRENEURSHIP AND VENTURE MANAGEMENT (3-0) 3 hours credit.** The fundamentals of identifying the need for and organizing a small business. Role and characteristics of the entrepreneur and problems of venture initiation. New venture creation and its management through the first two or three years of operation. Prerequisites: junior standing and permission of the instructor.

**4330. RESEARCH METHODOLOGY AND PRACTICE (3-0) 3 hours credit.** Designed for undergraduate students from a variety of disciplines. Goals: to understand the commonalities of research across disciplinary boundaries, to develop research skills. Topics: framing a research question, literature review, introductory statistical skills, organization and presentation of results. Using a computer for bibliographic searches, word processing, and statistical analysis.

**4331. SEMINAR IN BUSINESS (3-0) 3 hours credit.** Readings and discussion of special topics in business. Prerequisite: junior or senior standing and consent of instructor. May be repeated for credit with consent of department chair.

**4338. SMALL BUSINESS ANALYSIS AND ADMINISTRATION (3-0) 3 hours credit.** Analysis of small business operations. Students will work with a number of small businesses. The integration of knowledge and application of theories across functional areas are stressed. Prerequisites: senior standing and consent of the instructor.

**4393. INTERNSHIP.** Practical training in business and industry. Analysis of theory applied to real life situations. Course may be used as an advanced business elective and is graded on a pass/fail basis. No credit will be given for previous experience or activities. This course may not be repeated for credit. Prerequisites: Junior standing and consent of internship advisor.

## Business Law (BLAW)

**3311. LAW I (3-0) 3 hours credit.** The law relevant to business transactions of large and small business firms and individuals. The history and development of our legal system, (e.g. increased government regulation of business) reviewed to help the student understand political and social influences on law. Topics covered include common law and Uniform Commercial Code, and contractual relationships (contracts, assignments, commercial papers, sales, and bailments).

**3312. LAW II (3-0) 3 credit hours.** The law of property (real and personal), business associations (agency, partnership, corporation, bankruptcy), wills and trusts. Prerequisite: junior standing.

**3313. LAW—CONTEMPORARY PERSPECTIVE (3-0) 3 hours credit.** Topics of legal significance to society. The influence of history on present legal remedies; evidence and procedures of litigation; the law of crimes, torts, wills, trusts, marriage, divorce, morals, and current issues. Prerequisite: junior standing.

**3314. REAL ESTATE LAW (3-0) 3 hours credit.** Development of real estate law and the legal constraints within which real estate decisions are made. Prerequisite: junior standing.

**4310. BASIC INTERNATIONAL LAW FOR BUSINESS (3-0) 3 hours credit.** The basic principles of law related to international transactions and relations as may be applicable to business dealings. Laws related to persons and property in the foreign environment. Prerequisite: junior standing.

## Insurance (INSU)

**4329. PROPERTY AND CASUALTY RISK MANAGEMENT (3-0) 3 hours credit.** Fire, marine, and automobile insurance; business, professional, and personal liability insurance; theft insurance; disability and miscellaneous casualty coverage, surety bonds, rate structures, and multiple line contracts. Prerequisite: junior standing or consent of instructor.

**4330. LIFE AND HEALTH RISK MANAGEMENT (3-0) 3 hours credit.** Principles underlying the fields of life and health insurance. Types of life, health, and annuity contracts; determination of premiums; policy provisions, reserve provisions, and legal requirements. Prerequisite: junior standing.

# The Department of Economics

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Students who plan to earn a degree in economics in one of the specialized fields listed below should consider the following suggestions as to their choice of elective economics courses:

- Those planning to do **Graduate Work** in economics should include Introduction to Econometrics (ECON 3318), two semesters of calculus, as well as linear algebra in their program. Additional math courses are encouraged and should be selected with assistance from the Economics Department's graduate advisor.
- Those planning to apply for **Law School** admission should include Law and Economics (ECON 3305) and Economics of Public Policies (ECON 3335) among their economics electives.
- Those planning to pursue careers in the **Health Sector** should include Economics of Health (ECON 3301), Introduction to Econometrics (ECON 3318), and Economics for Managers (ECON 4311) among their economics electives.
- Those planning to work as an **Economic Analyst** should include Public Sector Economics (ECON 3304), Industrial Organization and Public Policy (ECON 3313), Introduction to Econometrics (ECON 3318), Economic Fluctuations and Forecasting (ECON 4325), and Economics for Managers (ECON 4311) among their economics electives.

## Requirements for a Bachelor of Science Degree in Economics

Students must have completed Economics 2305 and 2306 before enrolling in certain upper-level economics courses. Specified prerequisites are designated for certain courses. Waiver of either of the above will require consent of the instructor and approval of the Dean of the College of Business Administration.

### English

1301, 1302.

### Literature

Three hours of English or foreign language literature or other approved substitute above the freshman level.

### Liberal Arts Elective

Three hours above the freshman level of literature, or social and cultural studies designated as taught in the College of Liberal Arts, or fine arts or philosophy, or technical writing.

### Political Science

2311, 2312.

### History

1311, 1312.

### Mathematics

MATH 1302, 1315 or 1325 and MATH 1316 or 1426.

### Science

11 hours—eight hours in single lab science (BIOL 1333, 1334, 1282; GEOL 1435, 1436; PHYS 1447, 1448; PHYS 1445, 1446; CHEM 1301, 1302, 1284; or CHEM 1445, 1446 recommended) and three hours in science or social science. Three hours of this requirement are automatically fulfilled by ECON 2305, a social science.

### Fine Arts and Philosophy

Three hours from architecture, art, dance, music, philosophy, or theatre arts.

### Social Science

A minimum of six hours (nine suggested). BUSA 2301 may be used in partial satisfaction of this requirement.

### Statistics and Computer Systems

BUSA 2303, 3321, 3322.

### Accounting and Finance

ACCT 2301, 2302, and two of the following: ACCT 3309, 3311, FINA 3313.

### Major

ECON 2305, 2306, 3310, and 3312 plus 18 additional hours of 3000/4000 level economics, with a minimum of six hours at the 4000 level. Total hours in economics may not exceed 30.

### Minor

18 hours, at least six of which shall be 3000/4000 level. (The nine hours in statistics and computer systems and the six hours in accounting and finance may be used as a minor in business administration.)

### Outside Electives

Three hours outside the College of Business Administration.

### Other Electives

Sufficient to give the total number of hours required for a degree.

### Total

125 hours, at least 39 of which must be 3000/4000 level, plus exercise and sport activities (EXSA) or ROTC or marching band as required.

## Suggested Course Sequence

### Freshman Year

**First Semester:** ENGL 1301; MATH 1302 or 1315 or 1325; Science, 4 hours; Fine Arts/Philosophy, 3 hours; HIST 1311; EXSA or ROTC or Marching Band—Total Credit 17 hours.

**Second Semester:** ENGL 1302; MATH 1316 or 1426; Science, 4 hours; Social Science, 3 hours; HIST 1312; EXSA or ROTC or Marching Band—Total Credit 17 hours.

### Sophomore Year

**First Semester:** Literature, 3 hours; POLS 2311; Social Science Elective, 3 hours; ECON 2305; ACCT 2301; EXSA or ROTC or Marching Band—Total Credit 16 hours.

**Second Semester:** Liberal Arts Elective, 3 hours; POLS 2312; BUSA 2303; ECON 2306; ACCT 2302; EXSA or ROTC or Marching Band—Total Credit 16 hours.

**Junior Year**

**First Semester:** ECON 3310; BUSA 3321; ACCT 3309 or 3311 or FINA 3313; Economics Elective, 3 hours; Minor, 3 hours; Outside Elective, 3 hours—Total Credit 18 hours.

**Second Semester:** ECON 3312; BUSA 3322; ACCT 3309 or 3311 or FINA 3313; Minor, 6 hours—Total Credit 15 hours.

**Senior Year**

**First Semester:** Economics Elective, 3 hours; Economics Elective (4000 level), 3 hours; Minor, 6 hours; Science, 3 hours—Total Credit 15 hours.

**Second Semester:** Economics Elective (4000 level), 3 hours; Economics Electives, 6 hours; Minor, 3 hours; Other Elective, 3 hours—Total Credit 15 hours.

## Requirements for a Bachelor of Arts Degree in Economics

Students must have completed Economics 2305 and 2306 before enrolling in certain upper-level economics courses. Specified prerequisites are designated for certain courses. Waiver of either of the above will require consent of the instructor and approval of the Dean of the College of Business Administration.

**English**

1301, 1302.

**Literature**

Three hours of English or foreign language literature or other approved substitute above the freshman level.

**Liberal Arts Elective**

Three hours above the freshman level of literature, or social and cultural studies designated as taught in the College of Liberal Arts, or fine arts or philosophy, or technical writing.

**Foreign Language**

1441, 1442, 2313, and 2314.

**Political Science**

2311, 2312.

**History**

1311, 1312, 2301, 2302.

**Mathematics**

MATH 1302, 1315 or 1325 and MATH 1316 or 1426.

**Statistics**

BUSA 3321 and 3322.

**Science**

11 hours—eight hours in single lab science (BIOL 1333, 1334, 1282; GEOL 1435, 1436; PHYS 1447, 1448; PHYS 1445, 1446; CHEM 1301, 1302, 1284; or CHEM 1445, 1446 recommended) and three hours in science or social science. Three hours of this requirement are automatically fulfilled by ECON 2305, a social science.

**Fine Arts and Philosophy**

Three hours from architecture, art, dance, music, philosophy, or theatre arts.

**Outside Electives**

Three hours outside the College of Business Administration.

**Other Electives**

Sufficient to give the total number of hours required for a degree.

**Major**

30 hours in economics, including ECON 2305, 2306, 3310, 3312, and 18 additional hours of 3000/4000 level economics, with a minimum of six hours of economics at the 4000 level.

**Minor**

18 hours, at least six of which shall be 3000/4000 level.

**Total**

125 hours, at least 36 of which must be 3000/4000 level, plus exercise and sport activities (EXSA) or ROTC or marching band as required.

### Suggested Course Sequence

**Freshman Year**

**First Semester:** ENGL 1301; Foreign Language 1441; MATH 1302 or 1315 or 1325; Science, 4 hours; HIST 2301; EXSA or ROTC or Marching Band—Total Credit 18 hours.

**Second Semester:** ENGL 1302; Foreign Language 1442; MATH 1316 or 1426; Science, 4 hours; HIST 2302; EXSA or ROTC or Marching Band—Total Credit 18 hours.

**Sophomore Year**

**First Semester:** Literature, 3 hours; Foreign Language 2313; HIST 1311; ECON 2305; Fine Arts/Philosophy, 3 hours; EXSA or ROTC or Marching Band—Total Credit 16 hours.

**Second Semester:** Liberal Arts Elective, 3 hours; Foreign Language 2314; HIST 1312; ECON 2306; Science, 3 hours; EXSA or ROTC or Marching Band—Total Credit 16 hours.

**Junior Year**

**First Semester:** BUSA 3321; POLS 2311; ECON 3310; Minor, 3 hours; Outside Elective, 3 hours—Total Credit 15 hours.

**Second Semester:** BUSA 3322; POLS 2312; ECON 3312; Minor, 3 hours; Other Elective, 4 hours—Total Credit 16 hours.

**Senior Year**

**First Semester:** Economics Elective, 3 hours; Economics 3000 or 4000, 6 hours; Minor, 6 hours—Total Credit 15 hours.

**Second Semester:** Economics 3000, 3 hours; Economics 4000, 6 hours; Minor, 6 hours—Total Credit 15 hours.

## Department of Economics Faculty

### Chair

Professor D. Himarios

### Professors

Amacher, Hayashi, Meiners, Mullendore

### Associate Professors

Duwaji, McCall, Nehman

### Assistant Professors

Crowder, Depken, R. Wilson

### Visiting Assistant Professors

Ford, Mitra

### Lecturers

J. Himarios, Kelly, Liggett, McCraw, Okello, L. Wilson

## Economics (ECON)

Prefix and number in parenthesis following the U.T. Arlington course number and title is the Common Course Number designation.

**2305. PRINCIPLES OF MACROECONOMICS (3-0) 3 hours credit (ECON 2301).** Elementary models of the macroeconomy. Measures of aggregate economic activity and unemployment and inflation, money and banking, monetary and fiscal policy, international trade and payments, and applications of theory to society's problems.

**2306. PRINCIPLES OF MICROECONOMICS (3-0) 3 hours credit (ECON 2302).** The science of choice; develops demand, supply, and the market mechanism for allocating society's scarce resources; industry structure, antitrust regulation, the market for resources, social issues, the environment, international trade, and finance.

**2337. ECONOMICS OF SOCIAL ISSUES (3-0) 3 hours credit.** Economic consequences and solutions of current social issues. Each semester, a series of topics will be covered in line with current events and the instructor's expertise to facilitate an understanding of the economic structure. Will not serve to meet degree requirements for College of Business Administration majors.

**3301. THE ECONOMICS OF HEALTH (3-0) 3 hours credit.** Determinants of health status; impact of economic forces on the health sector; demand for and supply of health services; role of competition; new organizational entities; the changing regulatory climate. Prerequisite: ECON 2306.

**3302. THE ECONOMICS OF CRIME (3-0) 3 hours credit.** Economic analysis of criminal activity and its impact on the allocation of scarce resources; economic models of criminal behavior, optimum allocation of criminal justice resources, public and private sector approaches to deterrence, and current issues such as gun control and drug abuse prevention. Prerequisite: ECON 2306 or consent of instructor.

**3303. MONEY AND BANKING (3-0) 3 hours credit.** Monetary and banking systems of the United States, including the problems of money and prices, proper organization and functioning of commercial banking and Federal Reserve systems, problems of monetary standards, and credit control. Recent monetary and banking trends. Prerequisites: ECON 2305.

**3304. PUBLIC SECTOR ECONOMICS (3-0) 3 hours credit.** Examines various economic reasons that may justify government involvement in the economy with particular focus on the problems

inherent in government intervention. It considers topics such as the efficiency and fairness of alternative taxing systems, the growth and effects of government debt, and public choice (how spending and taxing decisions are made). It analyzes various government programs such as Social Security, health care, expenditure programs for the poor, etc. Prerequisite: ECON 2306 or consent of instructor.

**3305. LAW AND ECONOMICS (3-0) 3 hours credit.** A review of the economic effects of laws and legal institutions, including property rights, the common law of contracts and torts, regulations, and crime and punishment. Prerequisite: ECON 2306 or consent of instructor.

**3310. MICROECONOMICS (3-0) 3 hours credit.** The theory of consumer behavior and the theory of the firm. The theory of production, the theory of cost and price determination, and resource allocation under competition, monopoly, and imperfect competition. Prerequisites: ECON 2306 and junior standing or consent of instructor.

**3312. MACROECONOMICS (3-0) 3 hours credit.** Interactions among private sector behavior, government policies, central bank actions and international events, and their effects upon the resulting national living standard, employment, growth, and prices. Particular emphasis upon modeling and the macroeconomy. Prerequisites: ECON 2305 and junior standing or consent of instructor.

**3313. INDUSTRIAL ORGANIZATION AND PUBLIC POLICY (3-0) 3 hours credit.** Explains market structure and its relation to strategic behavior, advertising, pricing and product differentiation decisions. Further topics include the organization of the firm, takeovers, mergers and acquisitions, R&D, and the various regulatory controls placed on firms and industries. Prerequisites: ECON 2306.

**3318. INTRODUCTION TO ECONOMETRICS (3-0) 3 hours credit.** The application of economic theory and statistical techniques for the purpose of testing hypotheses and estimating and analyzing economic phenomena. Prerequisite: BUSA 3321 or MATH 3313.

**3328. PRINCIPLES OF TRANSPORTATION (3-0) 3 hours credit.** Impact of freight and passenger transport upon individual, business, and governmental decision-making in an evolving, competitive world economy. Prerequisite: ECON 2306 or consent of instructor.

**3335. ECONOMICS OF PUBLIC POLICIES (3-0) 3 hours credit.** Economic analysis of issues of general interest. A non-technical application of principles of economics to current topics such as abortion, crime, deficit spending, divorce, education, health care, immigration, politics, recycling, risk and safety, social security, sports, and tax policy. Prerequisite: ECON 2306 or consent of instructor.

**3388. EUROPEAN ECONOMIC HISTORY, 1750 to PRESENT (3-0) 3 hours credit.** The English Industrial Revolution, Europe's slow transformation before 1850, and large-scale industry, banking, transportation, and commerce in the later 19th and 20th centuries. Topics for the 20th Century include depression, war, post-war economic integration, and the collapse of communism. Prerequisite: ECON 2305 or consent of instructor.

**4191, 4291, 4391. STUDIES IN ECONOMICS (Variable credit from 1 to 3 semester hours as arranged).** Advanced studies, on an individual basis, in the various fields of economic literature. Prerequisites: ECON 2306, three hours of advanced economics, senior standing, and consent of instructor.

**4302. ENVIRONMENTAL ECONOMICS (3-0) 3 hours credit.**

Economic forces that influence the quality of the environment; economic theory and environmental management; regulatory requirements for economic impact analysis; international issues including trade and implications for Third World economies. Prerequisite: ECON 2306.

**4306. COMPARATIVE ECONOMIC SYSTEMS (3-0) 3 hours credit.**

The differences between capitalism, liberal socialism, and communism. Evaluation of the performance and efficiency characteristics of each system. Consideration is also given to the obstacles that confront former communist societies seeking to reorganize, and to the possible forms of economic reconstruction the emerging nations may undertake. Prerequisites: ECON 2306 or consent of instructor.

**4311. ECONOMICS FOR MANAGERS (3-0) 3 hours credit.**

This class studies the decision-making process involving the economic activities of a firm. It provides the tools that help managers choose the best solution among all possible ones to achieve the firm's goal. The class is real-world oriented and examines topics such as demand, costs, production, market structure and market power, pricing decisions, etc. Prerequisites: ECON 2306 and junior standing or consent of instructor.

**4319. ECONOMIC GROWTH AND THE MULTINATIONAL CORPORATION (3-0) 3 hours credit.**

The economic effects of the multinational corporations on the world economy: their effects on long-term capital flows, world production, transfer of technology, and the developing countries. Prerequisite: ECON 2305, 2306.

**4321. INTERNATIONAL TRADE (3-0) 3 hours credit.**

Explanations of why nations trade and what they trade. The economics and politics of protection of domestic industries (tariffs, quotas, etc.). U.S. and foreign trade policies. Regional blocks (NAFTA, EEC, etc.). International factor movements (the role of the multinational firm and labor migration). Prerequisites: ECON 2306 or consent of instructor.

**4322. INTERNATIONAL FINANCE (3-0) 3 hours credit.**

The nature and instruments of international payments. International financial institutions and arrangements. Exchange rate, balance of payment, and income determination theories. Prerequisite: ECON 2305 or consent of instructor.

**4323. INTRODUCTION TO MATHEMATICAL ECONOMICS (3-0) 3 hours credit.**

Exposes students to certain basic mathematical concepts and methods and relates these techniques to various types of economic analysis. Covers the mathematical methods used in static and comparative-static analysis, optimization problems, and simple dynamic analysis. Prerequisites: MATH 1316; ECON 3310, 3312.

**4324. MONETARY AND FISCAL POLICY (3-0) 3 hours credit.**

The effects of money on production and national income; quantity and commodity theories of money; various theories of interest rates; instruments and policies of Federal Reserve monetary action; proposals for monetary reform. Central bank systems. Prerequisites: ECON 2305, 2306, and 3303 and junior standing or consent of instructor.

**4325. ECONOMIC FLUCTUATIONS AND FORECASTING (3-0) 3 hours credit.**

Develops measures of economic activity, discusses history and competing theories of the business cycle, the role of money and interest rates; business forecasting using leading and lagging indicators, time series analysis, and econometric techniques. Prerequisites: ECON 2305, three hours of advanced economics, and junior standing or consent of instructor.

**4330. LABOR ECONOMICS (3-0) 3 hours credit.**

Application of economic principles to labor topics such as the demand for marriage, the demand for children, the economics of beauty, the economics of highly paid sports and entertainment stars, the effects of immigration on U.S. wages and employment, workplace discrimination, the effects of affirmative action policies, and the effects of minimum wage legislation. Prerequisite: ECON 2306.

**4331. SEMINAR IN ECONOMICS (3-0) 3 hours credit.**

Readings and discussion of special topics in economics. Prerequisites: ECON 2306, three hours of advanced economics, and junior standing or consent of instructor.

**4335. LABOR RELATIONS AND THE LAW (3-0) 3 hours credit.**

Historical development of public policy toward unions and collective bargaining. Legislative, judicial, and administrative decisions affecting employer-employee relationships; the NLRA as amended. Prerequisite: ECON 2306 and junior standing or consent of instructor.



# The Department of Finance and Real Estate

107 Business Bldg. • Box 19449 • 817-272-3705

## Requirements for a Bachelor of Business Administration Degree

### (Finance and Real Estate Options)

See Business Administration section of the catalog for specific degree requirements.

## Department of Finance and Real Estate Faculty

### Chair

Professor Diltz

### Professors

Apilado, Panton, Swanson

### Associate Professors

Cantwell, Swidler

### Assistant Professors

Buttimer, Forgey, Hensler

### Senior Lecturers

Dowdy, McHaney

### Lecturers

Boykin, Turner

## Finance (FINA)

**2310. PERSONAL FINANCE (3-0) 3 hours credit.** A diverse and practical range of topics which the average individual will be concerned with in making financial decisions during a lifetime. Personal budgeting, banking relationships, life and casualty insurance, taxes, investments, and estate planning. Will not be accepted for credit toward any College of Business Administration degree program.

**3313. BUSINESS FINANCE (3-0) 3 hours credit.** This course emphasizes the financing and investment decisions of the financial manager. Included are topics such as financial statement analysis, working capital management, capital budgeting, long-term financing, and international finance. Prerequisites: ECON 2306, ACCT 2302, and junior standing.

**3315. INVESTMENTS (3-0) 3 hours credit.** Principles governing the proper investment of personal and institutional funds, information sources, security analysis, exchanges and regulations. Formerly FINA 4313; credit will be granted only once. Prerequisites: ECON 2306, ACCT 2302, and junior standing.

**3317. FINANCIAL INSTITUTIONS AND MARKETS (3-0) 3 hours credit.** The structure of financial institutions and markets in the United States and their interactions. How and why the institution has evolved, how it fits within the financial system, how it operates, what is its current impact, and what may its future role be. Formerly FINA 4314; credit will be granted only once. Prerequisites: ECON 2306, ACCT 2302, and junior standing.

**4311. MONEY AND CAPITAL MARKETS (3-0) 3 hours credit.** This in-depth analysis of the development, characteristics, and significance of money and capital markets explores how the markets

interrelate, interact, and impact the financing/investment decisions that are the basis of finance. Prerequisite: FINA 3313 or equivalent.

**4315. ADVANCED BUSINESS FINANCIAL ANALYSIS (3-0) 3 hours credit.** To develop an ability to recognize financial problems, analyze financial data, formulate alternative solutions, and render financial decisions. Case materials are used in studying financial problems. Management of investment in current and fixed assets, planning of profits, forecasting of cash requirements, capital budgeting, planning of methods of financing and capital structure, dividend policy, valuation of assets, and mergers. Prerequisite: FINA 3313.

**4318. PORTFOLIO MANAGEMENT AND SECURITY ANALYSIS (3-0) 3 hours credit.** This course develops an understanding of portfolio management and security analysis by focusing on the analytical techniques and empirical results of investment theorists and practitioners. Risk, efficiency, diversification, fundamental analysis, and technical analysis as they apply to corporate finance, international finance, and investments will be examined. Prerequisite: FINA 3313 or equivalent.

**4320. CAPITAL BUDGETING (3-0) 3 hours credit.** Development of the logic and methodology of the capital budgeting decision. Measurement of cash flows, present value techniques, evaluation of capital investments, ranking of capital investments, analysis of risk, and administration of capital investments. Prerequisite: FINA 3313.

**4324. INTERNATIONAL CORPORATE FINANCE (3-0) 3 hours credit.** Issues and questions which concern financial management of international corporations. Analysis of the financing of investment abroad and the management of assets in differing financial environments. The foreign investment decision, cost of capital and financial structure for multinational decision making, management of foreign subsidiary working capital, and financial control of multinational operations. Prerequisite: FINA 3313.

**4327. TOPICS IN FINANCE (3-0) 3 hours credit.** Offers advanced students the opportunity for advanced study in a particular topic, or sequence of topics, which are not offered on a regular basis. Prerequisites: FINA 3313 and permission of instructor.

**4330. FINANCIAL MANAGEMENT OF FINANCIAL INSTITUTIONS (3-0) 3 hours credit.** Integrates the sources and uses and flow of funds in the money and capital markets with the influence of other market factors into a study of the asset, liability, and capital management of financial institutions, with emphasis on current problems and issues. Prerequisite: FINA 3317.

## Real Estate (REAE)

**3325. REAL ESTATE FUNDAMENTALS (3-0) 3 hours credit.** A foundation for study and research in specialized areas such as real estate financing, real estate investment and counseling, real estate management, real estate development, and property appraising. Formerly BUSA 3325; credit will be granted only once. Prerequisite: junior standing.

**4314. REAL ESTATE DEVELOPMENT (3-0) 3 hours credit.** The land conversion process including feasibility analysis, site selection, design, construction, and financial analysis. Land use controls, planning, and environmental constraints are also examined. Formerly

REAE 4311; credit will be granted only once. Prerequisite: junior standing.

**4319. REAL ESTATE FINANCE (3-0) 3 hours credit.** Problems associated with real property financing. In-depth study of financial intermediaries who supply funds for real property investment. May be included as a part of the finance concentration. Formerly BUSA 4319; credit will be granted only once. Prerequisite: REAE 3325 (FINA 3313 may be substituted for non-real estate majors).

**4321. REAL ESTATE INVESTMENT (3-0) 3 hours credit.** The determination of financial feasibility for proposed real estate investments, the effect of income taxes and various financing patterns on the equity investment, and the criteria for proper decision making to maximize benefits for equity investors. Formerly REAE 4310; credit will be granted only once. Prerequisite: REAE 3325 (FINA 3313 may be substituted for non-real estate majors).

**4334. REAL ESTATE APPRAISAL (3-0) 3 hours credit.** Theory and methods of residential and income property appraisal. Market analysis, highest-and-best-use analysis, capitalization techniques, and market, cost, and income approaches to valuation and reconciliation of value indicators. Prerequisite: REAE 3325 (FINA 3313 may be substituted for non-real estate majors).

**4392. REAL ESTATE SPECIAL TOPICS (3-0) 3 hours credit.** Offers advanced students the opportunity for advanced study in a particular topic, or sequence of topics, which are not offered on a regular basis. Prerequisite: REAE 3325 or FINA 3313 and permission of instructor.

A student desiring a real estate option must complete 12 semester hours of courses bearing the REAE prefix beyond REAE 3325. See the real estate option listed in the business administration section of the catalog.

Recommended College of Business Administration electives include but are not limited to:

ACCT 3315—Federal Income Tax Relative to Individuals (3-0)  
3 hours credit

ACCT 4301—Income Tax for Entities other than Individuals (3-0)  
3 hours credit

FINA 3317—Financial Institutions and Markets (3-0) 3 hours credit

FINA 3315—Investments (3-0) 3 hours credit

FINA 4320—Capital Budgeting (3-0) 3 hours credit

MARK 4311—Marketing Research (3-0) 3 hours credit

ECON 4325—Economic Fluctuations and Forecasting (3-0)  
3 hours credit

INSU 4329—Property and Casualty Risk Management (3-0)  
3 hours credit

INSU 4330—Life and Health Risk Management (3-0)  
3 hours credit

# The Department of Information Systems and Management Sciences

132 Business Bldg. • Box 19437 • 817-272-3502

## Requirements for a Bachelor of Business Administration Degree

### (Production/Operations Management and Information Systems Options)

See Business Administration Section of the catalog for specific degree requirements for the B.B.A. degrees.

## Requirements for a Bachelor of Science Degree in Information Systems

### English

1301, 1302.

### Literature

Three hours of English or foreign language literature or other approved substitute above the freshman level.

### Liberal Arts Elective

Three hours above the freshman level of literature, or social and cultural studies designated as taught in the College of Liberal Arts, or fine arts or philosophy, or technical writing.

### Political Science

2311, 2312.

### History

1311, 1312.

### Mathematics

1302 or 1315, and 1316.

### Science

11 hours—eight hours in single lab science (BIOL 1333, 1334, 1282; GEOL 1435, 1436; PHYS 1447, 1448; PHYS 1445, 1446; CHEM 1301, 1302, 1284; or CHEM 1445, 1446 recommended) and three hours in science or social science. Three hours of this requirement are automatically fulfilled by ECON 2305, a social science.

### Fine Arts and Philosophy

Three hours in architecture, art, dance, music, philosophy, or theatre arts.

### Social Science

BUSA 2301 or three hours of social or industrial psychology.

### Speech

1301 or 2305.

### Outside Electives

Sufficient to give the total number of hours required for the degree. Recommended outside electives include: CSE 1310, 1315, 2310, and 2320.

### Core

ACCT 2301 and 2302; BLAW 3311; BUSA 2303, 3321, and 4322; ECON 2305 and 2306; FINA 3313; MANA 3319; BUSA 3306; MARK 3321.

### Major Field

INSY 3302, 3304, 3305, 3308, 4306, 4308, 4320, 4325 and three hours of approved 3000/4000-level courses from business and/or computer science engineering. Approved advanced electives include INSY 3303, POMA 4301 and 4305, and CSE 3302, 3310, and 4308, ACCT 3303, 3310, and 4302.

### Electives

Six hours of approved 3000/4000 level business electives. Approved advanced business electives include BUSA 3322, POMA 3308, 3309, 4301, ACCT 3303, 3310, 4302, and MANA 3323. Six hours of approved 3000/4000 level economics electives. Approved advanced economics electives include ECON 3303, 3310, 3312, 3318, 4311, and 4325.

### Total

128 hours plus exercise and sport activities (EXSA) or ROTC or marching band as required.

## Suggested Course Sequence

### Freshman Year

**First Semester:** ENGL 1301; HIST 1311; Science, 4 hours with laboratory; MATH 1315; Speech, 3 hours; EXSA or ROTC or Marching Band—Total Credit 17 hours.

**Second Semester:** ENGL 1302; HIST 1312; Science, 4 hours with laboratory; MATH 1316; Fine Arts/Philosophy, 3 hours; EXSA or ROTC—Total Credit 17 hours.

### Sophomore Year

**First Semester:** POLS 2311; ECON 2305; ACCT 2301; BUSA 2303; BUSA 2301; EXSA or ROTC or Marching Band—Total Credit 16 hours.

**Second Semester:** Literature, 3 hours; POLS 2312; ECON 2306; ACCT 2302; Outside Elective, 3 hours; EXSA or ROTC—Total Credit 16 hours.

### Junior Year

**First Semester:** INSY 3302; INSY 3304; BUSA 3306; MANA 3319; BUSA 3321; Economics Elective, 3 hours—Total Credit 18 hours.

**Second Semester:** INSY 3305; INSY 3308; BLAW 3311; Economics Elective, 3 hours; FINA 3313; MARK 3321—Total Credit 18 hours.

### Senior Year

**First Semester:** INSY 4306; INSY 4320; Information Systems Elective, 3 hours; Advanced Business Electives, 6 hours—Total Credit 15 hours.

**Second Semester:** INSY 4325; INSY 4308; Outside Elective, 3 hours; BUSA 4322; Liberal Arts Elective, 3 hours—Total Credit 15 hours.

## Department of Information Systems and Management Sciences Faculty

### Chair

Professor Whiteside

### Professors

Baker, Mykytyn, Raja, Schkade, Sircar

### Associate Professors

Bordoloi, Eakin, Guynes, Huq, Iyer, Pinney, Slinkman

### Assistant Professor

Semple

### Lecturers

Clarke, Hensel, Jaska, Reimann, Tucker

## Information Systems (INSY)

**3302. INTERMEDIATE BUSINESS COMPUTER PROGRAMMING (3-0) 3 hours credit.** Structured program design and processing. Language fundamentals and applications involving business problems. Techniques include sequential and random access file processing, sorting, and table design and manipulation. Prerequisite: BUSA 2303.

**3303. DATABASE APPLICATION DEVELOPMENT (3-0) 3 hours credit.** Covers the use of database and dictionary or repository-based application development languages to build on-line and batch application systems. Emphasis is placed on the user interface and system efficiency. Prerequisites: INSY 3302, 3304.

**3304. DATABASE MANAGEMENT SYSTEMS (3-0) 3 hours credit.** Comprehensive coverage of current database technology and applications. Data models, query processing (SQL), relational database design, and implementation. Hierarchical, network, and relational data models, data dictionaries, distributed data bases, evaluation and selection of DBMS, and Data Base Administration. Prerequisite: INSY 3302.

**3305. INFORMATION SYSTEMS ANALYSIS AND DESIGN (3-0) 3 hours credit.** Concepts and methodologies of Information Systems Analysis and Design. System development life cycle (SDLC) and methodologies associated with SDLC. System survey, feasibility study, system requirements definition, preliminary design, detailed design, data structure design, coding, testing and implementation of information systems. An analysis and design project is required. Prerequisite: BUSA 2303, INSY 3304 or consent of instructor.

**3308. ADVANCED BUSINESS COMPUTER PROGRAMMING (3-0) 3 hours credit.** Development of business computer applications in the graphical-user-interface environment. The visual programming environment, event-driven programming, data and file structures, error handling, objects and class libraries. Prerequisite: INSY 3302 or consent of instructor.

**4306. ADVANCED SYSTEMS DESIGN (3-0) 3 hours credit.** Advanced topics in systems design and implementation, including graphical user interface (GUI), design, event-driven system design, CUA design, use of visual development environments, design using CASE tools, structured-program design, object-oriented analysis and design, rapid application development (RAD) and prototyping. Prerequisite: INSY 3305.

**4308. APPLIED SOFTWARE DEVELOPMENT (3-0) 3 hours credit.** Integration of knowledge and abilities gained in prior computer-related courses by the development of a comprehensive system project. Prerequisites: INSY 3304, 4306.

**4309. ADVANCED APPLICATION DEVELOPMENT (3-0) 3 hours credit.** Consideration of application development methodologies for client/server applications and distributed systems. Discussions of concepts such as business process engineering, process modeling, architectural design, common communication access (CCA), interprocess communication (IPC), remote procedure calls (RPC), open data base connectivity (ODBC). Prerequisites: INSY 4306 and INSY 4320.

**4320. INTERACTIVE AND DISTRIBUTED COMPUTING (3-0) 3 hours credit.** Interactive programming, software development methodologies for on-line business applications, concepts of distributed data processing, and office information systems. Topics include structured techniques, data communications principles, networks, distributed data bases, associated hardware and software, typical applications, and management considerations. Prerequisites: INSY 3302, 3305.

**4325. INFORMATION RESOURCE MANAGEMENT (3-0) 3 hours credit.** Management issues related to information and information technology that confront today's diverse organizations. Leadership of the information systems function and its role in supporting the information needs of the organization, information technology planning, distributed processing and telecommunications, evaluation of the information systems function, legal and ethical considerations of information technology, office information and decision-support systems, and social and technological trends. Prerequisite: INSY 3305.

## Production/Operations Management (POMA)

**3308. PRODUCTION/OPERATIONS MANAGEMENT (3-0) 3 hours credit.** Coverage of strategic production decisions fundamental to the performance of an organization. Includes decision making tools, forecasting, and various strategies dealing with products, processes, investments, operations, and procurements. Prerequisite: BUSA 3321 and BUSA 3306 or concurrent enrollment.

**3309. PRODUCTION/OPERATIONS MANAGEMENT II (3-0) 3 hours credit.** Coverage of tactical decisions used in operating and controlling short run production activities. Includes topics in material requirements planning, scheduling, inventory management, reliability, and quality control. Prerequisite: POMA 3308.

**4301. COMPUTER MODELS IN PRODUCTION/OPERATIONS MANAGEMENT (3-0) 3 hours credit.** Application of software packages used in the production environment. Prerequisite: BUSA 3306.

**4302. LOGISTICS SYSTEMS (3-0) 3 hours credit.** Physical supply, in-plant movement and storage, and physical distribution which comprise logistics systems in industry and intermediary activities. Coverage of facility location, transportation, warehousing, inventory control, and communications and contemporary modifications of each. Total system analysis is analyzed with the objective of final system design. Prerequisites: MARK 3321, BUSA 3306, BUSA 3321.

**4304. DECISION SUPPORT SYSTEMS (3-0) 3 hours credit.** Concepts of and requirements for decision support systems (DSS). General and specific DSS from organizational and user viewpoints, current mainframe and micro-based computer software and technology, including the development of simple and complex computer-based models and decision support systems. Prerequisites: BUSA 3321 and BUSA 3306.

**4305. SIMULATION IN OPERATIONS AND MANUFACTURING (3-0) 3 hours credit.** To familiarize the student with dynamics of complex industrial systems and using simulation in evaluating them. The emphasis is on model building. Simulation becomes necessary when the systems cannot be evaluated analytically and mathematical solutions are intractable. This course introduces the student to network modeling accomplished with SLAM II (Simulation

Language for Alternative Modeling) or a similar computer-based simulation model. Prerequisites: BUSA 3321 and BUSA 3306.

**4307. QUALITY PLANNING AND ANALYSIS (3-0) 3 hours credit.** Quality of products and services needed by society, to include considerations of quality costs and improvements, designing for quality, process controls, inspections, testing, acceptance sampling, management controls, and quality information systems. Prerequisites: BUSA 3321, BUSA 3306.

**4308. APPLICATIONS OF PRODUCTION/OPERATIONS MANAGEMENT (3-0) 3 hours credit.** Designed to integrate the theories of production with practice. The student will function in a production-like environment utilizing case studies and plant visits. Prerequisite: 12 hours of Production/Operations Management courses.

# The Department of Management

209 Business Bldg. • Box 19467 • 817-272-3166

## Requirements for a Bachelor of Business Administration Degree (Management Option)

See Business Administration section of the catalog for specific degree requirements.

## Department of Management Faculty

### Chair

Associate Professor Rasheed

### Professors

Gerloff, Quick, Wofford, Worrell

### Associate Professors

Gray, Harrison, Price, Priem, Walker, Wheeler

### Assistant Professors

Bell, Farnsworth, McGee, McMahan

### Senior Lecturers

McLaughlin, Moore

### Lecturers

Baze, Blumberg, Walther

## Management (MANA)

### **3319. MANAGEMENT PROCESS THEORY (3-0) 3 hours credit.**

Fundamentals of the management process; principles and techniques for all organizations. The basic functions of management: planning, organizing, directing, and controlling. Social responsibilities, political influences, and ethical considerations as they affect the management of organizations. Coverage of international business, production, communications, and decision-making in terms of management activities. Prerequisite: BUSA 2301 or equivalent.

### **3320. PERSONNEL/HUMAN RESOURCE MANAGEMENT (3-0) 3 hours credit.**

Process of effective management of human resources and those elements essential to such a process. The objectives of an adequate personnel program. Effective planning, recruit-

ment, selection, training. Employee compensation and the nature of pay and its relative importance. The nature of union-management relationships. The impact of organized labor upon personnel management. Prerequisite: MANA 3319.

### **3323. OPERATIONS MANAGEMENT (3-0) 3 hours credit.**

Planning for and use of physical resources. Prerequisite: MANA 3319.

### **4320. MANAGEMENT OF INDUSTRIAL RELATIONS (3-0)**

**3 hours credit.** The critical issues in personnel and industrial relations. Application of behavioral science principles and concepts to problems of employee benefits and services, wage and salary administration, union and management relations, collective bargaining, and related personnel maintenance problems. Prerequisite: MANA 3319.

### **4321. MANAGEMENT OF THE MULTINATIONAL CORPORATION (3-0) 3 hours credit.**

The unique factors influencing the management of multinational enterprises. The principles of international management, the organization and administration of multinational enterprises, and examination of cultural, economic, social and political variables which influence the operation of the multinational firm. Prerequisites: MANA 3319 and senior standing.

### **4323. ORGANIZATION ANALYSIS AND DESIGN: CULTURE, PROCESS, AND STRUCTURE (3-0) 3 hours credit.**

Frameworks for understanding the structure and processes of complex organizations. Several analytical and design perspectives are developed to reflect the impact of environment, technology, size, and strategy on organization goals, structure, and control. Includes issues in organizational effectiveness, culture, and life cycles. Prerequisites: MANA 3319 and senior standing.

### **4324. ORGANIZATIONAL BEHAVIOR (3-0) 3 hours credit.**

Concepts, research, and theories from the behavioral sciences as they apply to understanding the role of the individual as a member of organizations and to the effects of organizations upon their members. Organizational socialization, climate, and effectiveness, power and control, decision-making in groups, personnel development, and performance appraisal. Prerequisites: BUSA 2301 or equivalent and MANA 3319.

### **4327. CURRENT ISSUES IN MANAGEMENT (3-0) 3 hours credit.**

Seminar to consider major topics chosen for their relevance, recency, and their complexity. Prerequisites: MANA 3319 and senior standing.

# The Department of Marketing

234 Business Bldg. • Box 19469 • 817-272-2876

## Requirements for a Bachelor of Business Administration Degree

### (Marketing Option)

See Business Administration Section of the catalog for specific degree requirements.

## Department of Marketing Faculty

### Chair

Professor McDaniel

### Professors

Dickinson, Gates

### Associate Professors

Jarboe, Munch

### Assistant Professors

Baker, Kleiser, Mosley-Matchett, Peterson, Wagner

### Lecturer

Hall

## Marketing (MARK)

**3321. PRINCIPLES OF MARKETING (3-0) 3 hours credit.** The marketing function of the firm from the standpoint of the decision-maker. The marketing variables of products, channels, prices, and promotion as related both to the profitability of the firm and to customer satisfaction. The economic, legal, social, and international implications of marketing actions. Prerequisites: junior standing and ECON 2306 or consent of instructor.

**3322. SALES, SALES MANAGEMENT (3-0) 3 hours credit.** A didactic approach to the role of personal selling in a competitive, market-oriented economy. Professional, creative sales principles and selected management topics such as staffing, training, and motivating a productive sales force. Prerequisite: MARK 3321 or consent of instructor.

**3323. ADVERTISING MANAGEMENT (3-0) 3 hours credit.** The role of promotion in the marketing mix. The nature of the communications process and its relationship to advertising. Advertising budgeting, media planning, the advertising agency, the creative process, and evaluation and control of advertising. Prerequisite: MARK 3321.

**3324. BUYER BEHAVIOR (3-0) 3 hours credit.** The psychological and sociological aspects of both industrial and consumer buyer behavior. Motivation, cognition, and learning. Personality characteristics, the study of personal needs, and symbolism, as interrelated with formation of marketing strategy. From a sociological point of view, the emphasis is on group behavior and its effect on marketing decision theory. Prerequisite: MARK 3321.

**4303. PRINCIPLES OF RETAILING (3-0) 3 hours credit.** The position of retailing in the distribution channel. The part played by retailing in our economic system, with particular attention to the

interaction between suppliers and consumers. Retail management functions such as inventory management, pricing, merchandising buying, advertising and sales promotion. Prerequisite: MARK 3321.

**4304. SERVICE MARKETING MANAGEMENT (3-0) 3 hours credit.** Marketing decision-making in the health, travel, financial, and other service organizations will be examined. The focus is on solving marketing problems unique to service firms. Prerequisite: MARK 3321.

**4305. DIRECT MARKETING (3-0) 3 hours credit.** The student is exposed to the scope and application of direct marketing. Market segmentation and the integration of elements of the communication mix are emphasized. Among the topics discussed are lists, telemarketing, direct mail and mass customization.

**4311. MARKETING RESEARCH (3-0) 3 hours credit.** Designed to make students intelligent users of marketing research data. The interrelationship between marketing research and marketing management. Methods and techniques used to generate primary data in commercial marketing research. Design of research projects, methods for generating primary data, sampling of human populations, experimental design, and data analysis. Prerequisites: MARK 3321 and BUSA 3321.

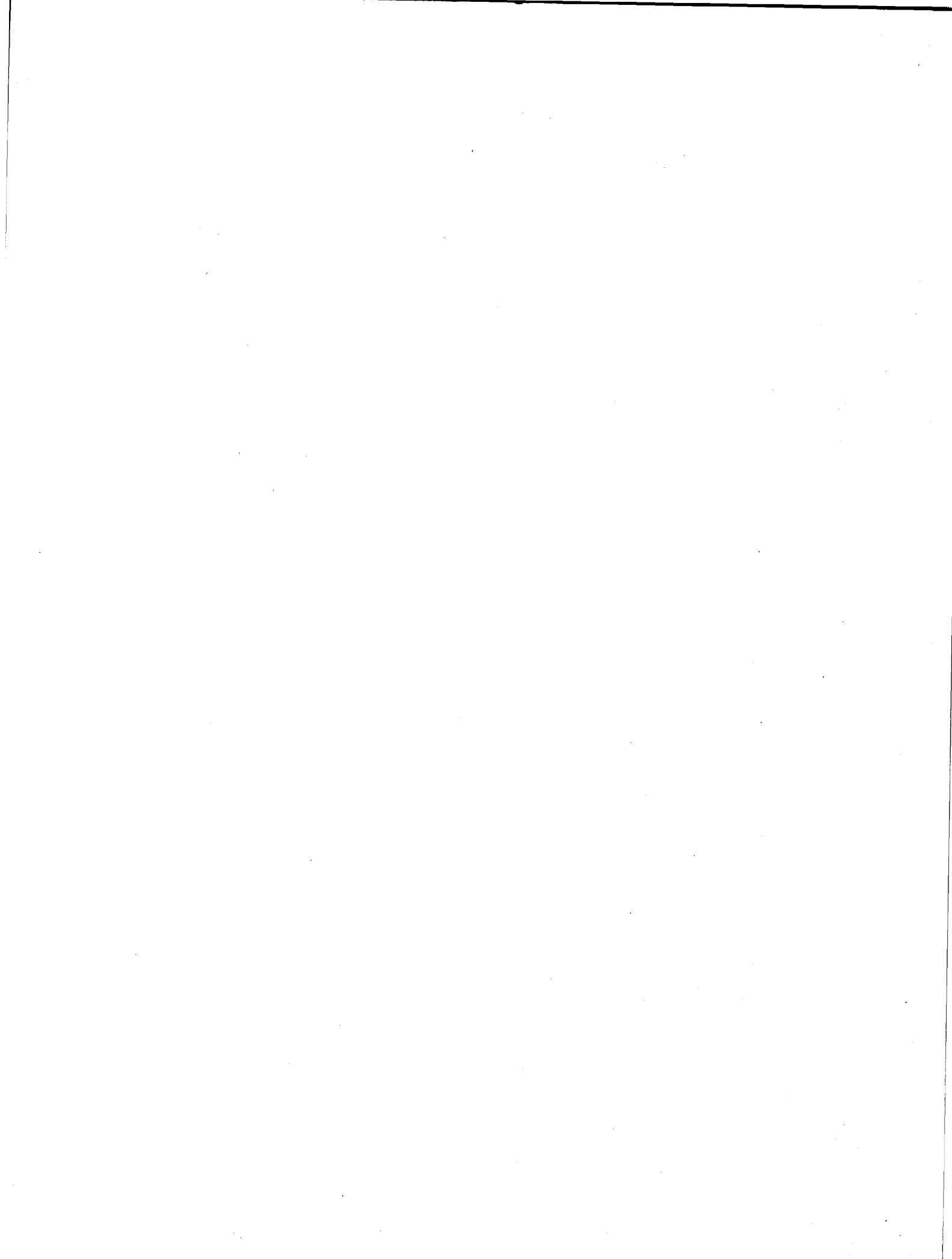
**4312. ADVANCED MARKETING RESEARCH (3-0) 3 hours credit.** An extension of MARK 4311. Concentrates on the question of data analysis in marketing research. Topics include data analysis via interactive computing, and introduction and use of major statistical software packages. Emphasis is on application rather than theory. Prerequisites: MARK 4311 and BUSA 3322.

**4315. RETAIL MERCHANDISE MANAGEMENT AND CONTROL (3-0) 3 hours credit.** The philosophy, concepts, and techniques underlying the planning and control of sales and inventories in retail stores. Discussion moves from a basic understanding of profit and loss statement to the actual planning of merchandising operations. Emphasis on planning and control. Prerequisites: MARK 3321 and 4303.

**4320. PRODUCT MANAGEMENT (3-0) 3 hours credit.** This course deals with questions related to the management of the firm's product/service offering. Topics include marketing research for new products, product strategy, brand management, the product portfolio, and others. Prerequisite: MARK 3321.

**4322. MARKETING POLICY (3-0) 3 hours credit.** A capstone course which stresses the integration of the student's knowledge in the areas of economics, finance, management and organization theory, and marketing. Students are required to bring the theory and concepts they have learned in these different areas to bear on the solution of case problems. Prerequisites: MARK 3321, 4311, three additional hours of marketing, and senior standing.

**4325. INTERNATIONAL MARKETING (3-0) 3 hours credit.** Explores the techniques of entering the international marketplace. Explains the impact of sociocultural, economic, technological, governmental, and demographic factors on the international marketing mix. Prerequisite: MARK 3321.





# The Center for Professional Teacher Education

5th Floor, Hammond Hall • Box 19227 • 817-272-2591

The Center for Professional Teacher Education at The University of Texas at Arlington offers educator certification opportunities for persons interested in becoming teachers. As part of a newly designed certification program, UTA emphasizes experiential learning models through field-based applications. Students spend a majority of time in public school classroom settings applying acquired content to learning situations with (1) public schools, (2) master public school teachers who serve as mentors and coaches, and (3) experienced university professors and instructors who provide the bridges from theory to application in today's diverse classrooms. In acquiring certification, teacher candidates demonstrate mastery of the state-adopted Learner-Centered Proficiencies that relate to the following essentials for effective teaching:

- **A knowledge base** (expertise in the teaching field)
- **Instructional ability** (ability to teach in ways that cause children to learn)
- **Communication** (skills in relating to others)
- **Diversity** (ability and desire to work with *all* children)
- **Professional growth** (ongoing growth and development as an educator)

Candidates for certification demonstrate their proficiency in the above essentials by using assessment strategies such as individual portfolios, reflective journals and other performance-based assessments.

The Center for Professional Teacher Education also offers a variety of master's degree programs in education as well as professional certificate programs. The Master of Education in Teaching (MET) degree is a broad-based program that provides opportunities for elementary and secondary teachers to continue developing effective teaching and administrative skills that are congruent with an expanding theoretical knowledge base and to specialize in related professional careers in school administration, and reading and supervision. For further descriptions, see the Graduate Catalog.

The Center for Professional Teacher Certification at The University of Texas at Arlington offers teacher certification opportunities for persons interested in becoming elementary, all-level, or secondary teachers. Endorsements to regular Texas teacher certificates are available in Early Childhood Education, English as a Second Language, and Gifted and Talented Education.

The certification programs are designed to develop skilled and professionally competent teachers. Candidates successfully completing prescribed programs are recommended for official State Board for Educator Certification credentials by UTA's Center for Professional Teacher Education.

In accordance with Texas state law, the Center for Professional Teacher Education does not offer an undergraduate degree or major in education. Non-degreed candidates seeking teacher certification must choose an appropriate academic major and earn a baccalaureate degree in addition to completing certification requirements.

## Certification Programs

The Center for Professional Teacher Education prepares students for State Board for Educator Certification credentials under three basic plans: elementary, all-level and secondary teaching.

**Elementary** certification is available for students with academic specializations in the following areas: biology, English, French, geography, German, health, history, life earth-science, mathematics, physical education, physical science, reading (graduate level), social studies, Spanish, speech communication and theatre arts.

**All-level** certification programs are available in music and physical education.

**Secondary** certification is available to students in the following academic areas: art, biology, chemistry, computer information systems, earth science, economics, English, French, geography, German, government, health, history, journalism, life-earth science, mathematics, music, physical education, physical science, physics, psychology, reading (graduate level), Russian, science composite, social studies composite, sociology, Spanish, speech communication and theatre arts.

The specific academic courses required are listed below each option. The appropriate academic advisor will determine specific course requirements for secondary and all-level teaching fields and/or elementary specializations. A list of academic advisors is available in the Center for Professional Teacher Education Office.

## Admission, Enrollment and Program Continuation

### Eligibility for Admission and Enrollment

Students seeking provisional teacher certification must meet specific criteria set by the Center for Professional Teacher Education and complete or satisfy the following paperwork and requirements:

- Petition for admission
- Certification Plan completed by the academic and education advisors
- Transcripts from each college or university the student has attended (reflecting all current/completed semesters)
- Students who have passed all three parts of the TASP and who have a 2.75 or better GPA (either overall or for the last 60 hours, whichever is higher) will be admitted unconditionally to the Teacher Education program. All other applicants with a GPA of 2.50-2.74 (either overall or for the last 60 hours, whichever is higher) and a minimum GPA of 2.50 in teaching field or teaching specialization courses must be processed through the Admissions Review Committee. This committee, composed of two education faculty members and at least one faculty member from the appealing student's content area, will consider the written petitions of all such students.
- Criminal Records Check Release Form (processing fee of \$12.50)
- Any other assessment requirements deemed necessary by the Center for Professional Teacher Education

**Transfer Students:** Certification programs for transfer students will be designed on an individual basis. To qualify for a recommendation for certification, a minimum of 15 semester credit hours in professional education must be completed at U.T. Arlington.

**Certified Teachers:** If you wish to add additional areas of certification, consult with an academic and/or certification advisor.

**Certification Plans:** Approved certification plans will be valid for two years. Candidates who do not complete their certification plans within two years must reapply for admission, initiate a new certification plan and meet any additional requirements in effect at that time. Due to changing requirements for Texas teacher certification, it is possible that coursework in teacher education completed prior to the current application will not be counted toward certification requirements.

## Eligibility for Program Continuation

In addition to other requirements listed elsewhere, each candidate for certification must:

- Demonstrate suitability for admission to the teaching profession and,
- Demonstrate knowledge of and adherence to the Code of Ethics and Standard Practices for Texas Educators.

Teacher Education students also are required to master the speech competencies associated with proficient oral communication in instructional settings. If a student is found to be deficient in these competencies, successful completion of SPCH 3315 will be required.

At such time as questions are raised by U.T. Arlington faculty or professional practitioners regarding any of the requirements for admission, enrollment and program continuation, the candidate will be notified and invited to respond to the Continuation Committee within the University's Center for Professional Teacher Education.

Certification candidates may continue in their program(s) by showing progress through committee assessment of their teaching field(s) or specialization(s), and by maintaining a 2.75 GPA in their EDUC and READ courses. **Note: For certification, students must earn a grade of C or higher in all EDUC and READ courses.** Candidates will not be allowed to continue in the teacher certification program nor enroll for additional EDUC or READ courses if they:

- Receive a grade of D or F in more than one EDUC or READ course, or
- Receive a combination of grades of D or F on two attempts of the same course.

**Note:** (1) Two or more attempts of the same course results in an averaged grade. For example, if the first attempt is a D and the second attempt is a B, the averaged course grade is a C. (2) The University's grade replacement policy is not in effect for EDUC or READ coursework.

Candidates for certification who withdraw or are withdrawn from internship or residency must be reviewed by the Continuation Committee prior to consideration for an additional internship or residency assignment.

## Certification Program Requirements

Students admitted to the teacher certification program must complete the Texas State Board of Education requirements which may exceed current University degree requirements as stated in the degree-granting academic department sections of this catalog. In addition to degree requirements stated elsewhere, students must complete the following:

- Three semester hours of mathematics at the content level of college algebra or above.
- Three semester hours of fine arts (MUSI 1300 or 1301, ART 1301, THEA 1306 or 1343 are recommended). Music majors must take MUSI 2300.
- Three semester hours of electives from the following areas: foreign languages, fine arts, humanities, mathematics, natural science, and social science.

## Certification Program Options

### State Board for Educator Certification (SBEC) (Deficiency Plan)

The Center for Professional Teacher Education will prepare State Board for Educator Certification Deficiency Plans at the request of school districts and candidates. A certification deficiency plan states an applicant's academic and experiential deficiencies which must be completed prior to regular Texas certification. School districts may or may not choose to employ or assign individuals to responsibilities for which they are not certified based on the Texas Education Agency College/University Deficiency Plan. For the preparation of deficiency plans, the Center for Professional Teacher Education charges a \$25 fee for U.T. Arlington graduates and a \$35 fee for non-U.T. Arlington graduates.

## Internship and Residency

**Internship** is a semester long (following the public school district calendar) experience.

- Elementary certification candidates will spend a day and a half each week in assigned schools working with mentor teachers and K-6 grade students. In addition, students are required to attend a one-half-day-per-week classroom management seminar and technology seminars throughout the semester.
- Secondary certification candidates will spend five instructional clock hours per week in their assigned schools working with mentor teachers and 7-12 grade students. In addition, students are required to attend technology seminars throughout the semester.

### Application for Internship

Eligible students must make application for internship during the semester prior to the internship assignment. Internship application meetings will normally be scheduled prior to the beginning of the internship assignment.

Students should become familiar with the Internship Handbook prior to the internship assignment.

A. To be eligible to enter the internship in the **elementary** and applicable endorsement programs, the student must:

- Have completed EDUC 4301 and 4340 and have a minimum GPA of 2.75 in all EDUC and READ coursework.
- Have completed at least 75 percent of the required hours in their teaching field or specialization (which includes six advanced in an academic specialization(s)). At this point, students with a GPA between 2.50 and 2.74 in their teaching field or teaching specialization courses must appeal in writing to the Admissions Review Committee.
- Have completed at least 12 semester hours of English coursework with a minimum GPA of 2.0. All English course grades listed on the certification plan will be used in the calculation of the English GPA.
- Have completed or be concurrently enrolled in EDUC 4370, READ 4373 and READ 4374 (or graduate equivalents of the preceding courses).

**Note:** For purposes of determining eligibility for internship, all applicable grades, including those earned at other institutions, will be used in the calculation of grade point averages.

B. To be eligible to enter internship in the **secondary** or **all-level** and applicable endorsement programs, the student must:

- Have completed EDUC 4340 and have a minimum GPA of 2.75 in all EDUC and READ coursework.
- Have completed at least 12 semester hours of English coursework with a minimum GPA of 2.0. All English course grades listed on the certification plan will be used in the calculation of the English GPA.
- Have completed at least 18 hours (six advanced) in each teaching field, or 27 hours (nine advanced) in a single or **all-level Physical Education** teaching field, or 36 hours (12 advanced) in a composite teaching field, or 54 hours in a single all-level Music teaching field.
- If courses specified on the certification plan in each of the two teaching fields or a single teaching field have a GPA between 2.50 and 2.74, the student must appeal in writing to the Admissions Review Committee.
- Have completed or be concurrently enrolled in EDUC 4341 and 4342 and READ 4343 or 5326 (or graduate equivalents of the preceding courses).

**Note:** For purposes of determining eligibility for internship, all applicable grades, including those earned at other institutions, will be used in the calculation of grade point averages.

**Residency** is a semester long (following the public school district calendar) experience. Students are assigned to the same school where their internship was completed and where they work with mentor teachers and K-12 students.

To be eligible for residency, students' specialization(s) or teaching field(s) coursework must be maintained at a 2.75 GPA or higher or the student must appeal in writing to the Admissions Review Committee. All EDUC and READ coursework must be maintained at a minimum GPA of 2.75.

**Elementary:** Students seeking elementary certification will enroll in EDUC 4677 (residency) along with concurrent enrollment in EDUC 4371 and 4372.

**Secondary:** Students seeking secondary certification will enroll in EDUC 4647 (residency) along with concurrent enrollment in EDUC 4346 and 4352.

## Recommendation to the State Board for Educator Certification

To be recommended to the State Board for Educator Certification for teacher certification, a student must have successfully completed the following:

A. All coursework specified on the certification plan and required for certificate sought.

- All required professional education and reading coursework with a grade of C or better and with a minimum GPA of 2.75. All professional education and reading coursework attempted will be used in the calculation of grade point average.
- All teaching field or academic specialization coursework prescribed on the certification plan will be assessed at that point.
- All requirements for the baccalaureate degree including at least 12 hours of English with a minimum GPA of 2.0. All English coursework attempted will be counted in the grade point average.

B. For purposes of determining eligibility for certification, all applicable grades, including those earned at other institutions, will be used in the calculation of grade point averages.

C. Submission of all necessary documentation to the Center for Professional Teacher Education which includes, but may not be limited to, the following:

- Official transcripts from all colleges and universities attended on file in the Center for Professional Teacher Education.
- A final U.T. Arlington transcript indicating completion of internship and residency and additional degree requirements.
- An official typewritten State Board for Educator Certification application for teacher certification.
- Passing scores on the applicable ExCET exams. Individuals recommended for the provisional teacher certificate, additional teaching fields, areas of specialization or endorsements are required to achieve and provide evidence of a satisfactory level of performance on one or more of the Examinations for Certification of Educators in Texas (ExCET), prescribed by the Texas State Board of Education.
- Items 1, 2, 3 and 4 above, including the certification fee, within one year of completion of the certification plan. Students who do not submit the necessary documentation within one year of completion of the certification plan must reapply for certification and meet any additional requirements in effect at that time.

D. Due to changing requirements for Texas teacher certification, it is possible that coursework completed prior to the current application will not be counted toward certification requirements.

E. In accordance with Article 6252-13c, Texas Civil Statutes, the Texas Commissioner of Education may suspend or revoke a teaching certificate, or refuse to issue a teaching certificate, for a person who has been convicted of a felony or misdemeanor for a crime which directly relates to the duties and responsibilities of the teaching profession. All applicants for Texas certificates will be screened for a record of felony or misdemeanor conviction through the Texas Department of Public Safety.

## Eligibility for Certification

To be eligible for certification under all programs, a candidate must meet specific criteria set by the Center for Professional Teacher Education, the University and the State Board of Educator Certification. Specific requirements are as follows:

- Degree requirements met
- Education and Reading coursework successfully completed
- Residency/Student Teaching successfully completed
- Academic coursework successfully completed
- Passing scores on appropriate ExCET test(s)
- Submission of final transcripts
- Submission of application materials
- Submission of State Board for Educator Certification Fee (\$75)

## Certification Levels

The following pages have been divided into the academic and education requirements for teacher certification. Proceed to the section in which you are interested (i.e., elementary, secondary or all-level).

### Elementary Certification

#### Professional Development

- EDUC 4301.** Introduction to Elementary Education  
**EDUC 4340.** Human Growth and Development  
**EDUC 4370.** Social Studies and Diverse Populations in the Elementary Schools  
**EDUC 4371.** Science in the Elementary School  
**EDUC 4372.** Mathematics in the Elementary School  
**EDUC 4377.** Elementary Teacher Preparation Internship and Classroom Management  
**EDUC 4677.** Elementary Teacher Preparation Residency with Technology Applications  
**READ 4373.** Literacy Learning: Reading/Writing  
**READ 4374.** Literacy Learning: Language/Literature

#### Combination of Courses

Each elementary certification plan must include a specified Combination of Courses related to subjects taught in Texas public elementary grades. **Note: This requirement does not apply to degreed certification students.** The requirement includes 12 to 18 semester hours, depending on the option chosen. The Combination of Courses may not be taken from the student's academic specialization. Only one course or three semester hours may be counted from each subject area.

#### Elementary Reading (six semester hours required)

- READ 4373.** Literacy Learning in the Elementary Grades: Reading  
**READ 4374.** Literacy Learning in the Elementary Grades: Literature

#### Elementary Subjects (three to 15 semester hours required depending on specialization option)

- ART 1301.** Introduction to Art  
**ENGL 4365.** Children's Literature  
**EXSS 3388.** Theory and Application in Motor Development  
**EXSS 4321.** Integration of Principles of Exercise and Sport: Transitional Activities

**GEOG** Any three hours

- HEED 1301.** Nutrition  
**HEED 1316.** Foundations of Health  
**HEED 3303.** Drugs and Behavior  
**HEED 4340.** Principles of Health Applications  
**HIST 3363.** Texas and Spanish Southwest  
**HIST 3364.** History of Texas Since 1845  
**MUSI 1300.** Music Appreciation  
**MUSI 1301.** Elements of Music  
**MUSI 3305.** Music for Children  
**THEA 1306.** Developing Creative Imagination  
**THEA 1322.** Oral Interpretation  
**THEA 1342.** Drama Appreciation  
**THEA 1343.** Introduction to Theatre Arts  
**THEA 3310.** Creative Drama  
**THEA 3312.** Theatre Production for Children  
**THEA 3323.** Oral Interpretation of Children's Literature

### Elementary Specializations

#### Elementary Option I Academic Specializations

This option requires **two** areas of specialization and is normally available only to students with a baccalaureate degree. Students must see a certification advisor concerning fulfillment of the required 12 hours in the Combination of Courses.

**Biology Teaching Specialization** (14 semester hours):  
1282, 1333, 1334, 3341, 4388 or 3310.

**English Teaching Specialization** (12 semester hours):  
Three hours from 2303, 2309, 2319, or 2329; 4365 plus two from 3371, 3384, or 3339.

**Geography Teaching Specialization** (13 semester hours):  
1435, 3343, 4310, 4350.

**Health Teaching Specialization** (12 semester hours):  
1316, 4340, plus two from 3303, 3330, 4312.

**History Teaching Specialization** (12 semester hours):  
2301 or 2302, 3363 or 3364, plus two from 3365, 3366, 3367, or 3368.

**Mathematics Teaching Specialization** (12 semester hours):  
1302, 1308, 3301, and 3316.

**Reading Teaching Specialization for Degreed Students Only** (18 semester hours):  
READ 4373 or 5325, 4374 or 5353, 5350, 4343 or 5345 or 5326; plus six additional hours from READ.

#### Elementary Option II Academic Specializations

All candidates for certification must secure course selection approval from the designated academic advisor. Students pursuing a baccalaureate degree at U.T. Arlington must refer to the degree requirements in the department section of this catalog for additional requirements. Students must see certification advisor concerning fulfillment of the required 18 hours in a Combination of Courses.

**Biology Teaching Specialization** (20 semester hours):  
1301, 1282, 1333, 1334, 3310, 3341, 4388.

**English Teaching Specialization** (24 semester hours):  
1301 and 1302.

Any two of the following 2000-level literature courses:  
2303, 2309, 2319, or 2329.

Any two of the following 3000-level courses:

3340; 3351 or 3352; 3361 or 3362.

Plus 3384 and 4365.

**Geography Teaching Specialization (19 semester hours):**

1435, 3305, 3309, 3343, 4301, 4310.

**History Teaching Specialization (24 semester hours):**

24 hours (with at least 12 advanced hours) to include 1311, 1312, 2301, 2302, plus six semester hours from each of Group A and Group B.

**Group A:** United States History: 3363 or 3364 plus 3372 or 3373.

**Group B:** Non-U.S. History: 3374, 3375, 3376, 3377, 3378, 3379, 3381, 3382, 3383, 3384, 3385, 3386, 3388, 3389, 4301, 4346, 4347, 4348, 4349, 4350, 4351, 4352, 4354, 4355, 4357, 4358, 4359, 4360, 4361, 4362, 4363, 4364, 4365, 4366, 4367, 4368, 4370, 4374, 4375, 4378, 4379, 4382, 4384, 4385, 4387, 4388.

**Foreign Language Teaching Specialization**

**French** (26 semester hours): 1441, 1442, 2313, 2314 (or equivalent), 3315, 4339, plus six advanced hours of language and/or literature.

**German** (26 semester hours): 1441, 1442, 2313, 2314 (or equivalent), 3313, 3314, 4339, plus three advanced hours of language and/or literature.

**Russian** (26 semester hours) 1441, 1442, 2313, 2314 (or equivalents), 3320, 3321, and 4362 plus three advanced hours of Russian language /literature/or area studies.

**Spanish** (26 semester hours): 1441, 1442, 2313, 2314 (or equivalent), 3314, 4339, plus six advanced hours of language and/or literature.

**Mathematics Teaching Specialization (18 semester hours):**

1324 or 1302 and 1303; 1325, 1426, nine hours from 3300, 3301, 3307, and 3316.

**Physical Education Teaching Specialization**

(18 semester hours, 9 advanced):

EXSS 1103, 1116, 1124, 1314, 3306, 3388, 4321 plus 3 hours from approved list of courses.

Students must meet department activity competency requirement and have passed a Red Cross First Aid Certification course prior to student teaching.

**Reading Teaching Specialization for Degreed Students Only**

(18 semester hours):

READ 4373 or 5325, 4374 or 5353, 5350, 4343 or 5345 or 5326; plus six hours from READ.

**Speech Communication Teaching Specialization**

(30 semester hours):

COMM 1300.

SPCH 1301, 1302, 3307, 3321, 3323.

Six hours from SPCH 3306, 3310, 3312, 3315, 3316, 3322.

Three hours from SPCH 4300, 4302, 4321, or COMM 4310.

SPCH 4360

**Theatre Arts Teaching Specialization (30 semester hours):**

THEA 1302, 1304, 1307, 1342 or 1343, 3300, 4300.

Three hours from THEA 3301, 3305, 3307, 3310, or 3312.

Three hours from THEA 4302, 4303, 4304, 4309, 4321, 4330, 4343, or 4360.

**Three hours advanced (3000/4000) level in theatre arts.**

At least three hours THEA 0181.

**Elementary Option III Academic Specializations**

All candidates for certification must secure course selection approval from the designated academic advisor. Students must see a certification advisor concerning fulfillment of the required 12 hours in a Combination of Courses. This option is normally chosen by students with a baccalaureate degree.

**Life Earth Specialization**

(30 semester hours, 6 advanced hours):

BIOL 1449, 2453, 2454.

GEOL 1435 or 1465, 3301, 3184, 3305, 3185.

PHYS 1345.

Plus three or four advanced hours from the following:

BIOL 3315, 3348, 3355, 3341, 4392, 3455 or GEOL 3303, 3304, 3306, 3307, 3308, 3441.

**Physical Science Specialization**

(26 semester hours, 6 advanced hours):

PHYS 1445, 1447, 1448.

CHEM 1301, 1302, 1284.

Plus three advanced hours from the following: PHYS 3301, 3366.

Plus three advanced hours from the following: CHEM 3310, 3301, 4391, 4392.

**Social Studies Specialization**

(24 semester hours, 12 advanced hours):

ECON 2305, 2306; HIST 3364 or 3363, 2301 or 2302.

Six semester hours of geography.

Any six semester hours of advanced classroom political science courses.

**Secondary/All-Level Certification**

**Professional Development**

**EDUC 4340.** Human Growth and Development

**EDUC 4341.** Organization and Management of Instruction in Secondary Schools

**EDUC 4342.** Applications of Instruction in Secondary Classrooms

**EDUC 4346.** Secondary School Culture and the Teaching Profession

**EDUC 4347.** Secondary School Internship with Technology Applications

**EDUC 4352.** Teaching Diverse Populations

**EDUC 4647.** Secondary Teacher Preparation Residency with Technology Applications

**READ 4343.** Reading and Writing Across Curriculum

or

**READ 5326.** Teaching Language Arts in the Secondary Schools

## Secondary Teaching Fields

### Secondary Option I Single Teaching Fields

(minimum of 36 hours with 21 advanced)

All candidates for certification must secure course selection approval from the designated academic advisor. Students pursuing a baccalaureate degree at U.T. Arlington must refer to the degree requirements in the department section of this catalog for additional required courses.

#### Art Single Teaching Field (42 semester hours):

1302, 1303, 1309, 1310, 1347, 1348, plus additional upper division hours from approved list.

#### Biology Single Teaching Field (36-37 semester hours):

1441, 1442, 2453, 2454, or 3457, 3315 and 19 advanced hours from 3301, 3333, 3339, 3341, 3348, 3442, 3452, 3455, 4315, 4338, 4340, 4388, 4450, 4455.

#### Chemistry Single Teaching Field (41 semester hours):

1284, 1301, 1302, 2181, 2182, 2321, 2322, 2451, 4311 and 15 advanced hours from 3307, 3310, 4101, 4242, 4312, 4313, 4314, 4316, 4346, or other courses approved by the department.

#### Earth Science Single Teaching Field (40 semester hours):

GEOL 1435, 1436, 2445, 2446, 2490, 3184, 3185, 3301, 3305, 3441 or 3442, 3443, PHYS 1445.

#### Economics Single Teaching Field (36 semester hours):

2305, 2306, 3303, 3310, 3312, 4306, 4321, 4324, plus 12 hours of advanced courses.

#### English Single Teaching Field (36 semester hours):

1301, 1302; two from 2303, 2309, 2319, or 2329; 3340; 3351 or 3352; 3361 or 3362; 3371, 3384, 4370; and six additional hours of advanced electives.

#### Government Single Teaching Field (36 semester hours):

2311, 2312, and six semester hours each from Group A, Group B, and Group C.

Plus 12 semester hours advanced electives.

**Group A:** 3303, 3305, 3306, 3307, 3308, 3311, 3312, 3327, 4303, 4304, 4317, 4318, 4319, 4320, 4324, 4326, 4330, 4336, 4351, 4353, 4354.

**Group B:** 3310, 3313, 3330, 3331, 3332, 3333, 3335, 4322, 4323, 4325, 4327, 4328, 4331, 4332.

**Group C:** 3304, 3314, 3316, 3317, 3318, 3329, 4310, 4311, 4312, 4313, 4315, 4336, 4355, 4360, 4361, 4362, 4363, 4365, 4387.

#### History Single Teaching Field (36 semester hours):

1311, 1312, 2301, 2302, 3363 or 3364, 3372 or 3373, 4389 plus three advanced courses in non-U.S. History and two advanced courses in U.S. History.

#### Mathematics Single Teaching Field (36 semester hours):

1302, 1303, 1325, 1426, 2325, 3301 or 3306, 3307, 3314; plus 12 hours from 3300, 3313, 3316, 3330, 3345, 3421, 3435, 4313, 4345, 4421, 4435.

#### Physical Education Single Teaching Field

(36 semester hours):

EXSS 1124, 1314, 1215, 3301, 3304, 3306, 3315, 3388, 4320, 4325.

Select 10 additional hours from approved courses. Student must meet department activity competency requirement and have passed a Red Cross First Aid Certification course prior to student teaching.

### Physical Science Single Teaching Field

(36-38 semester hours):

CHEM 1284, 1301, 1302; PHYS 1447, 1448, or 1441, 1442 or 1443, 1444; plus six additional hours of CHEM and six additional hours of PHYS; and 12 hours from the following: CHEM 3310, 4311 and an additional three hours approved by the chemistry advisor; PHYS 3301, 3303, 3313, 3366, 3445, 3446, 4181, 4281, or other approved courses in CHEM, PHYS, or physical science.

### Secondary Option II Two Teaching Fields

(minimum of 24 hours with 12 advanced)

All candidates for certification must secure course selection approval from the designated academic advisor. Students pursuing a baccalaureate degree at U.T. Arlington must refer to the degree requirements in the department section of this catalog for additional required courses.

#### Biology Teaching Field (28 semester hours):

1441, 1442, 2343, 3315, or 3457 (physical education majors may substitute 2457), 3315, and nine advanced hours.

#### Chemistry Teaching Field (32 semester hours):

1301, 1302, 1284, 2181, 2182, 2321, 2322, 2451, 3301, 4311, plus six additional hours of advanced chemistry for which prerequisites have been met.

#### Computer Information Systems Teaching Field

(24 semester hours with 12 hours advanced):

BUSA 2303; nine semester hours from CSE 2303, 2304, 2306, 2308, 2310;

Plus 12 additional advanced computer-related semester hours from INSY, CSE, or MATH.

#### Earth Science Teaching Field (32 semester hours):

GEOL 1435, 1436, 2445, 2446, 3184, 3185, 3301, 3305, 3441 or 3442, PHYS 1445.

#### Economics Teaching Field (24 semester hours):

2305, 2306, 3303, 3310, 3312, and 4321, plus six additional hours in advanced economics.

#### English Teaching Field (24 semester hours):

ENGL 1301 and 1302.

Any two of the following 2000-level literature courses:

ENGL 2303, 2309, 2319, or 2329.

Any two of the following 3000-level courses: ENGL 3340, 3351 or 3352, 3361 or 3362.

ENGL 3384 and 4370.

#### Foreign Language Teaching Fields

**French** (26 semester hours): 1441, 1442, 2313, 2314 (or equivalent), 3315, 4339, plus six advanced hours of language and/or literature.

**German** (26 semester hours): 1441, 1442, 2313, 2314 (or equivalent), 3313, 3314, 4339, plus three advanced hours of language and/or literature.

**Russian** (26 semester hours) 1441, 1442, 2313, 2314 (or equivalents), 3320, 3321, and 4362 plus three advanced hours of Russian language /literature/or area studies.

**Spanish** (26 semester hours): 1441, 1442, 2313, 2314 (or equivalent), 3314, 4339, plus six advanced hours of language and/or literature.

**Geography Teaching Field** (24 semester hours):

1435, 3305, 3309, 3343, 4301, 4310, 4350 (modern geography), 4350 (economic geography).

**Government Teaching Field** (24 semester hours):

POLS 2311 and 2312, plus six hours from each of the three following groups:

**Group A:** U.S. Government and Politics—3303, 3305, 3306, 3307, 3308, 3311, 3312, 3327, 4303, 4304, 4317, 4318, 4319, 4320, 4324, 4326, 4330, 4336, 4351, 4353, 4354.

**Group B:** Political Theory, Public Law, and Methodology—3310, 3313, 3330, 3331, 3332, 3333, 3335, 4322, 4323, 4325, 4327, 4328, 4331, 4332.

**Group C:** Comparative Government and International Relations—3304, 3314, 3316, 3317, 3318, 3329, 4310, 4311, 4312, 4313, 4315, 4336, 4355, 4360, 4361, 4362, 4363, 4364, 4365, 4387.

**Health Teaching Field** (24 semester hours with 12 hours advanced):

1301, 1316\*, 2317, 2340\*, 3303, 3330, 4312, 4320, 4340\*, 4391.

\* Required courses; 15 hours may be selected from remaining courses.

**History Teaching Field** (24 semester hours):

24 hours (with at least 12 advanced hours) to include 1311, 1312, 2301, 2302, plus 3363 or 3364; plus 3372 or 3373 and six semester hours advanced in non-U.S. History.

**Journalism Teaching Field** (30 semester hours):

COMM 1300 and 4310.

JOUR 1345, 2340, 2346, 3335, and 3345.

JOUR 3350 or 4326.

plus six advanced hours of electives in JOUR.

**Life-Earth Science Teaching Field** (34 semester hours):

Eight semester hours of laboratory courses in general biology: BIOL 1441, 2343, plus six semester hours of laboratory courses in general earth science: GEOL 1445, 1446, and PHYS 1345.

12 semester hours from the following: six semester hours of laboratory courses in biology or earth science, or a combination of these, and six semester hours of advanced level courses in biology or earth science or a combination of these groups:

**Group A:** BIOL 1442, 3315; plus six semester hours from: 3315, 3333, 3341, 3344, 3348, 3455, 3457, 4338, 4348, 4450.

(Note: all of the preceding are lab courses except for 3315 and 3333).

**Group B:** Earth Science: GEOL 3301, 3184, 3305, 3185 plus six semester hours from 2445, 2446, 3441, 3442, 3443

(Note: all of the preceding are lab courses), 3304, 3306, 3307, 3308, 3310, 4315, 4345.

**Mathematics Teaching Field** (24 semester hours):

1302 and 1303 or 1324; 1325, 1426, 2325, 3314; plus nine hours from 3300, 3301 or 3306, 3307, 3313, 3316, 3330, 3345, 3421, 3435.

If a student's first course is 1325, three additional hours will be required.

**Physical Education Teaching Field** (27 semester hours):

EXSS 1124, 1314, 1215, 3301, 3304, 3306, 3315, 3388, 4320, 4325.

Students must meet department activity competency requirement and have passed a Red Cross First Aid Certification course prior to student teaching.

**Physical Science Teaching Field** (26 semester hours):

From Groups A, B, and C:

**Group A:** Six semester hours in chemistry: 1301 and 1302.

**Group B:** Eight semester hours in physics: 1447 and 1448; 1443 and 1444; or 1441 and 1442.

**Group C:** 12 semester hours from the following courses, six of which must be advanced: CHEM 2181, 2182, 2321, 2322, 2451, 3310, 4311, 4391, or PHYS 3301, 3313, 3366, 3445, 3446, 4181, 4281, or other approved course(s) in chemistry, physics, or physical science.

**Physics Teaching Field** (24 semester hours):

Eight semester hours from one of the following groups:

**Group A:** 1443, 1444.

**Group B:** 1441, 1442.

**Group C:** 1447, 1448, 1288.

Six semester hours from 2311, 3313, 3321.

One course from: 2445, 3445, 3446, 3183, 3366, plus 4117. Plus additional semester hours to total 24 with 12 advanced hours.

**Psychology Teaching Field** (27 semester hours):

1315 or equivalent, 2441, and 2442.

Four hours from the following: 3315 and 3144, 4322 and 3142, 3420, 3431, 4334 and 3145.

One course from each of the Groups A, B and C (4355 may be substituted for one of the lectures in Groups A, B or C).

**Group A:** 3310, 3311, 3312, 3313, 3314, 3315, 3316, 3317, 3318, 4310.

**Group B:** 2310, 3320, 3324, 3326, 3328, 4322, 4325, 4327, 4329.

**Group C:** 4332, 4334, 4336, 4337, 4338, 4339, 4433

Plus three advanced hours.

**Reading Teaching Field for Degreed Students Only**

(24 semester hours):

READ 4343 or 5345, 5326, 4373, 5350, 5353; plus nine hours from READ.

**Sociology Teaching Field** (24 semester hours):

1311, 3305, 3352, and 4311.

Twelve additional advanced hours, including at least one course from the following groups:

**Group A:** Deviance and Social Control—3312, 3313, 3320, 3321, 3322, 3323, 3357, 4315.

**Group B:** Social Psychology—3317, 3319, 3320, 3321, 3323, 3326, 3327, 4331, 4332.

**Group C:** Institutions and Inequality—3331, 3334, 3336, 3340, 3343, 3345, 3350, 3351, 3353, 3354, 3356, 3360, 4303, 4309, 4310, 4318, 4320.

**Speech Communication Teaching Field** (30 semester hours):

COMM 1300

SPCH 1301, 1302, 2304.

SPCH 3305, 3321.

Six hours from SPCH 3306, 3307, 3310, 3312, 3315, 3316, 3322.

Three hours from SPCH 4300, 4302, 4321, or COMM 4310.

SPCH 4360.

**Theatre Arts Teaching Field (30 semester hours):**

THEA 1302, 1304, 1307, 1343 or 1342, 3300, and 4300.  
 Three hours from THEA 3301, 3305, 3307, 3310, or 3312.  
 Three hours from THEA 4302, 4303, 4304, 4309, 4321, 4330, 4343, or 4360.  
 Three hours advanced (3000/4000) level in theatre arts.  
 At least three hours THEA 0181.

**Secondary Option III Single Teaching Fields**

All candidates for certification must secure course selection approval from the designated academic advisor. Students pursuing a baccalaureate degree at U.T. Arlington must refer to the degree requirements in the department section of this catalog for additional required courses.

**Art Teaching Field (75 semester hours):**

**Foundation:** 21 hours including 1309, 1310; six hours to be selected from 1304, 1305, or 1306; 1307; three hours of study to be selected from 1308, 2354, 2358, 2359, 3343, 3346, 3347, 3349, 3351, 3362, 3371, and three hours of study to be selected from 3341, 3353, 3363. Some of the above courses have prerequisites.

**Concentration:** 54 hours within the field of art as recommended by the major advisor to include 48 hours in the area of concentration, and six hours advanced art history in two different groups from the following three:

**Group A** (Ancient to Medieval): 3301, 3302, 3305, 3306, 3320, 4302, 4303, 4304, 4317.

**Group B** (Medieval to Modern): 3307, 3308, 3312, 3313, 3315, 3325, 3331, 4306, 4330.

**Group C** (Twentieth Century): 3310, 3311, 3314, 3389, 3391, 3392, 4310, 4314, 4315.

**Music Teaching Field (76 semester hours):**

1185, 1186, 1325, 1326, 2185, 2186, 2325, 2326, 3208 or 3209, 3300, 3301; eight hours performance concentration (in one instrument or voice); 1180, 1181, 2180, 2181 (keyboard concentrates refer to options below for substitute hours).

**Secondary Choral Certification** requires 1103, 1104, 2103, 2104, 2112, 3101, 3314, 4101, 4193, 4209, 4301, 4314; nine hours of ensembles (seven hours a cappella choir, two hours music theatre/opera laboratory); six additional hours performance concentration; three hours music elective. In addition, voice concentrates take three hours 0174; keyboard concentrates take two hours 0109 and five hours 0175 (see Major).

**Secondary Instrumental Certification** requires two hours 0172 (concurrent with 3208 and 4208); 1103, 1104, 2103, 2104, 2112, 3313, 4192, 4208, 4301 or 4302, 4313; two courses selected from 3200, 3212 or 4291 (orchestra techniques); seven hours of ensembles (band emphasis: three hours marching band, three hours wind ensemble or concert band, one hour orchestra; orchestra emphasis: seven hours orchestra); six additional hours performance concentration; two hours selected from any ensemble or 0171 secondary instruments; two hours music elective. In addition, keyboard concentrates take four hours 0109 (see Major).

**Secondary Option IV Composite Teaching Fields**

(All candidates, etc., see option II)

Students pursuing a baccalaureate degree at U.T. Arlington must refer to the degree requirements in the department section of this catalog for additional requirements.

**Composite Science Teaching Field (57 semester hours):**

**Biology Option:** BIOL 1441, 1442, 2343, 3315, plus 14 hours from 3301, 3312, 3326, 3333, 3339, 3341, 3344, 3348, 3442, 3455, 3456, 3457, 4315, 4340, 4388, 4450, 4455.

24 semester hours distributed among chemistry, geology, and physics as shown below:

A. CHEM 1301, 1302, 1284.

B. GEOL 1445, 1446.

C. PHYS 1441, 1442.

**Chemistry Option:** CHEM 1284, 1301, 1302, 2181, 2182, 2321, 2322, 2451, 3301, 4311, and at least seven hours from 3307, 3310, 4101, 4216, 4242 and 4312.

24 semester hours distributed among biology, geology, and physics as shown below:

A. BIOL 1441, 2343.

B. GEOL 1435, 1436 or 1455, 1465.

C. PHYS 1441, 1442 or 1443, 1444.

**Social Studies Composite Teaching Field (48 semester hours):**

**History:** 24 semester hours to include 2301, 2302, 4389 or 3300, plus 3363 or 3364 and six semester hours from Group A and six advanced semester hours from Group B.

**Group A:** United States History: 3321, 3322, 3323, 3324, 3325, 3328, 3330, 3334, 3342, 3346, 3347, 3348, 3349, 3352, 3353, 3354, 3355, 3356, 3357, 3358, 3359, 3360, 3361, 3362, 3363, 3364, 3365, 3366, 3367, 3368, 3369, 3370, 3371, 3372, 3373, 4301.

**Group B:** Non-U.S. History: 3374, 3375, 3376, 3377, 3378, 3379, 3381, 3382, 3383, 3384, 3385, 3386, 3388, 3389, 4301, 4346, 4347, 4348, 4349, 4350, 4351, 4352, 4354, 4355, 4357, 4358, 4359, 4360, 4361, 4362, 4363, 4364, 4365, 4366, 4367, 4368, 4370, 4374, 4375, 4378, 4379, 4382, 4384, 4385, 4387, 4388.

**Social Studies:** 24 semester hours to include ECON 2305, 2306, six hours geography, plus six advanced classroom hours in political science, and six additional hours selected from any of the above areas.

**All-Level Teaching Fields**

**All-Level Option:** Students pursuing a baccalaureate degree at U.T. Arlington must refer to the degree requirements in the department section of this catalog for additional required courses.

**Music Teaching Field (76 semester hours):**

1185, 1186, 1325, 1326, 2185, 2186, 2325, 2326, 3208 or 3209, 3300, 3301; eight hours performance concentration (in one instrument or voice); 1180, 1181, 2180 and 2181 (keyboard concentrates refer to options below for substitute hours).

**All-Level Choral Certification** requires 1103, 1104, 2103, 2104, 2112, 3101, 3312, 3314, 4101, 4193, 4209, 4301, 4312, 4314; seven hours of ensembles (six hours a cappella choir, one hour music theatre/opera laboratory); six additional hours performance concentration. In addition, voice concentrates take two hours 0174; keyboard concentrates take two hours 0109 and four hours 0175 (see Major).



*All-Level Instrumental Certification* requires two hours 0172 (concurrent with 3208 and 4208); 1103, 1104, 2103, 2104, 2112, 3312, 3313, 4192, 4208, 4301 or 4302, 4312, 4313; one course selected from 3200, 3212 or 4291 (orchestra techniques); seven hours of ensembles (band emphasis: three hours marching band, three hours wind ensemble or concert band, one hour orchestra; orchestra emphasis: seven hours orchestra); six additional hours performance concentration. In addition, keyboard concentrates take four hours 0109 (see Major).

**Physical Education Teaching Field** (36 semester hours):

EXSS 1124, 1214, 1215, 3301, 3304, 3306, 3315, 3388, 4320, 4321, 4325.

Plus additional hours to total 36 as advised.

Students must meet department activity competency requirement and have passed a Red Cross First Aid Certification course prior to student teaching.

### Endorsements

For completion of an Endorsement Program, an individual must have a baccalaureate degree and a valid Texas teacher certificate. The candidate must complete the following applicable coursework.

**Early Childhood Education Endorsement**

(12 hours minimum):

**EDUC 5317.** Development and Learning in Early Childhood Education

**EDUC 5318.** Early Childhood and Kindergarten Education: Philosophy and Curriculum

**EDUC 5319.** Early Childhood Methods and Materials

Student Teaching in the Early Childhood and Kindergarten Classroom: (a) EDUC 4653—Student Teaching in Early Childhood and Kindergarten Classrooms (8 weeks) or (b) EDUC 4954—Student Teaching in Early Childhood and the Elementary School (14 weeks); or complete one year of successful teaching experience in an approved Early Childhood and Kindergarten program approved by the State Board for Educator Certification.

**English as a Second Language Endorsement**

**LING 3311 or 5300.** Linguistic Analysis

**LING 4327 or 5327.** Language Acquisition

**LING 4353 or 5353.** Teaching English as a Second or Foreign Language

**LING 4354 or 5354.** Methods and Materials to Teach English as a Second or Foreign Language

Student Teaching in the ESL Classroom or complete one year of successful teaching experience in an approved ESL or Bilingual Education program approved by the State Board for Educator Certification.

**Gifted and Talented Endorsement**

**EDUC 5370.** Introduction to Gifted and Talented Children

**EDUC 5371.** Measurement and Assessment of Gifted and Talented Children

**EDUC 5372.** Methods, materials and curriculum for the Gifted and Talented student

**EDUC 5373.** Creativity: theories, models and application

**EDUC 5374.** Practicum in Gifted and Talent Instruction or two years of successful classroom teaching experience in a program for gifted and talented students.

## Center for Professional Teacher Education Faculty

**Interim Director**

Professor Crow

**Professors**

Funkhouser, Reinhartz

**Associate Professors**

Duke, Hadaway, Jacobson, Jenkins, Leffingwell, Vardell

**Assistant Professors**

Jackson, Jernigan, Johnson, Marshall, Morgan, Stetson, Wilmore

### Education (EDUC)

The following courses may be taken only with the approval of and/or admission to the Center for Professional Teacher Education (Exceptions: 1130, 1131, 2330 and 3335). Refer to the "Admission, Enrollment and Program Continuation" section of the Professional Teacher Education portion of this catalog.

**1130. PEER LEADERSHIP SEMINAR (1-0) 1 hour credit.** Current student leaders provide training for their peers to effectively lead, motivate, and guide an organization. Leadership skills—effective communication, effective meetings, group dynamics, and conflict resolution—emphasized. Pass-fail only. Elective only; does not count as part of the professional certification requirements.

**1131. COLLEGE ADJUSTMENT (1-0) 1 hour credit.** Student counselors, under the supervision of the Counseling and Testing Office, in group discussion will communicate academic survival information, analyze potential academic and social problems, and assist in implementing individualized corrective measures. Elective only; does not count as a part of the professional certification requirements. Only pass-fail grades will be awarded. Prerequisite: entering freshman.

**2330. STUDENT LEADER EFFECTIVENESS TRAINING (3-0) 3 hours credit.** Leadership styles and theory, problem solving, responsibility of group members, public relations, organization administration, the relationship of groups to the university community, and the student organization viewed as an extension of the educational curricula. Only pass-fail grades will be awarded. Prerequisite: organization officer or permission of instructor. Elective only and does not count as part of the professional certification requirements.

**3335. STUDENT COUNSELOR TRAINING (3-0) 3 hours credit.** To train students to be peer counselors who will work as group leaders in EDUC 1131 during the Fall Semester. Group counseling procedures and requisite guidance material to explain academic regulations and student services, analyze deficient study skills, initiate appropriate study habits, and make referrals when necessary. Only pass/fail grades will be awarded. Prerequisite: permission of instructor. Elective only and does not count as a part of the professional education certification requirements.

**4301. INTRODUCTION TO ELEMENTARY EDUCATION (3-0) 3 hours credit.** Elementary education including philosophical and historical foundations; school organization, curriculum design, implementation, and evaluation, lesson development and evaluation; social, legal, financial, and ethical issues affecting schools; effective teaching practices; and an overview of the elementary curriculum areas.

**4317. DEVELOPMENT AND LEARNING IN EARLY CHILDHOOD EDUCATION (2-2) 3 hours credit.** Human growth and development, including developmental anomalies, from birth through early childhood with emphasis on cognitive, social, emotional, and physical growth. Attention will be given to research on learning, language development, and to the diagnosis and evaluation of affective, cognitive, physical and social needs in early childhood. Students will be required to participate in inquiries and investigations outside of the required class hours. Prerequisites: EDUC 3306 and 3316.

**4318. EARLY CHILDHOOD AND KINDERGARTEN EDUCATION: PHILOSOPHY AND CURRICULUM (2-2) 3 hours credit.** Early childhood prekindergarten and kindergarten education with emphasis on historical and contemporary perspectives related to curriculum, physical setting, organization of the classroom and management of the learning environment. Research on effective program practices, goals and organization. Students will be required to participate in inquiries and investigations outside of the required class hours. Prerequisite: EDUC 4317 or concurrent enrollment. \$2 lab fee.

**4319. EARLY CHILDHOOD AND KINDERGARTEN METHODS AND MATERIALS (2-2) 3 hours credit.** A didactic and experiential approach to working with young children. Developing and adapting materials appropriate to the developmental levels and cultural diversity of young children. Managing classroom behavior, instructional methodology and parental involvement. Implementation and use of various methodologies and materials in a field-based setting. Prerequisite: EDUC 4318 or concurrent enrollment. \$2 lab fee.

**4340. HUMAN GROWTH AND DEVELOPMENT (3-0) 3 hours credit.** Physical, social, emotional, and cognitive growth patterns from conception to early adulthood, emphasizing familial, cultural, societal, and genetic determinants of behavior. Topics include developmental characteristics of children and adolescents including exceptional learners and students with special needs.

**4341. ORGANIZATION AND MANAGEMENT OF INSTRUCTION IN SECONDARY SCHOOLS (2-2) 3 hours credit.** Emphasizes the importance of organizing, developing, and adapting management systems to enhance learning in classroom environments. Managing the teaching-learning process, applying a variety of assessment techniques, motivation, and adapting management styles to meet student needs. This course involves a two-hour lecture and two-hour application of lecture/theory. The two-hour application of lecture/theory will require students to spend time in a K-12 classroom during normal school hours, 8 a.m.-4 p.m., Monday-Friday. Taught at an approved field site. Prerequisite: EDUC 4340. \$5 lab fee.

**4342. APPLICATIONS OF INSTRUCTION IN SECONDARY CLASSROOMS (2-2) 3 hours credit.** Field-based applications of curriculum planning and instructional theory and methods. Includes writing and implementing unit and instructional goals and objectives, using instructional lesson models to meet teacher appraisal criteria including utilization of classroom technology and audio-visual aids, planning for individual needs, and evaluating student progress. This course involves a two-hour lecture and two-hour application of lecture/theory. The two-hour application of lecture/theory will require students to spend time in a K-12 classroom during normal school hours, 8 a.m.-4 p.m., Monday-Friday. Taught at an approved field site. Prerequisite: EDUC 4340. \$5 lab fee.

**4346. SECONDARY SCHOOL CULTURE AND THE TEACHING PROFESSION (2-2) 3 hours credit.** School cultures, effective schools and teaching practices, stages of professional development,

foundations of American schools, legal and ethical aspects, and societal demands on the school. Taught at an approved field site. Taken concurrently with residency.

**4347. SECONDARY SCHOOL INTERNSHIP WITH TECHNOLOGY APPLICATIONS (1-5) 3 hours credit.** Supervised and directed professional practice in a local secondary school. The student will be assigned to a public school site for five hours per week. A weekly one-hour technology seminar is required. Internship must be taken the semester prior to residency. Theory from the technology seminar will be applied during internship assignment.

**4352. TEACHING DIVERSE POPULATIONS (2-2) 3 hours credit.** Effective instruction, assessment, and management strategies for working in diverse educational settings. Designed to provide increased self-awareness and insight into issues of diversity such as culture, ethnicity, exceptionality, gender, language, religion, and socioeconomic status. Taught at an approved field site. Taken concurrently with residency. Prerequisite: EDUC 4340.

**4370. SOCIAL STUDIES AND DIVERSE POPULATIONS IN ELEMENTARY SCHOOLS (2-2) 3 hours credit.** Examination of materials, methods, content, and assessment learning experiences associated with the elementary social studies. Additionally, students explore personal attitudes and knowledge about diverse groups (including issues of ethnicity, gender, English as a second language, religion, physical and mental exceptionalities, and socioeconomic class) in school populations and develop introductory knowledge and skills related to the education of pupils from diverse backgrounds. Opportunities to demonstrate application of current researched based theory occur in an approved field site. This course involves a two-hour lecture and two-hour application of lecture/theory. The two-hour application of lecture/theory will require students to spend time in a K-12 classroom during normal school hours, 8 a.m.-4 p.m., Monday-Friday. Prerequisites: EDUC 4301 and 4340. \$5 lab fee.

**4371. SCIENCE IN THE ELEMENTARY SCHOOL (2-2) 3 hours credit.** Instructional approaches, management, materials, and effective teaching practices pertinent to teaching science in the elementary school; the organization of science content and the selection and implementation of lesson designs which utilize a hands-on approach promoting discovery and inquiry. Taught at an approved field site. Taken concurrently with residency semester. Prerequisites: EDUC 4301 and 4340. \$20 lab fee.

**4372. MATHEMATICS IN THE ELEMENTARY SCHOOL (2-2) 3 hours credit.** Curriculum standards, methods, and effective teaching practices as proposed by the National Council of Teachers of Mathematics for the elementary school; the organization of mathematics content with an emphasis on using manipulatives and technology to teach math. This course involves a two-hour lecture and two-hour application of lecture/theory. The two-hour application of lecture/theory will require students to spend time in a K-12 classroom during normal school hours, 8 a.m.-4 p.m., Monday-Friday. Taught at an approved field site. Taken concurrently with residency semester. Prerequisites: EDUC 4301 and 4340.

**4377. ELEMENTARY TEACHER PREPARATION INTERNSHIP AND CLASSROOM MANAGEMENT (2-9) 3 hours credit.** Supervised and directed practice emphasizing the importance of organizing, developing, and adapting management systems to enhance learning in classroom environments. Managing the teaching-learning process, applying a variety of assessment techniques, motivation, and adapting management styles to meet student needs. Students will be assigned for a day and a half in an approved field setting and

will spend a half day in a required classroom management seminar. Prerequisites: EDUC 4301 and 4340. \$5 lab fee.

**4191, 4291, 4391. CONFERENCE COURSE (Variable credit from 1 to 3 semester hours as arranged).** Independent study in the preparation of a project or a paper on a research topic; consultation with instructor on a regular basis. May be repeated for credit. Prerequisite: consent of the instructor.

**4392, 4492, 4592, 4692. PRACTICUM IN INSTRUCTION (Variable credit from 3 to 6 semester hours as arranged).** Directed practicum in both primary and intermediate grades in the elementary school. The student will be assigned to a public school classroom for an extended field-based experience. This longitudinal experience will help students apply theory to practice. The student will be responsible for planning, instruction, and evaluation. Prerequisites: EDUC 3306 and 3316. \$2 lab fee.

**4647. SECONDARY TEACHER PREPARATION RESIDENCY WITH TECHNOLOGY APPLICATIONS (2-25) 6 hours credit.** Supervised and directed practice in an approved field setting. The student will be assigned for the ISD calendar. A required technology seminar will provide students with theory to integrate and apply during residency. Taken concurrently with EDUC 4346 and EDUC 4352.

**4677. ELEMENTARY TEACHER PREPARATION RESIDENCY WITH TECHNOLOGY APPLICATIONS (2-25) 6 hours credit.** Supervised and directed practice in an approved field setting. The student will be assigned for the ISD calendar. A required technology seminar will provide students with theory to integrate and apply during residency. Taken concurrently with EDUC 4371 and EDUC 4372.

## Reading (READ)

**4326. PRINCIPLES OF READING AND LANGUAGE ARTS INSTRUCTION FOR SECONDARY CLASSROOM (3-0) 3 hours credit.** Reading processes, language processes, and instruction relevant to attaining reading/language arts skills. The use and interpretation of instruments related to the diagnosis of reading/language arts disabilities. The analysis of the processes and skills for reading/language arts (grades seven through 12). Prerequisite: EDUC 4340.

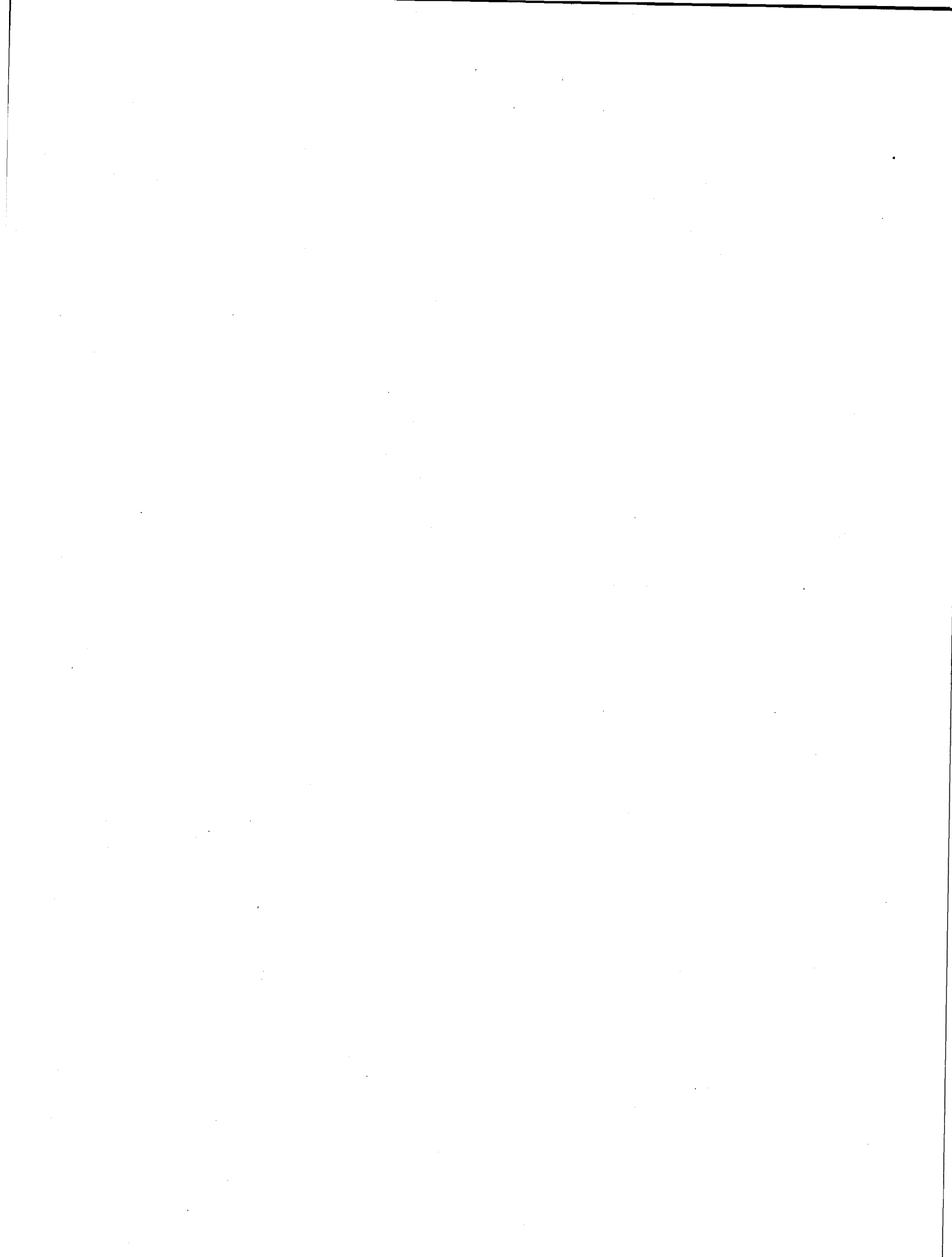
**4343. READING AND WRITING ACROSS THE CURRICULUM (2-2) 3 hours credit.** Reading/writing needs of secondary school students across content areas with emphasis on evaluating and adapting text. This course involves a two-hour lecture and two-hour application of lecture/theory. The two-hour application of lecture/theory will require students to spend time in a K-12 classroom during normal school hours, 8 a.m.-4 p.m., Monday-Friday. Taught at an approved field site. Prerequisite: EDUC 4340.

**4373. LITERACY LEARNING IN THE ELEMENTARY SCHOOL: READING AND WRITING (2-2) 3 hours credit.** Balanced literacy approach to teaching with an emphasis on reading and writing. Theoretical models, principles of teaching reading and writing using a variety of instructional strategies, effective program organization, assessment, and classroom management. This course involves a two-hour lecture and two-hour application of lecture/theory. The two-hour application of lecture/theory will require students to spend time in a K-12 classroom during normal school hours, 8 a.m.-4 p.m., Monday-Friday. Taught at an approved field site. Prerequisites: EDUC 4301 and 4340. \$5 lab fee.

**4374. LITERACY LEARNING IN THE ELEMENTARY SCHOOL: LITERATURE AND LANGUAGE (2-2) 3 hours credit.** Balanced literacy approach to teaching with an emphasis on literature and oral language development. Theoretical models, major genres of children's literature, strategies and techniques for classroom use of literature across the curriculum, use of appropriate media and non-print materials, selection and evaluation of literature, strategies for stimulating and expanding children's response to literature, and alternatives for developing children's listening and speaking skills. This course involves a two-hour lecture and two-hour application of lecture/theory. The two-hour application of lecture/theory will require students to spend time in a K-12 classroom during normal school hours, 8 a.m.-4 p.m., Monday-Friday. Taught at an approved field site. Prerequisites: EDUC 4301 and 4340. \$5 lab fee.

**4391, 4291, 4191. CONFERENCE COURSE. (Variable credit from 1 to 3 semester hours as arranged).** Independent study in the preparation of a project in a paper on a research topic; consultation with instructor on a regular basis. May be repeated for credit. Prerequisite: Consent of instructor.

Note: For graduate equivalent courses, see the Graduate Catalog.



# The College of Engineering

634 Nedderman Hall • Box 19019 • 817-272-2571

Engineering is the profession in which a knowledge of the mathematical and natural sciences gained by study, experience and practice is applied with judgment to develop ways to utilize, economically, the materials and forces of nature for the benefit of humanity. Engineering is a rewarding and satisfying career for those women and men with the talent and determination to meet the challenges of rapidly changing technologies and complex societal problems in urgent need of solutions.

The College of Engineering provides the opportunity for study in several branches of engineering under the guidance of an excellent faculty. Baccalaureate degree programs are offered in aerospace engineering, civil engineering, computer science and engineering, electrical engineering, industrial and manufacturing systems engineering, and mechanical engineering. These programs are accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET). Graduate degrees, both masters and doctoral, are offered in each of these disciplines, and in other areas of specialization: biomedical engineering, computer science, manufacturing, materials science, and software engineering (master's only).

## Preparing for Engineering Admission in High School

The curriculum recommended for students intending to major in engineering is defined by the "Recommended Texas High School Program Graduation Requirements" approved by the State Board of Education in November, 1993. This listing below reflects the new State Board recommendation and expands upon the University requirements stated earlier in this catalog:

<b>English</b>		<b>4 units</b>
<b>Mathematics</b>		<b>4 units</b>
Algebra I, II	2 units	
Geometry	1 unit	
<i>Either</i>		
Trigonometry and Additional Advanced Mathematics	1/2 unit each	
<i>or</i>		
PreCalculus*	1 unit	
<b>Science</b>		<b>4 units</b>
Chemistry	1 unit	
Physics	1 unit	
Other Science Courses	2 units	
<b>Computer Science**</b>		<b>1 unit</b>
<b>Single Foreign Language***</b>		<b>3 units</b>

<b>Social Science</b>		<b>4 units</b>
U.S. History	1 unit	
World History Studies	1 unit	
World Geography	1 unit	
U.S. Government	1/2 unit	
Economics	1/2 unit	
<b>Other Courses</b>		<b>4 units</b>
<b>TOTAL</b>		<b>24 units</b>

\* Must explicitly include trigonometry.

\*\* Most desirable syllabus would include keyboarding, computer programming in Pascal and instruction in computer applications including word processing, spreadsheets and data base management.

\*\*\* Students for whom English is a second language are excused from this requirement. Students declaring credit for high school foreign language study must provide supporting evidence, e.g., a transcript.

In addition to the above, an additional year of advanced mathematics such as calculus is strongly recommended. Further, students planning careers in the health professions or biomedical engineering should take one year of biology. In all areas, students are urged to take advantage of advanced placement opportunities and honors programs. Credit will be granted to students in honors or similar programs who have completed the required courses in non-traditional sequences.

Prior to entering U.T. Arlington, students may find it useful to attend a summer session to enhance their English, math, science, or computer skills. However, enrolling in the required freshman math and science courses during a summer term is not recommended. The importance of these subjects, and the pace of summer terms, makes the longer Fall and Spring semesters more appropriate for beginning students.

A student who enrolls without having completed the above courses will not be optimally prepared, and the duration of the student's undergraduate program will likely be extended. In particular, the engineering programs offered by the College are based upon a student being fully prepared to begin the study of engineering with the following courses:

**MATH 1325:** Analytic Geometry  
and  
**MATH 1426:** Calculus I  
**CHEM 1301:** General Chemistry  
**PHYS 1443:** General Technical Physics  
(Can be taken concurrently with MATH 1426)

Prerequisites for the above courses are considered deficiencies and are not counted toward an engineering degree.

## College of Engineering Admission Requirements

There are three undergraduate student categories in the College of Engineering:

- **General Engineering:** Students who have been admitted to U.T. Arlington, but who do not satisfy all requirements for immediate acceptance in a College of Engineering major.
- **Lower-Division:** Students admitted to a major and who are preparing for admission to the Upper-Division Program.
- **Upper-Division:** Students who have been accepted by an engineering department into the Upper-Division course sequence (junior and senior level courses). An official degree plan is filed after acceptance.

Upon admission to U.T. Arlington, a student seeking an engineering degree is initially assigned to one of the first two categories according to her/his academic credentials. General Engineering students are advised in the Office of the Dean of Engineering. Lower and Upper-Division students are advised in the program office that oversees the degree they are seeking. After successfully demonstrating his or her ability to pursue engineering studies, a General Engineering student may petition the College for assignment to a major as a Lower-Division student. Lower-Division students who have successfully completed the initial program of studies may apply to a department for advancement to the Upper-Division program.

## Academic Credentials for Admission

All students must meet the University's undergraduate admission requirements and the additional requirements which follow for the College of Engineering. All students seeking admission to the College must present a Scholastic Aptitude Test (SAT) or American College Test (ACT) score. The additional academic credentials required by the College of Engineering are listed according to the three engineering student categories.

### Students Entering Directly from High School

#### General Engineering (Not yet assigned to an engineering major)

- Students must meet the U.T. Arlington admissions requirements.
- Students for whom English is not a second language must present a minimum of two high school units in a single foreign language. Students otherwise qualified, but not presenting such credit, will be admitted with a foreign language deficiency that must be removed prior to graduation.

#### Lower-Division (Assigned to an engineering major)

In addition to the requirements for general engineering above, the following requirements must be satisfied:

- Students must present an SAT score of 1180 or higher or a composite ACT score of 28 or higher.
- Students must have completed the prerequisites to enroll in MATH 1325 and 1426, PHYS 1443, and CHEM 1301.

## Transfer Students

Transfer students include those from other units within U.T. Arlington as well as those from other educational institutions.

Transfer students from outside U.T. Arlington must furnish an official transcript to the Dean of Engineering and/or department to which they are applying to permit an evaluation of all college level work completed. They must also provide an SAT or ACT score.

All transfer students entering the College of Engineering from other educational institutions or from within U.T. Arlington must meet the requirements for admission to General Engineering or Lower-Division standing stated above and the following additional requirements:

- Have a three-calculation GPA on transfer credits sufficient to enter in good academic standing into the College of Engineering. See the College of Engineering Academic Regulations section below for the definition of the three-calculation GPA.
- The D-grade rule which follows applies to all transfer students whether from other educational institutions or from within U.T. Arlington. Consequently, the student must be prepared to repeat any such courses until a grade of C or higher is obtained prior to enrolling in any course for which such courses are a prerequisite.

## College of Engineering Academic Regulations

All engineering majors must abide by the academic regulations of the University and the following additional rules established by the College of Engineering:

- **Enrollment in Another Institution:** Once enrolled at U.T. Arlington as an engineering major, a student cannot, without the prior written permission of the department, transfer courses to U.T. Arlington from another institution for credit toward a U.T. Arlington engineering degree.
- **Maximum Academic Load:** A student may not enroll in more than the University's maximum permitted academic load without receiving the permission of the student's department and the Dean of Engineering.
- **Transfer Courses:** Only equivalent courses in a program accredited by the Accreditation Board for Engineering and Technology (ABET) or those freshman and sophomore courses accepted by the College of Engineering or the student's major department can be counted toward an engineering degree.
- **Validation of Transfer Credit:** Transfer credit that constitutes a part of a continuing course sequence in the same area will be validated only upon satisfactory completion of the succeeding course in the sequence at U.T. Arlington. Students whose performance in subsequent courses at U.T. Arlington is poor may be required to repeat courses taken elsewhere.
- **English as a Foreign Language:** English as a foreign language will not substitute for either ENGL 1301 or 1302.
- **Three-Attempt Rule:** A student may not attempt a course (at U.T. Arlington and/or at any other institution) more than three times and apply that course toward an engineering degree. Enrollment in a course for a period of time sufficient for assignment of a grade, including a grade of W, is considered an attempt.

- **D Grade Rule:** A grade of D in a freshman or sophomore course indicates unsatisfactory preparation for further engineering education. Any such course in which a D is received must be repeated before enrolling in any course for which it is a prerequisite. This requirement is subject to the Three-Attempt Rule. A student unable to raise his or her grade to at least a C in a freshman or sophomore course within three enrollments shall be required to change his or her major to a field outside of the College of Engineering.
- **Academic Dishonesty:** The College of Engineering views academic dishonesty as an extremely serious matter. Engineers are entrusted with the safety, health, and well-being of the public. It is the policy of the College that a student found guilty of academic dishonesty for their own gain or that of another shall be punished to the full extent permitted by the rules and regulations of U.T. Arlington.
- **Removing a Foreign Language Deficiency:** Students admitted to the College of Engineering with a deficiency in foreign language must remove that deficiency prior to graduation by taking two courses in a single modern foreign language totaling not less than six semester hours credit (eight semester hours is required in the current U. T. Arlington introductory foreign language sequences). Latin may not be used to remove the deficiency.
- **Three-Calculation GPA:** The College of Engineering uses three GPA calculations to evaluate students for admission and continuation. These calculations employ only the grades received in courses that are applicable to the engineering degree being sought. Any references in this catalog to a particular three-calculation GPA requirement mean that the student's GPA must meet or exceed the requirement in each of the following three categories:
  - a. all courses,
  - b. all math, science, and engineering (MSE) courses, and
  - c. all courses, if any, taken in the major subject.
 (The College will use the university's current grade-repeat policy in determining the three-GPA calculations.)
- **Satisfactory Academic Standing:** An engineering student is in satisfactory academic standing if the student is not on University or College of Engineering probation. For the U.T. Arlington university-wide probation system, refer to the front of the catalog. The College probation system is described below.
- **College of Engineering Probation:** Students in the General Engineering, Lower-Division, and Upper-Division Programs shall be placed on College of Engineering probation if their three-calculation GPA falls below 2.0. A student's academic standing is determined as soon as grades are reported by the Registrar at the end of each period in which the student has completed 12 or more semester-hours of courses.
- **College of Engineering Academic Suspension:** A student whose three-calculation GPA remains less than 2.0 for three consecutive periods in which 12 or more semester-hours are completed shall be suspended from the College of Engineering for a minimum period of one calendar year. At the end of that period, a student may petition the Dean of Engineering for readmission to the College. No engineering courses may be taken at U.T. Arlington, nor taken elsewhere for transfer to U.T. Arlington for credit toward an engineering degree during any period of suspension from the College.

- **Advancement Under Probation:** No student who is under College of Engineering or University probation shall be advanced from General Engineering to Lower-Division or from Lower-Division to Upper-Division status.
- The College of Engineering considers 12 semester hours in the Fall and Spring terms and nine semester hours in the summer term to be a minimum "full load" for undergraduates.

## Admission to the Upper-Division Program

Advancement from the Lower-Division to the Upper-Division Program is the most important single step for a student progressing toward an engineering degree.

In the Lower-Division Program, students are required to demonstrate their intellectual talent, work habits, and professional ethics to warrant acceptance for study toward an engineering degree. For advancement from a department's Lower-Division Program to the Upper-Division Program, students must meet the following requirements:

- **Academic performance:** Completion of all required lower-division courses as listed in the department's section of this catalog and achieved a minimum three-calculation GPA of 2.0.
- **Standards of Ethics:** A major objective of the College of Engineering is to prepare graduates who are eligible to become Registered Professional Engineers. Therefore, engineering students must abide by the standards of ethics and conduct established by the Texas Engineering Practice Act. Academic dishonesty and falsification of records are sufficient reason to bar a Lower-Division student from admission to the Upper-Division Program.
- **Limitations on Enrollment:** The University and the College of Engineering reserve the right to limit enrollment in any program, based on the availability of facilities and staff. To achieve such limitations, grade point averages and other measures of student potential beyond the minimum stated above may be applied.

## Professional Engineering Registration

The protection of the public welfare requires that those who practice engineering do so ethically and competently. Professional registration requires an individual to meet examination and practice requirements defined by the laws of the state or states in which he or she intends to practice.

The first step toward registration as a Professional Engineer (P.E.) is to pass the Fundamentals of Engineering (FE) examination, often referred to as the Engineer-in-Training or EIT examination. Graduating seniors are permitted to take the FE examination during their final year. The FE examination is offered at U.T. Arlington by the Texas State Board of Registration for Professional Engineers in both the Fall and Spring semesters. Students are strongly urged to avail themselves of this opportunity when their academic preparation is at a peak.

## Counseling

All new students and all general engineering students must be advised in the Office of the Dean of Engineering prior to registration. Those attending orientations in July and August will be advised at that time. Students not attending an orientation, or students entering U.T. Arlington in the Spring and Summer semesters, must be advised before they register. Appointments for advising may be made through the Office of the Dean of Engineering. When reporting for advising, new students must have a transcript of high school coursework, a transcript of any college transfer credit applicable to an engineering degree, and a copy of SAT scores or other scores that have been used as a basis for admission. New students will not be able to register without obtaining an approved Registration Advising Form.

Continuing students accepted into the Lower-Division of an engineering department must receive advising by their major departments before registering. One week in early October and another in March are designated as "Engineering Counseling Week." Each student must be cleared before proceeding with registration.

## Cooperative Education

The Cooperative Education Program is a partnership between the University and various organizations of business, government, and industry that provides students with an opportunity to obtain experience in their chosen engineering discipline by alternating periods of formal study with periods of work. This program can enhance a student's educational program through this work-related experience and by association with participating professional engineers.

Students who participate in the Cooperative Education Program and complete at least 12 months of work-related experience supervised through the College of Engineering Cooperative Education Program will receive cooperative education certificates and have this accomplishment entered on their transcripts. Co-op students are expected to register each work term in an engineering course specified by the Director of the Cooperative Education Program.

The College of Engineering provides assistance in placing students in the co-op program that relates to their specific needs. Information is available in the Engineering Cooperative Education Office located in Room 623 of Nedderman Hall.

## Pass-Fail Program and Use of Z Grades

Students majoring in engineering may, with the permission of the department involved, take a course on a pass-fail basis, provided that the course is not included in the student's degree program.

Students not majoring in engineering are invited, with permission of the chairperson of the department involved, to take on a pass-fail basis any course offered in the College of Engineering for which the student is otherwise qualified. Forms for taking a course on a pass-fail basis are available in the Office of the Dean of Engineering.

In the College of Engineering, the use of Z grades (see page 32 of this catalog) is authorized only for ENGR 2301 and ENGR 2302.

## Metroplex Alliance for Engineering Education

The Metroplex Alliance for Engineering Education (MAFEE) is an alliance of educational institutions, professional societies, and high technology industries to make accredited engineering education available to the full-time employee/part-time student residing in the Dallas-Fort Worth Metroplex.

To encourage qualified students to pursue engineering education, MAFEE has established course equivalence between U.T. Arlington lower-division courses and those offered at other MAFEE affiliated engineering institutions. Currently the following educational institutions are affiliated with MAFEE: U.T. Arlington, U.T. Dallas, SMU, Collin County College, Dallas County Community College District, Tarrant County Junior College, Grayson County College, and Paris Junior College.



# The Department of Civil and Environmental Engineering

417 Nedderman Hall • Box 19308 • 817-272-2201

## Requirements for a Bachelor of Science Degree in Civil Engineering

### Pre-Engineering Courses

(All pre-engineering courses must be completed before enrolling in upper-division courses.)

#### English

1301, 1302.

#### Mathematics

#1426, 2325, 2326, 3319 (recommended) or 3318.

#### Science

CHEM 1301, 1302, 1284, PHYS 1443, 1444.

#### Design Graphics

DG 1350.

#### Civil Engineering

1348, 2312, 2331, 3101, 3311.

#### Electrical Engineering

2315 (or EE 2320)\*.

#### Mechanical/Aerospace Engineering:

3309.

### Other General Education Courses

#### Literature

Three hours of English or foreign language literature or other approved substitute. For engineering majors this University requirement must be met by taking English literature (2000 or higher).

#### Liberal Arts Elective

Three hours above the freshman level of literature, or social and cultural studies designated as taught in the College of Liberal Arts, or fine arts or philosophy, or technical writing. For civil engineering majors SPCH 3302 must be used to satisfy this requirement.

#### Fine Arts and Philosophy\*\*

Three credit hours of approved architecture, art, dance, music, philosophy, or theatre arts. For engineering majors, acceptable electives vary by program.

#### Social/Cultural Studies

Three hours of designated courses in social or cultural anthropology, archaeology, social/political/cultural geography, economics, sociology, classical studies, or linguistics. For civil engineering majors this University requirement must be met by taking IE 3312.

#### History

1311, 1312.

#### Political Science

2311, 2312.

### Upper-Division Courses

#### Civil Engineering

3261, 3301, 3302, 3305, 3334, 3341, 3343, 4331, 4347, 4348, 4352, 4383, three hours of CE laboratory electives selected from 3131, 3142, 3143, or 3161, and nine hours of senior technical electives in civil engineering.

### Total (BSCE degree)\*\*\*

128 hours minimum, plus exercise and sport activities (EXSA) or ROTC or marching band as required. (More hours may be required to strengthen student's program or demonstrate proficiency. See Prior Preparation and Course Requirements.)

\* See Technical Electives in Electrical Engineering Power Sequence.

\*\* A list of acceptable electives is available in the departmental office.

\*\*\* Total hours will depend upon prior preparation and academic qualifications. Also, students who do not have two units of high school foreign language will be required to take foreign language courses in addition to the previously listed requirements.

# The Mathematics Department requires concurrent enrollment in MATH 1325, unless the student has received credit for Analytic geometry or has passed the appropriate placement test provided by that department.

### Suggested Lower-Division Course Sequence

#### (Pre-Civil Engineering Program)\*\*\*\*

See lower-division admission requirements in the College of Engineering section. Students should obtain departmental requirements and policy from the Department of Civil and Environmental Engineering.

#### Freshman Year

**First Semester:** MATH 1426; PHYS 1443; DG 1350; ENGL 1301; HIST 1311—Total Credit 17 hours.

**Second Semester:** CE 1348; MATH 2325; PHYS 1444; CHEM 1301; ENGL 1302—Total Credit 16 hours.

#### Sophomore Year

**First Semester:** MATH 2326; CE 2312; CE 2331; CHEM 1284, 1302; HIST 1312—Total Credit 17 hours.

**Second Semester:** MATH 3319; CE 3101; CE 3311; MAE 3309; EE 2315; POLS 2311—Total Credit 16 hours.

### Suggested Upper-Division Course Sequence\*\*\*\*

See upper-division admission requirements in the College of Engineering section. Students should obtain departmental requirements and policy from the Department of Civil and Environmental Engineering.

#### Junior Year

**First Semester:** CE 3301; CE 3305; CE 3341; CE 3343; CE 3261; CE Lab Electives, 2 hours—Total Credit 16 hours.

**Second Semester:** IE 3312; CE 3334; CE 3302; CE 4348; CE Lab Elective 1 hour; SPCH 3302—Total Credit 16 hours.

#### Senior Year

**First Semester:** CE 4331; CE 4347; CE 4352; CE Technical Elective, 3 hours; English Literature Elective, 3 hours—Total Credit 15 hours.

**Second Semester:** CE 4383; CE Technical Electives, 6 hours; POLS 2312; Fine Arts Elective, 3 hours—Total Credit 15 hours.

### \*\*\*\* Frequency of Civil Engineering Course Offerings:

All civil engineering courses in the Lower-Division Course Sequence are offered in Fall, Spring, and Summer *except* CE 2331. CE 2331 is offered in the Fall and Spring only. See Electrical Engineering Technical Electives for Electrical Power sequence. All courses in the Upper-Division Course Sequence are offered only in the semester listed.

The University requires each student to complete four hours in exercise and sport activities (EXSA) or ROTC or marching band. Students should schedule these courses during a semester they believe to be most appropriate.

## Technical Electives in Electrical Engineering Power Sequence

Students may elect to take an electrical engineering course sequence in electrical power. Courses in the EE sequence will substitute for CE 4347 or 4348, CE 3131 (two of the three remaining CE labs are required), and nine hours of civil engineering technical electives. This change will add one hour to a student's degree plan. Those students wishing to make this change in their program should make a request to the departmental advising office prior to the beginning of the first semester of their second year of study. In any case, the students must declare this election prior to admission to the Upper-Division Program.

**Electrical Engineering courses:** EE 2181, 2315, 2316, 3302, 4301, and 4441.

## Admission Requirements

Requirements for admission as a Civil Engineering major are governed by the requirements stated under the College of Engineering section of this catalog.

All entering students majoring in Civil Engineering are admitted as Pre-Civil Engineering majors, permitting the student to enroll only in lower-division courses. Students completing the Lower-Division Course Sequence (freshman and sophomore courses) must meet the academic requirements specified by the College of Engineering and the Department prior to requesting permission for admission to the Upper-Division Program (junior and senior courses). Application for admission to the Upper-Division Program is made to the Department of Civil and Environmental Engineering. Appropriate forms can be obtained from the departmental office.

## Prior Preparation and Course Requirements

The undergraduate bachelor's degree in civil engineering is a four-year program and requirements for the degree are based upon prior high school preparation through either an honors or college track program. Students who have not had the appropriate prior preparation should contact the departmental advising office for a curriculum guide that will assist them in structuring a study plan that will include leveling courses. Students requiring leveling courses may require a period of time greater than four years to complete their undergraduate degree.

## Program of Study Leading to Master's Degree

Problems of increasing complexity in the modern technological world are challenging the engineering profession. More and more students are extending their education beyond the undergraduate degree to develop the qualifications required to assimilate and apply rapidly changing technology to the needs of a changing modern so-

ciety in the 21st century. In many areas of civil engineering, the master's degree is essential for the modern practice of engineering.

A recommended five-year plan of study leading to the master's degree at the end of the fifth year of study is available in the departmental advising office. Academically strong and well-motivated students should explore the possibility of continuing their education by pursuing a master's degree in one of the areas of concentration within civil engineering. The departmental graduate advisor is available to discuss options available to the student.

## Academic Requirements

Academic performance requirements establishing satisfactory progress and grade point requirements are given in the College of Engineering section of this catalog.

## Departmental Policy

### Advising

Civil engineering majors are required to be advised by an assigned advisor during the period set aside each semester by the College of Engineering for this purpose. Students are responsible for meeting with their advisors during the advising period. Periods set aside for advising and registration are entirely different, and students who do not meet with their advisors during the regular advising period may not be able to complete registration. All students should consult the departmental bulletin board for advisors' names and periods set aside for advising.

Transfer students registering for the first time are advised separately prior to the beginning of the semester they enroll in courses. **They should consult the department for times set aside for transfer advising by the departmental undergraduate transfer advisor. Transfer students must be advised at one of the designated departmental advising sessions prior to their registration for courses.**

### Transfer Students and Transfer Credit

When a student transfers, a loss of credit can occur and his/her academic plans may have to be changed. Courses that appear to be similar may be different in either content or level of difficulty and, as a result, cannot be used for degree credit. When a student's record indicates weakness in certain areas of study, he/she will be required to re-take courses or to take additional courses. Transfer students should contact the Department of Civil and Environmental Engineering, after admission and prior to registration, for designated departmental advising sessions.

Prior to advising, a transfer student must present to the Undergraduate Advisor an official transcript from each school previously attended. Only the equivalent courses in a program accredited by the Accreditation Board for Engineering and Technology (ABET) or equivalent freshman and sophomore courses accepted by the department chair can be counted toward a degree in civil engineering. To be acceptable as an equivalent course, it must be equivalent to our corresponding course in credit value and course content. Transfer credit that constitutes a part of a continuing sequence in the same field will be validated only upon satisfactory completion of the following courses in the sequence at The University of Texas at Arlington. Junior and senior level courses taken at a college or university which does not

have a civil engineering program accredited by the ABET cannot be used to satisfy the requirements for a degree in civil engineering.

A student, once admitted to The University of Texas at Arlington and enrolled in the Department of Civil and Environmental Engineering, cannot enroll in courses at another college or university and transfer those courses for credit toward a degree in civil engineering unless he/she has obtained prior written permission from the Chair of the Department of Civil and Environmental Engineering.

### Repeating Courses

Civil Engineering majors (Pre-Civil Engineering and Upper-Division Program) may not attempt any course more than three times and apply that course toward a degree in civil engineering. Enrollment in a course for a period of time sufficient for assignment of a grade, including a grade of W, is considered an attempt.

## Department of Civil and Environmental Engineering Faculty

### Chair

Professor Parker

### Professors

Ardekani, Huang, Matthys, Nedderman, Qasim, Yuan

### Associate Professors

Argento, Clark, Crosby, Kruzic, Spindler, Williams

### Assistant Professors

Govind, Puppala

### Overview: Educational and Professional Career Paths

Civil engineering is the oldest and broadest of the engineering disciplines. A civil engineer works with a wide spectrum of individuals in both the public and private sectors to meet today's challenges of pollution, infrastructure rehabilitation, traffic congestion, floods, earthquakes, and urban development. Civil engineers plan, design, and construct facilities essential to modern, civilized human life. Projects requiring civil engineering expertise vary widely in nature, size, and scope, such as: space vehicles, launch facilities, offshore structures, bridges, tunnels, transportation systems, dams, airports, water treatment and distribution, buildings, skyscrapers, foundations, environmental protection, and pollution control.

Civil engineering graduates are prepared for a wide range of career paths such as environmental; transportation systems; or the synthesis, planning, design, and construction of facilities essential for modern life, yet, delicately balanced with the natural environment. Or, they may take advantage of their strong, broad-based engineering education to pursue careers in professions such as medicine, law, business, or teaching.

### Goal of the Undergraduate Program

The overall goal of the undergraduate program is to provide the graduate an educational background for lifelong learning and the ability to assume a leadership role in the civil engineering profession. The program is broad-based and designed to provide a strong foundation in science, mathematics, and engineering science; technical competence in multiple areas of civil engineering practice; and an understanding of the importance of ethics, safety, professionalism,

and socioeconomic concerns in resolving technical problems. More specifically, the program orientation is toward meeting the following objectives:

- To provide sufficient, basic knowledge in science, mathematics, engineering science, and engineering to enable a graduate to pursue a lifelong learning experience through further personal and professional growth through self-study, continuing education, or graduate studies.
- To provide a civil engineering education sufficiently fundamental and diverse to assure graduates will have the ability to learn and adapt to new technologies.
- To prepare graduates for additional in-depth study in a specialty area of their interest.
- To provide an opportunity for the development of teamwork and leadership skills by working cooperatively with others.
- To provide an appreciation for global problems, standards and economics.
- To provide for the development of written and oral communication skills necessary for the articulation of technical and social concerns.
- To develop an understanding and commitment to standards of conduct that assure the best interest of the public is served.
- To promote professionalism and professional registration by encouraging students to take the Fundamentals of Engineering examination.

The Department of Civil and Environmental Engineering has active student chapters associated with the American Society of Civil Engineers (ASCE) and the Institute of Transportation Engineers (ITE). Students are encouraged to participate in the activities of both of these organizations. The Department also has an active chapter of the national civil engineering honor society, Chi Epsilon. Membership is by election and is limited to students in the upper third of the junior and senior classes who satisfy other requirements listed in the society's by-laws.

### Design Graphics Section (DG)

Design Graphics courses are administered through a section of the Department of Civil and Environmental Engineering.

Prefix and number in parentheses following the U.T. Arlington course number and title is the Common Course Number designation.

### Civil Engineering (CE)

**1348. COMPUTER AIDED ANALYSIS AND DESIGN (2-3) 3 hours credit.** Fundamentals of computers, operating systems, binary, hexadecimal systems. Use of productivity applications. Numerical methods, solution of linear and non-linear equations, regression, polynomial interpolation. Applications of CAD/CAE, site and topographic maps, construction detailing, geometric design and layout, etc. Prerequisites: DG 1350; MATH 2325 or concurrent registration therein. \$15 course specific fee. \$5 lab fee.

**2300. SELECTED TOPICS IN CIVIL ENGINEERING (3-0) 3 hours credit.** Topics of current interest in any one of the various fields of civil engineering. The subject title to be listed in the class schedule.

May be repeated for credit when the topic changes. Prerequisite: sophomore standing and consent of instructor.

**2312. STATICS AND DYNAMICS (3-0) 3 hours credit.** Forces and force systems, resultants and components of force systems, forces due to friction, condition of equilibrium, forces acting on members of trusses and frame structures, centroids and moments of inertia. Review of kinematics and kinetics of particle motion, two-dimensional motion of rigid bodies. Prerequisites: PHYS 1443 and MATH 1426.

**2331. GEOMETRONICS (2-3) 3 hours credit.** Principles and theories of physical measurements of spatial quantities; theory of errors and error adjustment techniques; the use of surveying instruments; introduction to engineering design and completion of a small design project. Prerequisite: CE 1348 or concurrent registration therein. \$15 course specific fee. \$5 lab fee.

**3101. CIVIL ENGINEERING SYSTEMS (1-1) 1 hour credit.** An introduction to various fundamental analyses and their design applications to static and dynamic engineering systems. Prerequisite: CE 1348 and 2312.

**3131. WATER QUALITY ANALYSES (0-3) 1 hour credit.** Laboratory examinations of water and wastewater. Water quality parameters and their significance. Sources and types of pollutants and their effects, and water quality standards. Prerequisites: CHEM 1302, 1284; CE 3334 or concurrent registration therein. \$20 course specific fee. \$5 lab fee.

**3142. APPLIED FLUID MECHANICS LAB (0-3) 1 hour credit.** Fluid flow measurements studied by means of performed laboratory experiments and/or digital computer programming of relevant equations. Prerequisite: CE 3305. \$20 course specific fee. \$5 lab fee.

**3143. PROPERTIES AND BEHAVIOR OF SOILS (0-3) 1 hour credit.** An introduction to determination of civil engineering properties of soil and their behavior, identification, grain size analysis, Atterberg limits, compaction, permeability, consolidation, and shear strength. Also an introduction to sampling of soil materials. Prerequisite: CE 3343 or concurrent registration therein. \$20 course specific fee. \$5 lab fee.

**3161. ENGINEERING MATERIALS LABORATORY (0-3) 1 hour credit.** Various properties and behavior of engineering materials are investigated by laboratory experimentation. Prerequisites: CHEM 1302, 1284; CE 3311 and CE 3261 or concurrent registration therein. \$20 course specific fee. \$5 lab fee.

**3261. PROPERTIES AND BEHAVIOR OF ENGINEERING MATERIALS (2-0) 2 hours credit.** The nature and properties of materials used in civil engineering such as structural metals, concrete, timber, and bituminous materials. The engineering application and performance of materials are emphasized. Prerequisites: CHEM 1302, 1284; CE 3311 or concurrent registration therein.

**3301. STOCHASTIC MODELS FOR CIVIL ENGINEERING (3-0) 3 hours credit.** Basic theory of probability and statistics with practical applications to civil and environmental engineering problems. Emphasis on sampling, distribution functions, tests of significance, and regression modeling. Prerequisite: MATH 2326 or concurrent registration therein.

**3302. TRANSPORTATION ENGINEERING (3-0) 3 hours credit.** Planning, design, and operation of transportation facilities. Characteristics of vehicle movement; basic geometric design of highways; traffic flow relations in traffic streams and on transit lines; highway capacity; transit operation; traffic engineering; and legal requirements

and procedures for transportation planning. Prerequisites: CE 2331, 3311 and 3301 or concurrent registration therein.

**3305. BASIC FLUID MECHANICS (3-0) 3 hours credit.** Fundamentals of fluid statics, kinematics of fluid flow, fluid energy, fluid forces, similitude, and dimensional analysis. Related to steady flow of incompressible fluids in confined and free surface systems. Prerequisite: CE 3101 (or CE 2312, MAE 1312 or MAE 2322 for non-CE majors).

**3311. MECHANICS OF MATERIALS I (3-0) 3 hours credit.** Relationship between stresses and strains in elastic bodies and tension, compression, shear, bending, torsion, and combined loadings which produce them. Deflections and elastic curves, shear and bending moment diagrams for beams, and column theory. Prerequisite: CE 3101 (or CE 2312, MAE 1312 or MAE 2322 for non-CE majors).

**3331. FUNDAMENTALS OF ENVIRONMENTAL SYSTEMS (3-0) 3 hours credit.** Fundamental principles of engineering science applicable to the comprehension and design of engineered environmental systems. Includes engineering measurements; thermodynamics; momentum and energy balances; fluid systems; quality indices; and applications of physical, chemical, and biological processes to design of environmental systems. May not be used to satisfy any of the requirements for a bachelor's degree in engineering. Designed for students with a strong science background who intend to pursue advanced studies in environmental science. Prerequisites: PHYS 1444; CHEM 1302, 1284; MATH 2326 or 3318.

**3334. PRINCIPLES OF ENVIRONMENTAL ENGINEERING (3-0) 3 hours credit.** Physical, chemical, and biological unit operations and processes in an air, water, and land environment. Prerequisites: CHEM 1302, 1284; CE 3305 or consent of instructor.

**3341. STRUCTURAL ANALYSIS (3-0) 3 hours credit.** Analysis of statically determinate structures including beams, trusses, frames, and three-hinged arches. Influence lines, moving loads and Maxwell's law of reciprocal displacement. Methods to compute deflections including double integration, moment area, virtual work, and conjugate beam. Methods of analysis for statically indeterminate structures including consistent deformation, slope deflection and moment distribution. Prerequisite: CE 3311.

**3343. SOIL MECHANICS (3-0) 3 hours credit.** An introduction to the significant geophysical and soil science properties and behavior of materials making up the earth's crust as they apply to civil engineering, sources of materials, classification, plasticity, permeability, stress distribution, consolidation, shear strength, and settlement. Also an introduction to basic foundation engineering concepts. Prerequisite: CE 3311.

**4191, 4291, 4391. ADVANCED PROBLEMS IN CIVIL ENGINEERING (Variable credit from 1 to 3 semester hours as arranged, individual instruction).** Selected problems in civil engineering on an individual or group basis. Reference material is assigned and progress conferences are held frequently, by arrangement, with a faculty supervisor. Prerequisites: permission of the chair of the department and senior classification in civil engineering.

**4300. ADVANCED TOPICS IN CIVIL ENGINEERING (3-0) 3 hours credit.** Advanced topics of current interest in any one of the various fields of civil engineering. The subject title to be listed in the class schedule. May be repeated for credit when topic changes. Prerequisite: changes with topic; consent of instructor required.

**4308. ADVANCED STRUCTURAL ANALYSIS (3-0) 3 hours credit.** Classical methods, matrix methods, and numerical methods for structural analysis. Problems are solved by hand calculation and

by using computer programs. Analysis of frames, trusses, arches, and grids. Prerequisite: CE 3341.

**4311. URBAN TRANSPORTATION INFRASTRUCTURE PLANNING (3-0) 3 hours credit.** Urban transportation system design, planning, transportation modeling, economic theory, travel demand and travel estimation techniques. Prerequisite: CE 3302.

**4312. STREET AND HIGHWAY DESIGN (3-0) 3 hours credit.** The planning and geometric design concepts necessary for city streets and highways. The customary surveys and plan preparations along with a review of drainage practices, right-of-way considerations, and road construction materials. Design and construction methods for both flexible and rigid pavements. Prerequisite: CE 3302 or concurrent registration therein.

**4313. TRAFFIC ENGINEERING (3-0) 3 hours credit.** Design and control of fixed-time, actuated, and computer-controlled traffic signals; optimization of traffic flow at intersections; capacity analysis of intersections, legal requirements and traffic studies for installation of traffic control devices; characteristics of signs, signals, and markings; traffic laws. Prerequisite: CE 3302 or concurrent registration therein.

**4321. FOUNDATION ENGINEERING (3-0) 3 hours credit.** Aspects of design and construction considerations for all types of foundation systems in most soil/rock support conditions, interactions between soils and structures, bearing capacity theories, consolidation, shrink-swell, and settlement. Numerical analyses of design are applied to most of the situations. Prerequisites: CE 3343 and 3341.

**4322. SOIL STABILIZATION (3-0) 3 hours credit.** Techniques and procedures used to improve rheological properties of foundation materials. Physical, mechanical, and chemical processes. Prerequisite: CE 3343.

**4324. MECHANICS OF MATERIALS II (3-0) 3 hours credit.** A continuation of CE 3311. Analysis of stresses due to various loading conditions, stresses, and strains at a point, stress-strain relationships, theories of failure, energy methods, shear center, unsymmetrical bending, curved beams, torsion, and buckling problems. Prerequisite: CE 3311.

**4331. WATER RESOURCES AND CONVEYANCE SYSTEMS (3-0) 3 hours credit.** Elements of meteorology, stream flow, unit hydrograph, ground water resources, frequency and duration studies, analysis and design of water conveyance systems, sanitary and storm sewers, and water distribution. Prerequisites: CE 3301 and 3305.

**4332. CONSTRUCTION METHODS AND MANAGEMENT (3-0) 3 hours credit.** Methods, equipment, and management techniques used by the construction industry. Building and highway heavy construction methods, equipment operating characteristics, safety, and the management of construction operations. Prerequisite: senior classification.

**4347. REINFORCED CONCRETE DESIGN (3-0) 3 hours credit.** An analysis, design-synthesis course for concrete structures, emphasizing elastic analysis and ultimate strength design. Topics include strength and serviceability requirements, design of slabs, beams, columns, and foundations for strength for flexure, shear, and bearing. Prerequisite: CE 3341.

**4348. STRUCTURAL DESIGN IN METALS (3-0) 3 hours credit.** A design synthesis course for metal structures emphasizing elastic methods. Topics include tension members, compression members, flexural members and connections. The concept of plastic behavior is introduced. Building codes and related documents. Prerequisite: CE 3341.

**4350. AIR POLLUTION CONTROL ENGINEERING (3-0) 3 hours credit.** Fundamentals of air pollution control technology; impact of federal and state legislation on the construction, modification, and control of industrial plants is reviewed. Air pollutants, their sources and health effects, and air quality standards. Hazardous air pollutants, modifications to ambient air quality due to meteorological conditions, and basic air pollution dispersion modeling. Prerequisites: CE 3101 and senior standing in engineering.

**4352. PROFESSIONAL PRACTICE (2-3) 3 hours credit.** Principles of law as applied to professional practice and contracts including the necessity for lifelong learning and operating in other countries; introduction to business organizations and project management including CPM scheduling; engineering ethics; case studies and seminars with visiting practitioners. Prerequisites: IE 3312, SPCH 3302 and senior standing in engineering.

**4356. DESIGN OF MUNICIPAL WATER SUPPLY SYSTEMS (3-0) 3 hours credit.** Sources of water supply, water demand, treatment processes, and combinations. Design of intake, raw water pumps, design of treatment facilities, and distribution system. Prerequisite: CE 3334.

**4357. DESIGN OF MUNICIPAL WASTEWATER TREATMENT SYSTEMS (3-0) 3 hours credit.** Characteristics of municipal wastewater, design of sanitary and storm sewers, pumping stations, and wastewater treatment processes. Process train and treatment plant layout, hydraulic profile, instrumentation and controls, and upgrading of secondary treatment plants. Prerequisite: CE 3334.

**4358. OPEN CONDUIT SYSTEM (3-0) 3 hours credit.** Non-pressure conduit and channel flow, surface profiles, steady and gradually varied flow, hydraulic jumps, and specific energy. Prerequisite: CE 3305.

**4359. WATER RESOURCES DESIGN (3-0) 3 hours credit.** Infrastructure water distribution and drainage design including urban, roadway, airport, and agriculture systems. Topics include but not limited to detention and retention storage, soil loss, inlet outlet structures, culverts, measurement systems, pump stations and related profiles. Prerequisite: CE 4331 or consent of instructor.

**4383. SENIOR PROJECT (2-3) 3 hours credit.** Planning, analysis, and design of selected projects that cross various civil engineering disciplines. Application of computer-aided engineering in analysis and design. Final oral and written reports that present the pros and cons of alternative solutions are required. A team approach is emphasized. Prerequisite: completion of all required CE 3000 level courses; CE 4352; two of CE 4331, CE 4347, CE 4348, with concurrent enrollment in the third; a minimum of one CE technical elective; and SPCH 3302. \$55 course specific fee. \$5 lab fee.

# The Department of Computer Science and Engineering

300 Nedderman Hall • Box 19015 • <http://www-cse.uta.edu/> • 817-272-3785

300 Nedderman Hall • Undergraduate Student Advising • 817-272-3603

## Requirements for a Bachelor of Science Degree in Computer Science and Engineering

### Pre-Engineering Courses

(All pre-engineering courses must be completed before enrolling in upper-division courses)

#### English

Six hours of composition.

#### Mathematics

#1426, 2325, 2326.

#### Science

CHEM 1301, PHYS 1443, 1444.

#### Computer Science and Engineering

1320, 1325, 2312, 2315, 2320, 2341.

#### Electrical Engineering

2181, 2320.

### Other General Education Courses

#### Literature

Three hours of English or foreign language literature or other approved substitute.

#### Liberal Arts Elective

Three hours above the freshman level of literature, or social and cultural studies designated as taught in the College of Liberal Arts, or fine arts or philosophy, or technical writing. For CSE majors SPCH 3302 must be used to satisfy this requirement.

#### Fine Arts and Philosophy\*

Three hours of architecture, art, dance, music, philosophy, or theatre arts. For engineering majors, acceptable electives vary by program.

#### History

1311, 1312.

#### Political Science

2311, 2312.

#### Social/Cultural Studies\*

Three hours of designated courses in social or cultural anthropology, archaeology, social/political/cultural geography, economics, sociology, classical studies, or linguistics.

### Upper-Division Courses

#### Computer Science and Engineering

3112, 3302, 3310, 3315, 3320, 3322, 3442, 4316, 4317.

#### Engineering Elective\*

Three hours of an approved engineering science elective.

#### Industrial Engineering

3301, 3312.

#### Mathematics

3319

#### Mathematics/Science\*

Three hours of an approved mathematics or science elective.

#### Technical Electives\*

12 hours of approved engineering courses. Technical elective sequences must be selected in such a combination that all applicable accreditation criteria are met. Failure to do so will result in additional coursework being required for graduation.

#### Pre-Engineering Total

49 hours.

#### General Education Total

24 hours.

#### Upper-Division Total

53 hours.

#### Total (for degree)\*\*

126 hours, plus exercise and sport activities (EXSA), ROTC, or marching band as required.

\* A list of acceptable electives is available in the departmental office.

\*\* Total hours will depend upon prior preparation and academic qualifications. Also, students who do not have two units of high school foreign language will be required to take foreign language courses in addition to the previously listed requirements.

# The Mathematics Department requires concurrent enrollment in MATH 1325, unless the student has received credit for Analytic Geometry or has passed the appropriate placement test provided by that department.

Refer to the College of Engineering section of this catalog for information concerning the following topics: Admission to Engineering, Admission to the Upper-Division Program, Counseling or Advising, Academic Policies and Standards, Transfer and Change of Major Policies, the College of Engineering Probation, Repeating Course Policy, or Academic Dishonesty Policy.

### Suggested Course Sequence

#### Freshman Year

**First Semester:** CSE 1320; CHEM 1301; ENGL 1301; MATH 1426; HIST 1311; EXSA or ROTC or Marching Band—Total Credit 17 hours.

**Second Semester:** CSE 1325, 2315; ENGL 1302; MATH 2325; PHYS 1443; EXSA or ROTC—Total Credit 17 hours.

#### Sophomore Year

**First Semester:** CSE 2312, 2320; EE 2320; MATH 2326; PHYS 1444; EXSA or ROTC or Marching Band—Total Credit 17 hours.

**Second Semester:** CSE 2341; EE 2181; IE 3301; MATH 3319; HIST 1312; Literature elective, 3 hours; EXSA or ROTC—Total Credit 17 hours.

Upon completion of the 49 hours specified as pre-engineering courses, the student will be admitted to the Upper-Division Engineering Program if minimum grade point requirements are met. The Computer Science and Engineering Department requires a 2.25 overall grade point average on a 4.0 scale, a 2.25 average in the required science, mathematics, and engineering courses, and a 2.25 average in CSE courses. Pre-engineering students must have permission from the department chairperson to receive credit for courses listed in the Upper-Division Program category.

#### Junior Year

(Prerequisite: Admission to the Upper-Division Program)

**First Semester:** CSE 3112, 3315, 3320; IE 3312; SPCH 3302; Engineering elective, 3 hours—Total Credit 16 hours.

**Second Semester:** CSE 3302, 3310, 3322, 3442; Math/Science elective, 3 hours—Total Credit 16 hours.

#### Senior Year

**First Semester:** CSE 4316; Technical electives, 6 hours; POLS 2311; Social/Cultural elective, 3 hours—Total Credit 15 hours.

**Second Semester:** CSE 4317; Technical electives, 6 hours; POLS 2312; Fine Arts/Philosophy elective, 3 hours—Total Credit 15 hours.

## Course Offerings

All 1000- and 2000-level CSE courses are usually offered each semester and in the 11-week summer session except for CSE 1306 which is not offered in the summer. All 3000-level courses are offered at least twice per year. CSE 4316 is usually offered fall and spring semesters and CSE 4317 is offered fall, spring, and summer. Other 4000-level courses are usually offered only once per year unless there is a high demand. Refer to the CSE bulletin boards or homepage for more specific and current information.

## Admission Requirements

Requirements for admission as a computer science and engineering major are governed by the requirements stated under the College of Engineering section of this catalog.

All entering students majoring in computer science and engineering are admitted as pre-computer science and engineering (PCSE) majors, permitting the student to enroll only in pre-engineering or general education courses. Students completing the pre-engineering courses must meet the academic requirements specified by the College of Engineering prior to applying for admission to the upper division program. The Computer Science and Engineering Department requires a 2.25 overall grade point average on a 4.0 scale, a 2.25 average in the required science, mathematics, and engineering courses, and a 2.25 average in CSE courses. Pre-engineering students must have permission from the department chairperson to receive credit for courses listed in the Upper-Division Program category. Application for admission to the Upper-Division Program is made to the Department of Computer Science and Engineering. Application forms may be obtained from the departmental office.

## Prior Preparation

The baccalaureate program in computer science and engineering is a four-year program and requirements for the degree are based upon prior high school preparation through either an honors or college track. More specifically, entering students are expected to have a background in mathematics through analytic geometry, high school chemistry and programming in a high-level language such as Pascal. Students who have not had the appropriate preparation should contact the departmental advising office for a curriculum guide that will assist them in structuring a degree plan that will include leveling courses. Students requiring leveling courses may require a period of time greater than four years to complete their undergraduate program.

## Placement Examinations

All students must pass placement examinations before enrolling in the courses listed below unless (1) the course prerequisite was taken at U.T. Arlington and passed with a grade of C or higher or (2) a course equivalent to the prerequisite was taken at another university or college and passed with a grade of C or higher and accepted as transfer credit by U.T. Arlington. Additional information is available in the departmental office.

**CSE 1320:** Programming Concepts using C

**CSE 1325:** Object-Oriented Programming using C++

**CSE 2312:** Computer Organization and Assemble Language Programming

**CSE 2320:** Algorithms and Data Structures

**CSE 2341:** Digital Circuits

## Student Advising

Computer Science and Engineering pre-majors and majors are required to be advised by a departmental advisor each semester. Consult the departmental bulletin boards or homepage for advising hours. New students must be advised prior to the beginning of the semester in which they first enroll.

## Transfer Students and Transfer Credit

Transfer students should contact the Department of Computer Science and Engineering, after admission and prior to registration, for advising. At the time of advising, a transfer student must present to the Undergraduate Advisor an official transcript from each school previously attended. Only the equivalent courses in a program accredited by the Accreditation Board for Engineering and Technology (ABET) or equivalent freshman, sophomore, or general education courses accepted by the department chair can be counted toward a degree in computer science and engineering.

A student, once admitted to The University of Texas at Arlington and enrolled in the computer science and engineering program, cannot enroll in courses at another college or university and transfer those courses for credit toward a degree in computer science and

engineering unless he/she has obtained prior written permission from the Chairperson of the Department of Computer Science and Engineering.

## Cooperative Education Program

Cooperative education or "co-op" programs are arrangements where students interleave periods of full-time employment with periods of full-time study usually during the last two years of a degree program. The employment is directly related to the student's major and pays an attractive salary. Thus, co-op students gain valuable career-related experience before graduating while earning a meaningful income. Cooperative education opportunities are plentiful for CSE students. A suggested course sequence for co-op students is available in the departmental office.

## Honors Programs

The Computer Science and Engineering Department encourages qualified CSE majors to enter the UTA Honors Program described elsewhere in this catalog.

In addition to the university Honors Program, the Computer Science and Engineering Department also offers an honors program for highly motivated students. The CSE honors program is designed to challenge ambitious students to explore their special interests, and to gain experience in engineering research. Students take an honors project (CSE 4356 and 4357) in place of the senior design project. Projects may be pursued in any one of the areas of concentration within the Department of Computer Science and Engineering. Students with a 3.00 or higher GPA are eligible for admission to the CSE honors program upon completion of the PCSE courses. All full-time students entering either the CSE honors program or the university Honors Program will be considered for financial assistance. Contact the CSE Honors Coordinator for more information.

## Master's Degree Path

Computer science and engineering is a rapidly changing field that requires professionals to continually update their knowledge and skills. Completing a master's degree enhances an individual's ability to assimilate and apply their knowledge and skills to meet on the job challenges and the needs of society. Also, students whose career goals are research and development or university teaching are encouraged to obtain a master's in route to the Ph.D. degree. Pursuing a master's degree on a full-time basis immediately after completing the baccalaureate is an attractive option for many students.

CSE honors students may structure their degree plans so that they can complete a master's degree with one year of additional study. Those graduating with a 3.00 or higher GPA will be admitted to a CSE master's program upon application. Honors graduates enrolling in either the MSCSE or MSCS program on a full-time basis will be given an assistantship. Contact the CSE Honors Coordinator for more information.

## Department of Computer Science and Engineering Faculty

### Chair

Professor Carroll

### Professors

Elmasri, Hsia, Kavi, Kung, Peterson, Shirazi, Walker

### Associate Professors

Cook, Harbison, Holder, Kamangar, Weems, Welch, Youn

### Assistant Professors

Bruggeman, Byrne, Fegaras, Gmytrasiewicz

### Senior Lecturer

Umbaugh

## Program Objectives

The computer science and engineering program maintains high academic standards and has been formulated to prepare graduates for a lifelong career in the field of computer science and engineering by offering a curriculum based on principles of mathematics, basic sciences, computer sciences, engineering sciences and engineering design and that stresses the application of computers and computer-based systems to the solution of problems relevant to societal and economic needs. In addition, the curriculum has been designed to meet the needs of industry for engineers and computer scientists whose educational experiences span the spectrum from hardware to software and to prepare students to pursue graduate studies in computer science or closely related fields if they choose.

Moreover, the program has been formulated to prepare graduates to work and live in a global, diversified society by providing educational opportunities for qualified students from all cultural and ethnic backgrounds; by offering a curriculum with a strong general education component, including a foreign language requirement; by providing majors with significant individual and team-oriented design experiences; and by developing the student's oral and written communication skills. Design experiences are integrated throughout the first three years of the curriculum (CSE 1320, 1325, 2312, 2341, 3310, 3320, 3442) and culminate in a major team oriented project in the senior year (CSE 4316 and 4317) that approximates an industrial work experience.

Finally, the program strives to provide computer science and engineering students with opportunities to interface with the profession through avenues such as co-operative education programs, professional society activities, plant trips, special projects, and industrial speakers programs.

Prefix and number in parentheses following the U.T. Arlington course number and title is the Common Course Number designation.

## Computer Science and Engineering (CSE)

### 1301. COMPUTER LITERACY (2-3) 3 hours credit (COSC 1301).

For those persons having an interest in finding out what a computer is (and is not), the types of problems suited for computers, and how to utilize a computer to solve problems. The organization and characteristics of computers; applications of commercial software such as word processors, spreadsheets, database packages, and communications packages; and survey of available computer languages. \$5 lab fee, \$25 special fee.



**1306. COMPUTER PROGRAMMING AND APPLICATIONS (3-0) 3 hours credit (COSC 1311).** Computing techniques utilizing the FORTRAN language. Algorithm design in solution of engineering and scientific problems. Prerequisite: high school trigonometry.

**1310. INTRODUCTION TO COMPUTERS AND PROGRAMMING (2-3) 3 hours credit (COSC 1312).** An introduction to the computer, to the algorithmic process, and to programming in Pascal using standard control structures. The DOS and UNIX operating systems are used. Prerequisite: high school trigonometry. \$5 lab fee, \$25 special fee.

**1320. PROGRAMMING CONCEPTS USING C (2-3) 3 hours credit.** Program design and implementation in the C programming language. Programming concepts beyond standard control structures with emphasis on modular design and data structures. The DOS and UNIX operating systems are used. Prerequisite: CSE 1310. \$5 lab fee, \$25 special fee.

**1325. OBJECT-ORIENTED PROGRAMMING USING C++ (3-0) 3 hours credit.** Program design and implementation in the C++ programming language. Object-oriented programming with concepts including objects, class structure and behavior, inheritance and re-use, polymorphism, dynamic binding, and object identity. The UNIX operating system is used. Prerequisite: CSE 1320.

**2312. COMPUTER ORGANIZATION AND ASSEMBLY LANGUAGE PROGRAMMING (3-0) 3 hours credit.** The assembly/machine language programmer's view of a digital computer including processor and memory organization, instruction sets, and addressing modes. Programming in a current generation assembly language. Assemblers and the assembly process. Prerequisite: CSE 1325.

**2315. DISCRETE STRUCTURES (3-0) 3 hours credit.** Propositional logic, mathematical proof techniques, sets, combinatorics, functions and relations, Boolean algebra, graphs, graph algorithms, finite state machines, and regular expressions. Prerequisites: CSE 1320 and MATH 1426.

**2320. ALGORITHMS AND DATA STRUCTURES (3-0) 3 hours credit.** Design and analysis of algorithms with an emphasis on data structures. Approaches to analyzing lower bounds on problems and upper bounds on algorithms. Classical algorithm design techniques including algorithms for sorting, searching, and other operations on data structures such as hash tables, trees, graphs, strings, and advanced data structures, dynamic programming and greedy approaches. Prerequisites: CSE 1325 and 2315.

**2341. DIGITAL LOGIC CIRCUITS (2-3) 3 hours credit.** The analysis and design of combinational and sequential logic circuits. Topics include Boolean algebra, logic circuit minimization techniques, synchronous sequential circuit design, algorithmic state machine design, design of arithmetic/logic and control units. Computer aided design tools are utilized throughout the course. Prerequisites: CSE 2312 and 2315, EE 2320. \$5 lab fee, \$25 special fee.

**3112. CONTEMPORARY PROGRAMMING PRACTICES (1-0) 1 hour credit.** Study of an emerging programming language that has a potential of wide-spread application in practice. May be repeated when the language changes but only one hour of credit can be used to satisfy CSE degree requirements. Prerequisite: CSE 2320.

**3302. PROGRAMMING LANGUAGES (3-0) 3 hours credit.** Introduction, analysis, and evaluation of the important concepts found in a variety of programming languages. Formalisms useful in specifying language syntax and semantics; programming language paradigms such as algorithmic, functional, logic, and object-oriented. Prerequisite: CSE 3315.

**3310. FUNDAMENTALS OF SOFTWARE ENGINEERING (3-0) 3 hours credit.** Software engineering principles, processes, and techniques; software development approaches focusing on functional analysis and functional design methods. Configuration management, implementation strategies, and testing. Team project. Prerequisites: CSE 2320 and MATH 3319.

**3315. THEORETICAL CONCEPTS IN COMPUTER SCIENCE AND ENGINEERING (3-0) 3 hours credit.** Selected theoretical concepts including predicate logic, automata and formal languages, computability, proof of program correctness and complexity. Prerequisite: CSE 2320 and 2341.

**3320. OPERATING SYSTEMS (3-0) 3 hours credit.** Functions and components of an operating system, including process synchronization, job scheduling, memory management, file systems protection, and deadlocks. Related system software, such as loaders, linkers, assemblers, editors, and windowing systems. Prerequisite: CSE 2320 and IE 3301.

**3322. COMPUTER ARCHITECTURE (3-0) 3 hours credit.** Hardware and software structures found in modern digital computers. Instruction set architecture, hardware design of the processor, microprogramming, I/O and memory units, analysis of instruction usage, and hardware complexity. Prerequisites: CSE 2341 and 3320 (or concurrent enrollment).

**3442. EMBEDDED COMPUTER SYSTEMS (3-3) 4 hours credit.** Design of microcomputer based systems: microcomputer programming, component and system architectures, memory interfacing, parallel and serial I/O interfacing, A/D and D/A conversion, and typical applications. Prerequisites: CSE 2341 and EE 2181. \$5 lab fee, \$25 special fee.

**4191, 4291, 4391. INDIVIDUAL PROJECTS (Variable credit from 1 to 3 semester hours as arranged, individual instruction).** Special problems in computer science and engineering on an individual basis. Topics may change from semester to semester. May be repeated for credit. Departmental approval must be obtained in advance for degree credit. Prerequisite: consent of the instructor and chair of department.

**4303. COMPUTER GRAPHICS (3-0) 3 hours credit.** Theory and practice for the visual representation of data by computers including display devices, output primitives, planes and curved surfaces, two- and three-dimensional transformations, parallel and perspective viewing, removal of hidden lines and surfaces, illumination models, ray tracing, radiosity, color models, and computer animation. Prerequisites: CSE 2320 and MATH 3319 or 3330.

**4305. COMPILERS FOR ALGORITHMIC LANGUAGES (3-0) 3 hours credit.** Review of programming language structures, translation, and storage allocation. Theory and practice of compilers and issues in compiler construction including parsing, intermediate code generation, local optimization problems such as register allocation, data-flow analysis, and global optimization. Prerequisites: CSE 3302 and 3315.

**4308. ARTIFICIAL INTELLIGENCE (3-0) 3 hours credit.** An introduction to the field of artificial intelligence studying basic techniques such as heuristic search, deduction, learning, problem solving, knowledge representation, uncertainty reasoning and symbolic programming languages such as LISP. Application areas may include intelligent agents, data mining, natural language, machine vision, planning and expert systems. Prerequisite: CSE 3302.

**4311. OBJECT-ORIENTED SOFTWARE ENGINEERING (3-0) 3 hours credit.** General classification and comparison of structured,

object-oriented software development including analysis, design, programming, and testing. Team project. Prerequisites: CSE 3310 and 3315.

**4312. FILE STRUCTURES AND DATABASE SYSTEMS (3-0) 3 hours credit.** Database systems. File structures for database search, including indexing and hashing. The relational data model and the SQL language. Conceptual database design and normalization. Overview of other data models. Prerequisite: CSE 3315.

**4313. INTRODUCTION TO SIGNAL PROCESSING (3-0) 3 hours credit.** Examines models for presentation and processing of digital signals. Sampling theorem, correlation and convolution, time and frequency analysis of linear systems, Fourier transform, Z-transform, design of digital filters structures for discrete time systems. Prerequisites: MATH 2325 and senior standing.

**4315. INTRODUCTION TO VLSI SYSTEMS DESIGN (3-0) 3 hours credit.** Design of VLSI systems and the impact that VLSI has on design, systems architecture, and economic considerations. VLSI revolution, integrated circuit technologies, design methodologies, semicustom versus custom design, and support technologies. Prerequisite: CSE 3322 (or concurrent enrollment).

**4316. COMPUTER SYSTEM DESIGN PROJECT I (2-3) 3 hours credit.** The industrial environment and the phased system development process as applied to computer hardware and software design projects. Teams of students prepare and present planning and definition documentation for a design project to be rapid-prototyped, and then completed in CSE 4317 the following semester. Prerequisites: CSE 3310, 3322, and 3442; IE 3312; and SPCH 3302. \$5 lab fee, \$25 special fee.

**4317. COMPUTER SYSTEM DESIGN PROJECT II (2-3) 3 hours credit.** Social and ethical implications of computing and the engineering profession; student design teams complete the projects initiated in CSE 4316. Oral presentations and documentation required at review points and project completion. Prerequisite: CSE 4316 in the previous semester. \$5 lab fee, \$25 special fee.

**4319. MODELING AND SIMULATION (3-0) 3 hours credit.** Techniques for system modeling and simulation of stochastic and knowledge-based systems. Modeling methods, model validation and verification procedures, and steady state solution techniques. Prerequisites: CSE 3310 and IE 3301.

**4323. COMPUTER ARCHITECTURE II (3-0) 3 hours credit.** Pipelined control and ALU designs, parallel processor organizations including SIMD and shared memory MIMD, message passing MIMD, dataflow processing, cache memory design, and processor-memory interconnections. Prerequisite: CSE 3322.

**4325. COMPUTER SYSTEMS PERFORMANCE EVALUATION (3-0) 3 hours credit.** Markov models, single queue and queue network models, and simulations for studying and evaluating computer system performance. Workloads, benchmarks, performance measurement techniques, and case studies will be used in system capacity planning, hardware selection and upgrade, and performance tuning. Prerequisites: CSE 3322 and MATH 3319.

**4342. REAL-TIME DATA ACQUISITION AND CONTROL SYSTEMS (2-3) 3 hours credit.** Advanced course in design of micro-computer-based systems. Emphasis is on the application of state-of-the-art microprocessors, microcomputers, and other LSI and VLSI components to real-time, interactive, and on-line problems. Prerequisite: CSE 3442. \$5 lab fee, \$25 special fee.

**4344. COMPUTER NETWORK ORGANIZATION (3-0) 3 hours credit.** Design and analysis of computer networks. Emphasis on the OSI architecture but discusses other schemes (e.g., ARPAnet). Data link control, local networks, protocols/architectures, network access protocols, transport protocols, internetworking, and ISDN. Prerequisite: CSE 3320.

**4351. PARALLEL PROCESSING (3-0) 3 hours credit.** Theory and practice of parallel processing, including characterization of parallel processors, models for memory, algorithms, and interprocess synchronization. Issues in parallelizing serial computations, efficiency and speedup analysis. Programming exercises using one or more concurrent programming languages, on one of more parallel computers. Prerequisites: CSE 3302 and 3322 or consent of the instructor.

**4356. HONORS PROJECT I (2-3) 3 hours credit.** An engineering research experience at an advanced undergraduate level. Students will survey a selected topic in the computer science and engineering literature and design an honors project under the guidance of a faculty member. Formal written and oral presentation of the project proposal is required. In weekly meetings students will discuss their designs. Credit will be given for only one of CSE 4316 and 4356. Prerequisite: permission of Honors Program advisor. \$5 lab fee, \$25 special fee.

**4357. HONORS PROJECT II (2-3) 3 hours credit.** Social and ethical implications of computing and the engineering profession are stressed while students perform the tasks identified in their proposals in CSE 4356, such as: evaluate design trade-offs, implementation, testing and experimentation. Formal written and oral presentation of the research is required. In weekly meetings students will evaluate their progress and discuss their findings. Prerequisite: CSE 4356. \$5 lab fee, \$25 special fee.

**4392. SPECIAL TOPICS (3-0) 3 hours credit.** New developments in the field of computer science and engineering. Topic may vary from semester to semester. May be repeated for credit when topic changes. Departmental approval required in advance to use for degree credit. Prerequisite: consent of instructor.

# The Department of Electrical Engineering

517 Nedderman Hall • Box 19016 • <http://www-ee.uta.edu> • 817-272-2671

501 Nedderman Hall • Student Advising Office • [eeadvise@ee.uta.edu](mailto:eeadvise@ee.uta.edu)

## Requirements for a Bachelor of Science Degree in Electrical Engineering

### Pre-Engineering Courses

(All pre-engineering courses must be completed before enrolling in upper-division courses)

#### English

Six hours of composition.

#### Mathematics

#1426, 2325, 2326, 3319.

#### Science

CHEM 1301, PHYS 1443, 1444.

#### Civil Engineering

2312.

#### Electrical Engineering

1245, 1247, 2181, 2315, 2316, 2317.

#### Mechanical Engineering

3309.

### Other General Education Courses

#### Literature

Three hours of English or foreign language literature or other approved substitute.

#### Liberal Arts Elective

Three hours above the freshman level of literature, or social and cultural studies designated as taught in the College of Liberal Arts, or fine arts or philosophy, or technical writing above. For EE majors SPCH 3302 must be used to meet this requirement.

#### Fine Arts and Philosophy\*

Three hours from architecture, art, dance, music, philosophy, or theatre arts. For engineering majors, acceptable electives vary by program.

#### Social/Cultural Studies

Three hours of designated courses in social or cultural anthropology, archaeology, social/political/cultural geography, economics, sociology, classical studies, or linguistics. For electrical engineering majors this University requirement must be met by taking IE 3312.

#### History

1311, 1312.

#### Political Science

2311, 2312.

### Upper-Division Courses

#### Electrical Engineering

3185, 3191, 3302, 3303, 3304, 3305, 3306, 3309, 3310, 3317, 3330, 3341, 4314, 4330, 4340, one Senior Capstone Elective Course (3 hours).

#### Engineering Electives\*

Six hours (also includes electrical engineering).

#### Mathematics or Science Elective\*

Three hours of 3000/4000 courses in mathematics or science.

#### Total (Pre-Engineering)\*\*

47 hours.

#### Total (General Education)

24 hours.

#### Total (Upper-Division)

53 hours.

#### Total (for degree)\*\*

124 hours, plus exercise and sport activities (EXSA) or ROTC or marching band as required.

\* A list of acceptable electives is available in the departmental advising office.

\*\* Total hours will depend upon prior preparation and academic qualifications. Also, students who do not have two units of high school foreign language will be required to take foreign language courses in addition to the previously listed requirements.

# The Mathematics Department requires concurrent enrollment in MATH 1325, unless the student has received credit for Analytic Geometry or has passed the appropriate placement test provided by that department.

Refer to the College of Engineering section of this catalog for information concerning the following topics: Admission to Engineering, Admission into Pre-Electrical Engineering, Admission to the Upper-Division Program, Counseling or Advising, Academic Policies and Standards, Transfer and Change of Major Policies, the College of Engineering Probation, Repeating Course Policy, or Academic Dishonesty Policy.

## Program Features and Objectives

The undergraduate program in electrical engineering stresses fundamental concepts to prepare the engineering graduate for a lifelong career. The program is divided into pre-engineering and upper-division engineering with the division occurring between the sophomore and junior years. The pre-engineering program stresses general engineering and foundation courses in mathematics and science. Students are admitted to the upper-division program upon completion of the pre-engineering program with suitable grades. The upper-division program consists of core courses in electronics, digital systems, electromagnetics, energy conversion, feedback control systems, and communications systems as well as electives from diverse technical areas in electrical engineering. In addition to analysis skills, emphasis is placed on laboratory experience and design projects. The curriculum is accredited by the Engineering Education and Accreditation Committee of the Accreditation Board for Engineering and Technology (ABET).

Through careful selection of technical electives, the student may specialize in certain fields of electrical engineering. Two concentrations are delineated that emphasize specialization in the areas of digital/microprocessor and telecommunication. Information on these concentration areas is available in the Electrical Engineering Department Advising Office.

## Undergraduate Advising

The Electrical Engineering Department utilizes a computer-assisted counseling system, managed by the Undergraduate Advisor. General academic advising for new transfer students (excluding transfer course evaluation) is done during the scheduled orientation period just prior to registration (the dates will be listed in the appropriate schedule of classes). Academic advising for continuing students will be done during each semester prior to registration (the dates will be listed in the appropriate schedule of classes). Personal academic advising will also be done in the office of the Undergraduate Advisor during the semester by appointment only. In order to graduate, the student must have an approved degree plan on file in the Advising Office records.

## Admission to the Upper-Division Program

Requirements for admission to the Upper-Division Program in Electrical Engineering are in accordance with those of the College of Engineering with the added stipulation that:

- Application to the Upper-Division Program is to be made to the Undergraduate Advisor during the semester that the admission requirements are being completed.
- No upper-division electrical engineering course may be taken until the student is admitted into the Upper-Division Program or obtains the written consent of the Undergraduate Advisor.
- Each student must complete each 2000-level Electrical Engineering course (1245, 1247, 2181, 2315, 2316) with a minimum grade of C and a minimum GPA of 2.0 for the entire group.

## University/Industry Co-op Program

The University/Industry Co-op Program provides an excellent opportunity for students to gain practical industrial experience in conjunction with the conventional education received at the university. The industrial experience enriches a student's technical background and understanding which leads to better jobs at higher salary levels. The EE Department at The University of Texas at Arlington provides a special Co-op Program which allows the student to finish the BSEE degree within four years and still gain a rich co-op experience for two semesters. The Co-op Program is available to students with junior standing and a minimum GPA of 3.0. Students participating in the Co-op Program may still graduate in four years by working as a co-op in the summer after the sophomore year, taking junior level courses in the fall, and working as a co-op in the spring semester of the junior year. This program allows the students to finish their course requirements by providing junior level courses during the summer. Students take senior level courses in the fall and spring semesters of the final year for graduation. Thus, in the last two years of the program, the students co-op for two semesters in industry and take classes as full-time students at the university for four semesters.

## Fast Track Master's Degree

After completion of all required EE courses (except the senior level 43xx courses), students who have taken 30 semester hours at UTA and have a minimum GPA of 3.5 can apply for fast track programs leading to the Master of Science in Electrical Engineering degree. Two options leading to the MSEE degree are available. In the MSEE Thesis Option, students in their senior undergraduate year can take a research project course, EE 4391, to begin their studies of a research topic for the MS thesis while concurrently fulfilling their senior elective requirements. This will allow students to finish their undergraduate and master of science degrees within five years. Another fast track program option leading to the MSEE is available with co-op experience. In this MSEE Co-op Option, like the fast track MSEE Thesis Option, students can take one research project course in the senior undergraduate year. Students then can take a co-op position in the first semester after the award of the BSEE degree and take graduate level courses completing the MSEE degree requirements in an additional four semesters.

### Suggested Course Sequence (Pre-Engineering Program)

#### Freshman Year

**First Semester:** MATH 1426; PHYS 1443; EE 1245; HIST 1311; ENGL 1301; EXSA or ROTC or Marching Band—Total Credit 17 hours.

**Second Semester:** MATH 2325; PHYS 1444; EE 1247; HIST 1312; ENGL 1302; EXSA or ROTC or Marching Band—Total Credit 17 hours.

#### Sophomore Year

**First Semester:** MATH 2326; CHEM 1301; CE 2312; EE 2315; English Literature (2000 level), 3 hours; EXSA or ROTC or Marching Band—Total Credit 16 hours.

**Second Semester:** MATH 3319; EE 2181; EE 2316; IE 3312; MAE 3309; SPCH 3302; EXSA or ROTC or Marching Band—Total Credit 17 hours.

### Suggested Course Sequence (Upper-Division Program)

#### Junior Year

(Prerequisite: Admission to the Upper-Division Program)

**First Semester:** EE 3191; EE 3303; EE 3305; EE 3309; EE 3317; EE 3341—Total Credit 16 hours.

**Second Semester:** EE 3185; EE 3302; EE 3304; EE 3306; EE 3310; EE 3330—Total Credit 16 hours.

#### Senior Year

**First Semester:** EE 4314; EE 4330; EE 4340; Engineering Elective, 3 hours; POLS 2311—Total Credit 16 hours.

**Second Semester:** Capstone Design Elective, 3 hours; Engineering Elective, 3 hours; Math/Science Elective, 3 hours; Fine Arts/Philosophy Elective, 3 hours; POLS 2312—Total Credit 16 hours.

## Department of Electrical Engineering Faculty

### Chair

Professor Fitzer

### Professors

Alavi, Carter, Cash, Chen, Dhawan, Fung, Kondraske, Lewis, Magnusson, Manry, McElroy, Prabhu, Rao, Shoultz, Smith, Yeung

### Associate Professors

Bredow, Chwialkowski, Davis, Devarajan, Dillon, Lee, Lowy, Maldonado

### Assistant Professors

Gordon, Tjuatja

### Adjunct Professor

Wang

### Adjunct Associate Professors

BuAbbud, Trivedi

### Adjunct Assistant Professor

Pfeifer

Prefix and number in parentheses following the U.T. Arlington course number and title is the Common Course Number designation.

## Electrical Engineering (EE)

### 1245. INTRODUCTION TO ELECTRICAL ENGINEERING (1-3)

**2 hours credit.** Introductory course in design for students interested in electrical engineering. Selected design problems from a broad range of electrical engineering areas. Emphasis on ideas, methods, and analytical tools used in design.

### 1247. COMPUTER SOLUTION OF ELECTRICAL ENGINEERING PROBLEMS (1-3) 2 hours credit.

Use of high level computer software packages to solve circuit analysis and other linear and nonlinear design problems. Introduction to computer graphics. Applications to magnetic fields. Prerequisite: EE 1245; corequisite: MATH 2325.

**2181. CIRCUITS LABORATORY (0-3) 1 hour credit.** Experiments related to theory covered in EE 2315 and EE 2320. Acquaints students with electrical instruments and demonstrates basic network laws. Prerequisite: EE 2315 or 2320. \$10 course specific fee.

### 2315. CIRCUIT ANALYSIS I (3-0) 3 hours credit (ENGR 2305).

Basic circuit concepts of R, L, and C elements. Kirchhoff's laws, resistive network analysis, power calculations, loop and node equations, topology, basic network theorems. Dependent sources and operational amplifiers. Computer-assisted solution of circuit problems. Elementary transient analysis. Steady-state A-C phasor analysis, including element laws and phasor diagrams. Prerequisite: MATH 2325; corequisite: PHYS 1444. \$15 course specific fee.

**2316. CIRCUIT ANALYSIS II (3-0) 3 hours credit.** Network theorems. Power, reactive power, resonance, circular loci, mutual inductance and transformers. Dependent sources, linear variational models, and introduction to two-port networks and polyphase power networks. Solution of differential equations using Laplace transform techniques. Prerequisites: EE 2315; EE 1247; corequisite: MATH 2326. \$15 course specific fee.

**2320. CIRCUIT ANALYSIS (3-0) 3 hours credit.** For non-electrical engineering majors. Basic principles of R, L, and C components. Kirchhoff's laws, network analysis, loop and node equations, basic network theorems. Steady-state A-C phasor analysis, including real and

reactive power. Operational amplifiers, filtering, digital circuits, and A/D and D/A converters. Safety, electrical noise problems, shielding, and grounding. Prerequisite: MATH 2325; corequisite PHYS 1444.

**3185. ELECTRONICS LABORATORY (0-3) 1 hour credit.** Supplements theory covered in EE 3303 and EE 3304. Prerequisite: EE 2181; corequisite: EE 3304. \$10 course specific fee.

### 3191. JUNIOR ELECTRICAL ENGINEERING SEMINAR (1-0)

**1 hour credit.** Technical presentations to acquaint the student with the various areas of electrical engineering and to provide a perspective on the field. The "Fundamentals of Engineering" Exam will be reviewed as an encouragement for students to take the exam at a later date in order to seek certification as an "Engineer-in-Training" (EIT). Topics include engineering design, literature searches, available research tools, ethics, professionalism, and safety.

### 3302. POWER SYSTEM FUNDAMENTALS (3-0) 3 hours credit.

Fundamentals of electric machines, motors, generators, transformers and transmission lines. Power system modeling, real and reactive power control of generation, economic and secure operation of transmission systems. Prerequisite: EE 2316.

### 3303. ELECTRONICS I (3-0) 3 hours credit.

Characteristics and circuit models for diodes, bipolar junction transistors, and field-effect transistors. Circuit applications for diodes, and electronic circuit implementations for digital logic functions. Prerequisite: EE 2315. \$15 course specific fee.

### 3304. ELECTRONICS II (3-0) 3 hours credit.

Analysis and design of electronic circuits. Review of DC biasing, small-signal frequency response, differential and operational amplifier design and applications, and feedback concepts. Prerequisite: EE 3303; corequisite: EE 3317. \$15 course specific fee.

### 3305. ELECTROMAGNETIC WAVES (3-0) 3 hours credit.

Maxwell's equations and their applications including plane waves, reflection and transmission, waveguides, and transmission lines. Prerequisite: EE 2316; corequisite: MATH 3318 or 3319.

### 3306. APPLICATIONS OF ELECTROMAGNETICS (3-0) 3 hours credit.

Antennas, scattering, electrostatic and magnetostatic fields, Gauss's law, potential, force, energy, Poisson and Laplace equations, magnetic circuits, Faraday's law, transformers, and motors. Prerequisite: EE 3305. \$15 course specific fee.

### 3309. COMPUTER SOLUTION OF ELECTRICAL ENGINEERING PROBLEMS USING C (3-0) 3 hours credit.

Algorithm design and numerical analysis in solving engineering problems. Data structure and basic concepts of software engineering. Prerequisite: EE 2317 and MATH 2326. \$20 course specific fee.

### 3310. MICROPROCESSORS (3-0) 3 hours credit.

Principles of operation of 80x86 family of microprocessors, including assembly language programming, internal architecture of 80x86 processors, timing analysis, and interfacing techniques. Special emphasis will be placed on hardware-software interactions, design of memory systems for microprocessors, and on utilization of programmable peripheral devices. Prerequisites: EE 3309 and 3341. \$20 course specific fee.

### 3317. LINEAR SYSTEMS (3-0) 3 hours credit.

Time-domain transient analysis, convolution, Fourier Series and Transforms, Laplace Transforms and applications, transfer functions, signal flow diagrams, Bode plots, stability criteria, sampling and Z-transforms. Also taught as MAE 3317. Prerequisites: EE 2316 and MATH 3318 or 3319. \$15 course specific fee.

### 3321. MEASUREMENT AND INSTRUMENTATION (3-0) 3 hours credit.

Electrical measurements and instrumentation systems. Transducers, operational amplifiers, analog filters. Analog-digital and digi-

tal-analog converters, data acquisition and storage. Safety, electrical noise problems, shielding and grounding systems. Prerequisite: EE 2315 or 2320.

**3330. PROBABILITY AND RANDOM SIGNALS (3-0) 3 hours credit.** Probability, random variables, random signals, noise, response of linear systems to random inputs. Prerequisite: EE 3317 or concurrent enrollment. \$5 course specific fee.

**3341. DIGITAL CIRCUIT DESIGN (2-3) 3 hours credit.** Theory and design of digital logic circuits, number systems, binary arithmetic, and codes. Boolean algebra, minimization of logic circuits. Analysis and synthesis of combinational logic circuits and synchronous state machines, including use of ROM memories. Design projects will require design, fabrication, and testing of circuits using discrete and PLD components. Prerequisite: EE 2315 or EE 2320. \$3 lab fee, \$20 course specific fee.

**4193. ELECTRICAL ENGINEERING PROJECTS LABORATORY (0-3, individual instruction) 1 hour credit.** After receiving advance approval from the Electrical Engineering Department, a student may be allowed to substitute this special projects laboratory for one of the required electrical engineering laboratory courses. Prerequisite: consent of the department. \$15 course specific fee.

**4301. SUPERVISORY CONTROL AND DATA ACQUISITION (3-0) 3 hours credit.** Introduction to Supervisory Control and Data Acquisition (SCADA), application of programmable logic controllers (PLC), introduction to communications and networks (LAN/WAN) in power systems. Prerequisite: Senior standing or permission of instructor.

**4307. PULSE ELECTRONICS (3-0) 3 hours credit.** Application of circuit analysis, Fourier and Laplace techniques, and electromagnetic field theory in analog systems. Topics include pulse circuit definitions, analysis, pulse generation circuits, pulse forming network synthesis, geometrical inductance, capacitance, and impedance design, transmission line transients, transient voltage and current measurement techniques, EMI shielding and system design, component specification and design consideration, and application of computer circuit and field modeling programs in system design. Prerequisites: EE 3304 and 3306. \$20 course specific fee.

**4308. POWER ELECTRONICS DESIGN (3-0) 3 hours credit.** Switched mode DC-DC converters, controlled rectifiers, commutated and resonant inverters. A hardware design project will be assigned. Prerequisites: EE 3304 and 3185. \$15 course specific fee.

**4309. HARDWARE DEPENDENT PROGRAMMING USING C++ (2-3) 3 hours credit.** C++ programming as a tool for interacting with the low-level hardware of microprocessor-based systems and instruments. Problems arising from a multi-tasking environment offered by Windows and the general concepts of Windows' compliant programming techniques. Hands-on projects on time-dependent and hardware-specific programming techniques utilizing special-purpose interface boards, digital I/O controller, and standard graphic controllers. Prerequisites: EE 3309 and 3310. \$20 course specific fee, \$20 lab fee.

**4314. CONTROL SYSTEMS (3-0) 3 hours credit.** Closed loop systems using frequency response, root locus, and state variable techniques. System design based on analytic and computer methods. Also taught as MAE 4310. Prerequisite: EE 3317. \$15 course specific fee.

**4315. ROBOTICS (3-0) 3 hours credit.** Principles of kinematics, dynamics, and control of industrial robots. Robot sensors and actuators. Applications in manufacturing, path planning, and program-

ming. Also taught as MAE 4345. Prerequisite: EE 4314 or concurrent enrollment. \$15 course specific fee.

**4318. DIGITAL SIGNAL PROCESSING (3-0) 3 hours credit.** Time and frequency domain analyses of linear time invariant systems. Stability analyses of causal and non-causal systems using the Z-transform. FIR digital filter design. Design of frequency selective IIR digital filters using frequency transformations and the bilinear transform. Prerequisite: EE 3317.

**4319. OPTICAL ENGINEERING (3-0) 3 hours credit.** Principles and techniques of optical engineering including optical sources and measurements, image formation, lenses, wave optics, polarization, interference, diffraction, optical Fourier transforms, holography, interaction of light and matter. A variety of practical applications of these concepts. A design study paper is assigned. Prerequisite: EE 3306 or concurrent enrollment.

**4320. VLSI DESIGN AND TECHNOLOGY (3-0) 3 hours credit.** VLSI digital/analog circuit design methodology and processing technology. Applications of various engineering design software for device modeling, process simulation, and circuit analysis. Prerequisite: EE 3304. \$25 course specific fee.

**4326. MICROWAVE SYSTEMS (3-0) 3 hours credit.** Microwave generators, modulators, detectors and transmission systems. Prerequisite: EE 3306. \$15 course specific fee.

**4327. THEORY AND DESIGN OF ANTENNAS (3-0) 3 hours credit.** Basic theory of antennas with emphasis on design and engineering application. Prerequisite: EE 3306.

**4328. CURRENT TOPICS IN ELECTRICAL ENGINEERING (3-0) 3 hours credit.** To introduce current topics into the curriculum prior to the creation of permanent course numbers. A notice listing a descriptive course title, a course description, and the name of the instructor will be posted outside the departmental office each time the course is offered. May be repeated for credit provided the course contents are changed. Prerequisite: consent of instructor.

**4329. PHYSICAL ELECTRONICS (3-0) 3 hours credit.** The physics of solids, the physical principles and circuit models of diodes, bipolar transistors, and field effect transistors, and an introduction to the technology of integrated circuits and quantum electronic devices. Prerequisite: EE 3304. \$15 course specific fee.

**4330. FUNDAMENTALS OF TELECOMMUNICATION SYSTEMS (3-0) 3 hours credit.** Examines analog and digital communication techniques including amplitude modulation, frequency modulation, and pulse code modulation. Time-domain and frequency domain multiplexing. Analog and digital noise analysis, information theory, design of communication systems. Corequisite: EE 3330.

**4331. DATA COMMUNICATION ENGINEERING (3-0) 3 hours credit.** Data communication network planning, design, and analysis. The OSI layered model, interface standards, signals and protocols, modem and LAN standards. Prerequisite: EE 4330. \$15 course specific fee.

**4333. MODERN TELECOMMUNICATION (3-0) 3 hours credit.** Basics of telecommunications and telephone networks, switching and transmission systems. Circuit and packet switching. Call processing. Common channel signaling systems. Queuing theory and applications. OSI-layered reference architecture. ISDN. Prerequisite: EE 4330.

**4334. PROGRAMMABLE LOGIC DESIGN (3-0) 3 hours credit.** Design of digital systems using programmable logic devices and high-level design techniques. The course emphasizes the understanding

of state-of-the-art hardware devices as well as design and simulation tools. Various design options and compromises will be explored for typical design tasks. Projects will be assigned to develop adequate design proficiency. Prerequisite: EE 3310. \$15 course specific fee.

**4339. RADIO-FREQUENCY COMMUNICATION CIRCUIT DESIGN (3-0) 3 hours credit.** Design of lumped-element radio-frequency circuits operating at frequencies to 2Ghz. Impedance-matching, s-parameter design of amplifiers and oscillators RF mixers. Other topics include noise theory (thermal and phase noise) and phase-locked loops. Prerequisite: EE 3304.

**4340. DESIGN ENGINEERING AND PROJECT MANAGEMENT (2-3) 3 hours credit.** Review of design concepts, ethics and safety. Project planning, project management, design reviews, and the design team concept. Computer tools for project management. Practice in preparation of proposals, feasibility studies, system models, trade-off studies, decision making, and reports and presentations will be emphasized. Design of experiments. Workstations and the UNIX operating system. System validation by computer simulation and laboratory experiments students will prepare a proposal for a capstone design project. Prerequisite: senior standing.

**4341. POWER SYSTEM DESIGN PROJECT (2-3) 3 hours credit.** Design studies of power systems using both digital simulation and physically-based simulation laboratories. Relevant transmission and distribution design projects will be covered in the following areas: Energy Management Systems, protective Relaying, Power Quality, Power System Reliability, Power System Simulation. Prerequisite: EE 3302 and senior standing. \$20 course specific fee.

**4342. MICROPROCESSOR SYSTEM DESIGN PROJECT (2-3) 3 hours credit.** Design principles for digital and analog instrumentation utilizing open computer architectures (ISA, EISA, MicroChannel). The course is intended to provide a comprehensive design experience in microprocessor-based and microcomputer-oriented functional subsystems. Will include bus protocol analysis, timing design, simulation, prototype development, physical debugging of digital circuits, and printed circuit board design using advanced CAD/CAE tools. Special attention will be given to data acquisition techniques and to the design of computer graphics systems. Prerequisites: EE 3310 and 3317 and senior standing. \$20 course specific fee.

**4343. CONTROL SYSTEM DESIGN PROJECT (2-3) 3 hours credit.** Design of continuous and digital control systems using modern analytic and computer design tools. Student teams will design specific control systems. Prerequisite: EE 4314 and senior standing. \$20 course specific fee.

**4344. OPTICAL SYSTEM DESIGN PROJECT (2-3) 3 hours credit.** Principles and techniques of optical engineering, including optical sources, measurements, image formation, lenses, wave optics polarization, interference, diffraction, optical Fourier transforms, holography, interaction of light and matter. Prerequisite: EE 3305 and senior standing. \$20 course specific fee.

**4346. ELECTRONIC SYSTEM DESIGN PROJECT (2-3) 3 hours credit.** Systematic framework for system design based on quantitative performance concepts. Design of electronic systems using discrete devices, integrated circuits (analog, digital, and hybrid), sensors, and actuators. Each class identifies a "product" which provides the motivation for lectures and design. Incorporates manufacturing, production, and cost issues. Prerequisites: EE 3304 and senior standing. \$20 course specific fee.

**4347. COMMUNICATION SYSTEM DESIGN PROJECT (2-3) 3 hours credit.** Design of radio-frequency (1MHz to 2GHz) circuits for telecommunications applications. Design simulation and fabrication of RF amplifiers, oscillators, and heterodyne mixers. Advanced concepts involving phased-locked loops, surface-acoustic wave devices, spread-spectrum techniques, and modulation/coding techniques may be included. Prerequisites: EE 3304, 4330, and senior standing. \$20 course specific fee.

**4348. ELECTRICAL ENGINEERING SYSTEM DESIGN PROJECT (2-3) 3 hours credit.** A general electrical engineering design project that will integrate engineering knowledge from several areas of engineering. Topics will vary from semester to semester. May be repeated for credit when topics change. Prerequisites: senior standing and consent of the department. \$20 course specific fee.

**4391. ADVANCED PROBLEMS IN ELECTRICAL ENGINEERING (3-0, individual instruction) 3 hours credit.** A research project under the direction of a faculty supervisor. May be taken as a technical elective with the permission of the department. \$5 course specific fee.

# The Department of Industrial and Manufacturing Systems Engineering

420 Woolf Hall • Box 19017 • 817-272-3092

## Requirements for a Bachelor of Science Degree in Industrial and Manufacturing Systems Engineering

### Pre-Engineering Courses

(All pre-engineering courses must be completed before enrolling in upper-division courses)

#### English

Six hours of composition.

#### Mathematics

Sequence of #1426, 2325, 2326, 3319 (or IE 3313)

#### Science

CHEM 1301, 1302; PHYS 1443, 1444

#### Design Graphics

1350

#### Mechanical/Aerospace Engineering

MAE 2322 (or CE 2312).

#### Computer Science and Engineering

1320

#### Electrical Engineering

2320

#### Industrial Engineering

3301, 3315

### Other General Education Courses

#### Literature

Three hours of English or foreign language literature or other approved substitute. For engineering majors this University requirement must be met by taking English literature (2000 or higher).

#### Liberal Arts Elective

Three hours above the freshman level of literature, or social and cultural studies designated as taught in the College of Liberal Arts, or fine arts or philosophy, or technical writing. For IE majors SPCH 3302 must be used to satisfy this requirement.

#### Fine Arts and Philosophy\*

Three hours in architecture, art, dance, music, philosophy, or theatre arts. For engineering majors, acceptable electives vary by program.

#### Social/Cultural Studies

Three hours of designated courses in social or cultural anthropology, archaeology, social/political/cultural geography, economics, sociology, classical studies, or linguistics. For IE majors this University requirement must be met by taking IE 3312.

#### History

1311, 1312.

#### Political Science

2311, 2312.

### Upper-Division Courses

#### Mechanical/Aerospace Engineering

3309.

#### Industrial Engineering

3314, 3343, 4303, 4308, 4315, 4318, 4322, 4325, 4339, 4343, 4344, 4349.

#### Engineering Electives\*

Three hours of an approved engineering science elective.

#### Technical Electives\*\*

Nine hours of technical electives.

#### Pre-Engineering Total

51 hours.

#### General Education Total

24 hours.

#### Upper-Division Total

51 hours.

#### Total (for degree)\*\*\*

126 hours, plus exercise and sport activities (EXSA) or ROTC or marching band as required.

\* A list of acceptable electives is available in the departmental office.

\*\* Must have prior approval of department chair.

\*\*\* Total hours will depend upon prior preparation and academic qualifications. Also, students who do not have two units of high school foreign language will be required to take foreign language courses in addition to the previously listed requirements.

# The Mathematics Department requires concurrent enrollment in MATH 1325, unless the student has received credit for Analytic geometry or has passed the appropriate placement test provided by that department.

Refer to the College of Engineering section of this catalog for information concerning the following topics: Admission to Engineering, Admission to the Upper-Division Program, Counseling or Advising, Academic Policies and Standards, Transfer and Change of Major Policies, the College of Engineering Probation, Repeating Course Policy, or Academic Dishonesty Policy.

The Industrial and Manufacturing Systems Engineering Department conducts a pre-engineering counseling week. Each student should meet with a faculty advisor during this week. Specific dates and times will be posted on the departmental bulletin board.



## Suggested Course Sequence

### Freshman Year

**First Semester:** MATH 1426; CHEM 1301; ENGL 1301; DG 1350; HIST 1311; EXSA or ROTC or Marching Band—Total Credit 17 hours.

**Second Semester:** MATH 2325; PHYS 1443; CHEM 1302; ENGL 1302; HIST 1312; EXSA or ROTC—Total Credit 17 hours.

### Sophomore Year

**First Semester:** MATH 2326; PHYS 1444; MAE 2322 (or CE 2312); CSE 1315; IE 3312; EXSA or ROTC or Marching Band—Total Credit 17 hours.

**Second Semester:** IE 3301; IE 3313 (or MATH 3319); POLS 2311; EE 2315; EXSA or ROTC—Total Credit 13 hours.

### Junior Year

**First Semester:** IE 3314; IE 3315; IE 3343; MAE 3309; Engineering Science Elective, 3 hours; Fine Arts Elective, 3 hours—Total Credit 18 hours.

**Second Semester:** IE 4303; IE 4322; IE 4325; IE 4344; Technical Elective, 3 hours—Total Credit 15 hours.

### Senior Year

**First Semester:** IE 4308; IE 4315; IE 4349; SPCH 3302; English Literature, 3 hours; Technical Elective, 3 hours—Total Credit 18 hours.

**Second Semester:** IE 4318; IE 4339; IE 4343; POLS 2312; Technical Elective, 3 hours—Total Credit 15 hours.

## Department of Industrial and Manufacturing Systems Engineering Faculty

### Chair

Professor Stevens

### Professors

Corley, Liles, Meier, Pape, Priest

### Associate Professor

Imrhan

### Assistant Professors

Del Castillo, Huff, Rogers

## Program Objectives

The objective of the IMSE Department at The University of Texas at Arlington is to produce graduates of high technical competence who can enter the industrial engineering (IE) profession and make contributions that benefit society and themselves. The IE curriculum emphasizes the analytical and design aspects of the profession. It builds upon a base of fundamental engineering, a strong mathematical core, courses in operations research, human factors, production measurement and control, computer science, quality assurance, facilities planning, and automation.

Just as other engineering disciplines design systems, the industrial engineer must also design and implement management and manufacturing systems for the planning, operation, and control of organizations and processes of all types. IE design experience is provided by a sequence of required courses in the curriculum culminating in a capstone course (4343).

As part of their professional development, all industrial engineer-

ing students are encouraged to join and participate in activities of the student chapter of the Institute of Industrial Engineers (IIE). Membership is available to all students with an interest in the industrial engineering profession.

## Industrial Engineering (IE)

**3301. ENGINEERING PROBABILITY (3-0) 3 hours credit.** Topics in industrial engineering that involve random processes. Applications and backgrounds for topics in reliability, inventory systems, and queuing problems, including absolute and conditional probabilities, discrete and continuous random variables, and hypothesis testing. Prerequisite: MATH 2326 or concurrent enrollment.

**3312. ENGINEERING ECONOMY (3-0) 3 hours credit.** Methods used for determining the comparative financial desirability of engineering alternatives. Prerequisite: MATH 1426 or concurrent enrollment.

**3313. MATHEMATICAL METHODS FOR INDUSTRIAL ENGINEERING ANALYSIS (3-0) 3 hours credit.** Differential equations, Laplace transforms, difference equations, Z-transforms, matrices, linear algebra, and numerical analysis. Prerequisite: MATH 2326.

**3314. ENGINEERING RESEARCH METHODS (3-0) 3 hours credit.** A continuation of IE 3301. Primary emphasis on the construction of linear models of engineering data, testing hypotheses, and analyzing of variance. Prerequisite: IE 3301.

**3315. OPERATIONS RESEARCH I (3-0) 3 hours credit.** Introduction to the major techniques of operations research and their application to management decision problems. Linear programming, network analysis, dynamic programming, game theory, and queuing theory. Prerequisites: IE 3301 or concurrent enrollment and MATH 3318.

**3316. ENGINEERING ADMINISTRATION AND ORGANIZATION (3-0) 3 hours credit.** A survey of administration control and organization as it relates to engineering and research activities. Consideration given to assigning resources to alternative projects. Prerequisite: junior standing.

**3341. INDUSTRIAL FINANCIAL SYSTEMS (2-3) 3 hours credit.** Concepts and tools necessary for the analysis of financial and cost data. Prerequisite: IE 3312 or concurrent enrollment.

**3343. MEASUREMENT, ANALYSIS, AND SIMPLIFICATION OF INDUSTRIAL ACTIVITIES (2-3) 3 hours credit.** Methods for determining the most effective utilization of effort in the man-machine environment. Prerequisites: MATH 2326 and IE 3301 or concurrent enrollment. \$2 lab fee.

**4191, 4291, 4391. SPECIAL PROBLEMS IN INDUSTRIAL ENGINEERING (Variable credit from 1 to 3 semester hours as arranged, individual instruction).** The investigation of special individual problems in industrial engineering under the direction of a faculty member. Prerequisite: consent of the head of the department.

**4302. LABOR REGULATION AND PRODUCTION ACTIVITY (3-0) 3 hours credit.** The interplay of the industrial engineering of production standards, the labor union movement, and legislative regulation considering the effects of such factors as automation, incentive payment systems, and machine pacing. Prerequisite: IE 3343.

**4303. PRODUCTION AND INVENTORY CONTROL (3-0) 3 hours credit.** Fundamental theory and design of systems for the control of production, inventories and their economic interaction, particularly in cases involving uncertainty of demand, of supply avail-

ability, and of production rates. Prerequisite: IE 3301 and 3315. Credit will not be granted for both IE 4303 and 4317.

**4308. STATISTICAL QUALITY CONTROL (3-0) 3 hours credit.** A comprehensive coverage of modern quality control techniques to include the design of statistical process control systems, acceptance sampling, process improvement, and design of experiments. Prerequisite: IE 3314.

**4310. INDUSTRIAL AND PRODUCT SAFETY (3-0) 3 hours credit.** Methods to reduce hazards in industry and its products. A survey of methods for testing product safety and problems of manufacturer liability. Prerequisite: junior standing.

**4313. INDUSTRIAL HYGIENE ENGINEERING (3-0) 3 hours credit.** Physical and physiological aspects of the interactions between people and thermal, atmospheric, radiant, chemical, and mechanical agents and energies in the industrial environment and requirements for engineering control. Prerequisite: IE 4344 or consent of the instructor.

**4315. OPERATIONS RESEARCH II (3-0) 3 hours credit.** A continuation of IE 3315. Applications of queuing theory, inventory theory, Markov chains, advanced topics in linear programming, and nonlinear programming. Prerequisite: IE 3315.

**4318. MANUFACTURING SYSTEMS DESIGN (3-0) 3 hours credit.** Design, analysis, and modeling of advanced production systems and the development of data bases for manufacturing operations. Prerequisites: IE 4325 or equivalent and IE 4303 or concurrent enrollment.

**4322. SIMULATION OF INDUSTRIAL SYSTEMS (3-0) 3 hours credit.** The design-formulation of complex industrial and service systems for discrete event simulation solutions. Topics include reviews of Monte Carlo processes and computer techniques used in discrete event simulation. Prerequisite: IE 4303 or concurrent enrollment.

**4325. AUTOMATION AND COMPUTER AIDED MANUFACTURING (3-0) 3 hours credit.** Study of the techniques in automation and control of manufacturing systems. Topics include control systems, numerical control, computer aided design and manufacturing, and flexible manufacturing systems. Prerequisite: IE 4303 or concurrent enrollment.

**4339. PRODUCIBILITY AND RELIABILITY DESIGN (3-0) 3 hours credit.** Engineering design process from standpoints of producibility and reliability considerations in the manufacture of high technology products. Prerequisite: senior standing in industrial engineering or consent of instructor.

**4343. DESIGN OF PRODUCTION SYSTEMS (2-3) 3 hours credit.** The location, component selection, and arrangement and integration of subsystems for a complete production facility. Prerequisites or concurrent: IE 4308, 4315, 4322, 4325, and 4344. \$2 lab fee.

**4344. HUMAN FACTORS ENGINEERING (2-3) 3 hours credit.** Methods of determining limitations placed on production or other mechanical systems by human physiological and psychological limitations. Prerequisites: IE 3314 and 3343. \$2 lab fee.

**4349. ROBOT WORK SYSTEMS (2-3) 3 hours credit.** Design of robot work systems for manufacturing and related activities considering product and process requirements. Prerequisites: IE 4325 or equivalent and consent of instructor. \$2 lab fee.

# The Department of Mechanical and Aerospace Engineering

Mechanical Engineering • 204 Woolf Hall • Box 19023 • 817-272-2561

Aerospace Engineering • 211 Woolf Hall • Box 19018 • 817-272-2603

The Department of Mechanical and Aerospace Engineering offers three programs of study leading to the bachelor's degree. They are the Bachelor of Science in Aerospace Engineering, the Bachelor of Science in Mechanical Engineering, and a double degree of Bachelor of Science in Aerospace Engineering and Bachelor of Science in Mechanical Engineering.

## Bachelor of Science in Aerospace Engineering (BSAE)

Rapid advances in aerospace systems require the successful aerospace engineer to develop new concepts and bring them into reality as reliable, competitive, and environmentally acceptable products. Successful completion of a balanced study of basic science and engineering topics, further balanced by humanities, will ensure that graduates are well prepared to tackle tomorrow's problems. The curriculum covers the four broad areas of aerodynamics, propulsion, flight mechanics, and structures, supplemented by appropriate laboratory experiences. The culmination of the curriculum is a vehicle design project. Students may broaden their education by choosing elective courses in a secondary field of interest or by taking a second bachelor's degree in mechanical engineering.

## Bachelor of Science in Mechanical Engineering (BSME)

The mechanical engineer needs to be extremely versatile and can be found in a large variety of private and public sector organizations. He or she may be involved in product design and development, manufacturing, project management, power generation or other operations. Therefore, the mechanical engineering curriculum is broad-based and emphasizes fundamental engineering sciences and applications. Approximately equal emphasis is given to machine design, thermodynamics and energy, systems and control, and materials science. Classroom lectures are supplemented by laboratories. The student completes a capstone design project as the culmination of the undergraduate program.

## Honors Program in Mechanical Engineering

Highly qualified students may elect participation in the Honors Program in Mechanical Engineering. This program offers an accelerated path to the BSME degree with the possibility of facilitated admission to the U.T. Arlington Graduate School to study for an

advanced degree or early admission to another professional school (e.g. law, MBA, or medicine). In the Graduate School, two likely options are Master's of Engineering Mechanical Engineering Degree or Master's of Science in Mechanical Engineering Degree. Students selected for participation in the Honors Program in Mechanical Engineering may expect generous support in the form of scholarships, cooperative engineering work assignments, designated engineering housing opportunities and access to college-supplied computer equipment.

The Honors Program in Mechanical Engineering is based on a series of honors mechanical engineering courses that allow the highly qualified student to study certain engineering fundamentals in parallel with the mechanical engineering applications. The honors mechanical engineering courses will be rich in multi-media learning opportunities and may be taught on a self-paced, mentor assisted basis if appropriate to the individual students' academic goals. Students must maintain a 3.5 minimum GPA to continue in the program.

The Honors Program in Mechanical Engineering program is planned for eight semesters. It is anticipated that the participating students will further enrich their education by partaking in summer industrial internships or cooperative education programs.

Letter applications for admission to the Honors Program in Mechanical Engineering are appropriate at two points of a student's academic life. The first is coincident to admission to the university as an entering freshman. The second is coincident to application for admission to the upper division. The second, either as a continuing U.T. Arlington student or as a transfer from another institution, requires a 3.5 GPA and completion of the pre-engineering curriculum.

## Second Degree

The MAE Department offers a dual degree program for students who want to enhance their skills and broaden their future opportunities.

A person who completes all requirements for BSAE can qualify for a second degree in mechanical engineering by taking appropriate courses. Similarly, a person who completes all requirements for a BSME can qualify for a second degree in aerospace engineering by taking appropriate courses. Alternatively, a student wishing to obtain a double degree can integrate all the courses for the double degree requirement throughout his/her undergraduate career at U.T. Arlington. The student is encouraged to consult with the undergraduate advisor on the appropriate course of study.

## Admission

For admission to the aerospace engineering, mechanical engineering, and mechanical and aerospace engineering programs, all students must meet the requirements for admission to the College of Engineering. A grade point average of 2.25 in science, mathematics and engineering courses is required for unconditional transfer into the department.

## Counseling

During each long semester, the Mechanical and Aerospace Engineering Department conducts a pre-enrollment counseling week\*, coordinated through the College of Engineering. Returning students (i.e., students who are or have been previously students at The University of Texas at Arlington) shall meet with their assigned counselors during counseling week for the purpose of completing an Enrollment Approval Form. MAE faculty are assigned as counselors to individual students for the duration of the academic program. Returning students who are unable to be present for counseling during counseling week should contact their counselors at the earliest opportunity. New students may receive pre-enrollment counseling in the department office during late registration or the preceding week.

\* See section concerning "Counseling" in the College of Engineering section of this catalog.

## Other Provisions

- Refer to the College of Engineering section of this catalog for information concerning the following topics: Admission to Engineering, Admission to the Upper-Division Program, Counseling or Advising, Academic Policies and Standards, Transfer and Change of Major Policies, the College of Engineering Probation, Repeating Course Policy, and Academic Dishonesty Policy.
- Requirements for admission into the Upper Division Program in Mechanical and Aerospace Engineering are in accordance with those in the College of Engineering with the added stipulation that:
  - a. Application to the Upper Division Program is to be made to the Undergraduate Advisor during the semester following completion of the last pre-engineering course.
  - b. No Upper Division Mechanical and Aerospace Engineering course may be taken unless the student is admitted into the Upper Division program or obtains the written consent of the Undergraduate Advisor. Upper Division courses may be taken to fill out a schedule in the semester that the last pre-engineering course is taken.
  - c. Although a number of courses are available in the evening hours, students will need to take daytime classes on occasion to complete degree requirements.
  - d. Mechanical and Aerospace Engineering students are required to take the Fundamentals of Engineering Examination before graduation.
  - e. Most upper-division mechanical and aerospace engineering courses are offered only once a year, in the semester indicated in the semester-by-semester schedule on the following pages. Students are urged to plan their course sequence schedules carefully to avoid delaying their graduation.

## Requirements for a Bachelor of Science Degree in Aerospace Engineering

### Pre-Engineering Courses

(All pre-engineering courses must be completed before enrolling in upper-division courses.)

#### English

Six hours of composition.

#### Mathematics

#1426, 2325, 2326, 3319.

#### Science

CHEM ##1302; PHYS 1443, 1444.

#### Design Graphics

1350.

#### Electrical Engineering

2320.

#### Mechanical and Aerospace Engineering

1231, 1312, 2181, 2284, 2206, 2312, 2314, 2321, 2323, 3310.

### Other General Education Courses

#### Literature

Three hours of English or foreign language literature or other approved substitute.

#### Liberal Arts Elective

Three hours above the freshman level of literature, or social and cultural studies designated as taught in the College of Liberal Arts, or fine arts or philosophy, or technical writing. For AE majors, SPCH 3302 must be used to satisfy this requirement.

#### Fine Arts and Philosophy\*

Three hours from architecture, art, dance, music, philosophy, or theatre arts. For engineering majors, acceptable electives may vary by program.

#### Social/Cultural Studies

Three hours of designated courses in social or cultural anthropology, archaeology, social/political/cultural geography, economics, sociology, classical studies, or linguistics. For aerospace engineering majors this University requirement must be met by taking IE 3312.

#### History

1311, 1312.

#### Political Science

2311, 2312.

## Upper-Division Courses

### Mechanical and Aerospace Engineering

3181, 3182, 3302, 3303, 3304, 3305, 3314, 3315, 3316, 4307, 4310, 4321, 4350, 4351.

### Technical Electives\*

Six hours in engineering, science, or mathematics (3000 level or higher).

### Total (Pre-Engineering Courses)\*\*

61 hours.

### Total (General Education Courses)

24 hours.

### Total(Upper-Division Courses)

44 hours.

### Total (for degree)\*\*

129 hours, plus exercise and sport activities (EXSA) or ROTC or marching band as required.

\* A list of acceptable electives is available in the departmental office.

\*\* Total hours will depend upon prior preparation and academic qualifications. Also, students who do not have two units of high school foreign language will be required to take foreign language courses in addition to the previously listed requirements.

# The Mathematics Department requires concurrent enrollment in MATH 1325, unless the student has received credit for Analytic Geometry or has passed the appropriate placement test provided by that department.

## In order to enroll, students must have credit for CHEM 1301 or equivalent.

## Suggested Course Sequence

This course sequence assumes that the student is qualified to start with CHEM 1302, PHYS 1443, MATH 1426.

### Freshman Year

**First Semester:** MAE 1231; CHEM 1302; ENGL 1301; MATH 1426; PHYS 1443; EXSA or ROTC or Marching Band—Total Credit 17 hours.

**Second Semester:** MAE 1312; DG 1350; ENGL 1302; MATH 2325; PHYS 1444; EXSA or ROTC—Total Credit 17 hours.

### Sophomore Year

**First Semester:** MAE 2206; MAE 2321; MAE 2323; EE 2320; HIST 1311; MATH 2326—Total Credit 17 hours.

**Second Semester:** MAE 2181; MAE 2284; MAE 2312; MAE 2314; MAE 3310; HIST 1312; MATH 3319—Total Credit 18 hours.

### Junior Year

**First Semester:** MAE 3181; MAE 3302; MAE 3304; MAE 3314; MAE 3315; POLS 2311—Total Credit 16 hours.

**Second Semester:** MAE 3182; MAE 3303; MAE 3305; MAE 3316; Literature, 3 hours; POLS 2312—Total Credit 16 hours.

### Senior Year

**First Semester:** MAE 4307; MAE 4310; MAE 4321; MAE 4350; SPCH 3302; EXSA or ROTC or Marching Band—Total Credit 16 hours.

**Second Semester:** MAE 4351; IE 3312; Fine Arts/Philosophy Elective, 3 hours; Science or Technical Elective, 6 hours; EXSA or ROTC—Total Credit 16 hours.

## Requirements for a Bachelor of Science Degree in Mechanical Engineering

### Pre-Engineering

(All pre-engineering courses must be completed before enrolling in upper-division courses)

### English

Six hours of composition.

### Mathematics

#1426, 2325, 2326, 3319.

### Science

CHEM ##1302; PHYS 1443, 1444.

### Design Graphics

1350.

### Electrical Engineering

2320.

### Mechanical and Aerospace Engineering

1231, 1312, 2181, 2284, 2206, 2312, 2314, 2321, 2323, 3310.

## Other General Education Courses

### Literature

Three hours of English or foreign language literature or other approved substitute.

### Liberal Arts Elective

Three hours above the freshman level of literature, or social and cultural studies designated as taught in the College of Liberal Arts, or fine arts or philosophy, or technical writing above the freshman level. For ME majors SPCH 3302 must be used to satisfy this requirement.

### Fine Arts and Philosophy\*

Three hours from architecture, art, dance, music, philosophy, or theatre arts. For engineering majors, acceptable electives vary by program.

### Social/Cultural Studies

Three hours of designated courses in social or cultural anthropology, archaeology, social/political/cultural geography, economics, sociology, classical studies, or linguistics. For majors in mechanical engineering this University requirement must be met by taking IE 3312.

### History

1311, 1312.

### Political Science

2311, 2312.

**Upper-Division Courses**

**Mechanical and Aerospace Engineering**

3121, 3183, 3311, 3314, 3318, 3319, 3321, 3330, 3342, 3344, 4188, 4287, 4310, 4342, 4344.

**Technical Electives\*\***

Nine hours in engineering or science.

**Pre-Engineering Total\*\*\***

61 hours.

**General Education Total**

24 hours (six of which are included in pre-engineering).

**Upper-Division Total**

47 hours.

**Total (for degree)\*\*\***

132 hours, plus exercise and sport activities (EXSA) or ROTC or marching band as required.

\* A list of acceptable electives is available in the departmental office.

\*\* Technical electives must be approved in advance by student's faculty counselor. See also "Technical Elective Selection" in the next column.

\*\*\* Total hours will depend upon prior preparation and academic qualifications. Also, students who do not have two units of high school foreign language will be required to take foreign language courses in addition to the previously listed requirements.

# The Mathematics Department requires concurrent enrollment in MATH 1325, unless the student has received credit for Analytic Geometry or has passed the appropriate placement test provided by that department.

## In order to enroll, students must have credit for CHEM 1301 or equivalent.

**Honors Courses**

Substitute MAE 2410 for MAE 2312 and 3342; MAE 2411 for MAE 3310 and 3311; MAE 2412 for MAE 2314 and 3314; MAE 2413 for MAE 2321 and 3321; MAE 3410 for MAE 2323 and 3318; MAE 4410 for MAE 3319 and 4310; MAE 4293 for MAE 4287; MAE 4193 for MAE 4188. MAE 4294/4494 is repeated for credit to meet the 132 credit hour minimum requirement.

**Suggested Course Sequence**

This course sequence assumes that the student is qualified to start with CHEM 1302, PHYS 1443, MATH 1426.

**Freshman Year**

**First Semester:** MAE 1231; ENGL 1301; MATH 1426; PHYS 1443; EXSA or ROTC or Marching Band—Total Credit 14 hours.

**Second Semester:** MAE 1312; CHEM 1302; ENGL 1302; MATH 2325; PHYS 1444; EXSA or ROTC—Total Credit 17 hours.

**Sophomore Year**

**First Semester:** MAE 2206; MAE 2321; MAE 2323; DG 1350; EE 2320; MATH 2326—Total Credit 17 hours.

**Second Semester:** MAE 2181; MAE 2284; MAE 2312; MAE 3310; MAE 3344; HIST 1311; MATH 3319—Total Credit 18 hours.

**Suggested Course Sequence (Upper Division)**

**Junior Year**

**First Semester:** MAE 2314; MAE 3121; MAE 3311; MAE 3319; MAE 3321; HIST 1312; POLS 2311—Total Credit 19 hours.

**Second Semester:** MAE 3183; MAE 3314; MAE 3318; MAE 3330; MAE 3342; POLS 2312; Literature, 3 hours—Total Credit 19 hours.

**Senior Year**

**First Semester:** MAE 4287; MAE 4310; MAE 4344; SPCH 3302; \*Science or Technical Elective, 3 hours; EXSA or ROTC—Total Credit 15 hours.

**Second Semester:** MAE 4188; MAE 4342; IE 3312; Fine Arts/Philosophy (elective), 3 hours; Science or Technical Electives, 6 hours; EXSA or ROTC—Total Credit 17 hours.

\* See "Technical Elective Selection," below.

**Suggested Honors Course Sequence (Pre-Engineering)**

**Freshman Year**

**First Semester:** ENGL 2301; MATH 1426; PHYS 1443; CHEM 1302; MAE 1231; EXSA, MS or Marching Band - Total Credit 17 hours.

**Second Semester:** ENGL 1302; MATH 2325; PHYS 1444; MAE 1312; HIST 1311; EXSA, MS or Marching Band - Total Credit 17 hours

**Sophomore Year**

**First Semester:** DG 1350; MATH 2326; EE 2320; MAE 2206; MAE 2413; MAE 4294 -Total Credit 17 hours.

**Second Semester:** MATH 3319; MAE 2410; MAE 2181; MAE 2284; MAE 2411; MAE 4294; EXSA, MS or Marching Band - Total Credit 17 hours.

**Suggested Honors Course Sequence (Upper Division)**

**Junior Year**

**First Semester:** MAE 3344; POLS 2311; MAE 3121; MAE 2412; MAE 4494; EXSA, MS or Marching Band - Total Credit 16 hours.

**Second Semester:** POLS 2312, MAE 3183; MAE 3410; MAE 3330; Literature; HIST 1312, MAE 4294 -Total Credits 19 hours.

**Senior Year**

**First Semester:** SPCH 3302; MAE 4293; MAE 4410; MAE 4344; \*Science or Technical Elective 3 hours; MAE 4294 - Total Credit 17 hours.

**Second Semester:** FA/PHIL, 3 hours; MAE 4193; MAE 4342; IE 3312; Science or Technical Electives 6 hours - Total Credit 16 hours.

\* See "Technical Elective Selection," below.

**Scheduling of Course Offerings**

Required courses suggested above to be taken in the Fall semester will normally be offered in the Fall and Spring semesters. Those suggested to be taken in the Spring semester will normally be offered in the Spring semester and in the long Summer session.

**Technical Elective Selection**

The nine hours of technical electives must be approved in advance by the student's counselor. Normally they must be selected from among the senior elective courses in mechanical engineering although (with prior approval of the faculty adviser) one elective may be selected from outside the department.

Each student must receive credit for at least one course from Group A (2 hours design credit) or at least two courses from Group B (1 hour design credit each).

**Group A:** MAE 4312, 4320, 4327, 4331, 4332, 4347, 4348.

**Group B:** MAE 4313, 4314, 4315, 4323, 4336, 4339, 4345.

## Department of Mechanical and Aerospace Engineering Faculty

### Acting Chair

Professor Goolsby

### AE Program Director

Professor Wilson

### Professors

Anderson, Bailey, Chan, Gaines, Haji-Sheikh, Hullender, Johnson, Joshi, Lawley, Lawrence, Mills, Nomura, Payne, Seath, Wang, Woods

### Associate Professors

Aswath, Lu, Parpia, Tong, Tuckness, You

### Assistant Professors

Gonzalez, Harris, Shiakolas

### Senior Lecturer

Kugle

Courses to be offered on a regularly scheduled basis are designated [in brackets] as follows: FA=Fall, SP=Spring, LS=Long Summer session.

## Mechanical and Aerospace Engineering (MAE)

**1231. INTRODUCTION TO MECHANICAL AND AEROSPACE ENGINEERING (2-0) 2 hours credit.** Ethics and professional conduct in an engineering organization. Basic concepts in vehicle design, power transmission, flight mechanics, aerodynamics, astronautics, combustion, propulsion, heat transfer, engineering materials, robotics and computer aided design. Student teams will engage in a design project which will require integration of some of these basic concepts.

**1312. ENGINEERING STATICS (3-0) 3 hours credit.** A study of forces and force systems, resultants and components of force systems, forces due to friction, conditions of equilibrium, forces acting on members of trusses and frame structures, centroids and moments of inertia. Vector and index notation introduced. Prerequisites: PHYS 1443 and MATH 1426.

**2181. MEASUREMENTS LABORATORY I (0-3) 1 hour credit [FA, SP, LS].** Measurement and instrumentation; basic instruments, their calibration and use. Prerequisite: MAE 2284 (or concurrent enrollment). \$15 lab fee.

**2191, 2291, 2391. SPECIAL PROBLEMS IN MECHANICAL AND AEROSPACE ENGINEERING (Variable credit, individual instruction).** Special problems in mechanical and aerospace engineering for students in the Pre-Mechanical and Pre-Aerospace Engineering Program.

**2206. DIGITAL COMPUTATION (2-0) 2 hours credit [SP, LS].** Utilization of digital computers in mechanical and aerospace engineering. Computational algorithms and their representation in FORTRAN. Prerequisite: MATH 2325 or concurrent enrollment.

**2284. INTRODUCTION TO EXPERIMENTAL METHODS (2-0) 2 hours credit [SP, LS].** Introduction to data analysis, incorporating statistics and probability, design and planning of engineering experiments for error prediction and control. Prerequisite: MATH 2325.

**2312. SOLID MECHANICS (3-0) 3 hours credit.** The relationship between stresses and strains in elastic bodies and the tension, compression, shear, bending, torsion, and combined loadings which produce them. Deflections and elastic curves, shear and bending moment diagrams for beams, and column theory. Also taught as CE 3311. Prerequisite: MAE 1312 or CE 2312.

**2314. FLUID MECHANICS I (3-0) 3 hours credit.** Fundamental concepts of fluid mechanics leading to the development of both the integral and differential forms of the basic conservation equations. Application of the integral conservation equations to engineering problems in fluid dynamics including buoyancy and other hydrostatics problems. Dimensional analysis and similitude are also discussed. Prerequisites: MAE 2323, MATH 2326 or concurrent enrollment, and MAE 3310 or concurrent enrollment.

**2321. MATERIALS SCIENCE (3-0) 3 hours credit.** Physical, mechanical, electrical, chemical properties of metals, semiconductors, ceramics, polymers, composites, and aggregates and the relationships between these properties and the electronic, crystal, micro and macrostructures of the materials. Prerequisites: CHEM 1302 and PHYS 1444.

**2322. STATICS AND SOLID MECHANICS (3-0) 3 hours credit.** Force systems, free body diagrams, equilibrium of particles, rigid bodies and structures; centroids and moments of inertia; stress and strain in elastic solids, and applications to simple engineering problems. Prerequisites: PHYS 1443, MATH 2325.

**2323. DYNAMICS (3-0) 3 hours credit.** The relation between forces acting on particles, systems of particles and rigid bodies and the changes in motion produced. Review of kinematics and vector analysis, Newton's Laws, energy methods, methods of momentum, inertia tensor and Euler's equations of motion. Prerequisites: MAE 1312 or CE 2311 and MATH 2325.

**2410. HONORS MECHANICAL DESIGN (4-0) 4 hours credit.** The relationships between stresses, strains, and deflections in elastic and plastic bodies and the loads that produce them. Simple and combined stresses and failure theories for static and variable loading. Applications of material properties and principles of solid mechanics to the analysis and design of machine structure members. Prerequisites: Admission to Honors ME, MAE 1312 or CE 1312.

**2411. HONORS THERMAL ENGINEERING I (4-0) 4 hours credit.** Basic concepts and definitions, properties of pure substance, work and heat, first law of thermodynamics, second law of thermodynamics, entropy and thermodynamics of gases, vapors and liquids in various non-flow and flow processes. Irreversibility and availability, power and heat pump cycles, property relations and equations of state, ideal gas mixtures, mixtures of gases and vapors, combustion stoichiometry, thermodynamics of combustion and compressible flow. Prerequisites: Admission to Honors ME, MATH 2326 or 2525, PHYS 1444, MAE 1312 or CE 1312, MAE 2206.

**2412. HONORS THERMAL ENGINEERING II (4-0) 4 hours credit.** The fundamental concepts of fluid mechanics with applications to engineering problems in buoyancy, hydrostatics, fluid dynamics and dimensional analysis and similitude. The fundamental laws of heat and mass transfer, including steady and unsteady conduction, convection and radiation. Prerequisites: Admission to Honors ME, MATH 2326 or 2525.

**2413. HONORS MATERIALS SCIENCE AND ENGINEERING (4-0) 4 hours credit.** Physical, mechanical, electrical and chemical properties of metals semiconductors, ceramics, polymers and composites with an emphasis on understanding fundamental issues. Relationship between the processing, micro and macro structure of materials with their properties such as strength, ductility, toughness, fatigue, fracture and creep with special emphasis on mechanical properties of metals, polymers, ceramics and composites. Prerequisites: Admission to Honors ME, CHEM 1302, PHYS 1444.

**3121. MATERIALS SCIENCE LAB (0-3) 1 hour credit [FA, SP].** Experimental studies of the basic mechanical, chemical, and physical properties of materials. Emphasis on the relationships between macroscopic properties and the corresponding influence of the atomic and microstructural nature of the materials. Prerequisite: MAE 3321 or concurrent enrollment. \$15 lab fee.

**3181. MATERIALS AND STRUCTURES LAB (0-3) 1 hour credit.** Experiments to study material behavior and deformation of structural elements common to aerospace vehicles. Prerequisite: MAE 2181. \$15 lab fee.

**3182. AERODYNAMICS AND FLUIDS LAB (0-3) 1 hour credit.** Wind tunnel experiments to study flow phenomena of aerodynamics interest, including scale testing of airfoils, wings, and aircraft. Prerequisite: MAE 3181. \$15 lab fee.

**3183. MEASUREMENTS LABORATORY II (0-3) 1 hour credit [FA, SP, LS].** Fundamental measurement techniques in mechanical engineering in the fields of thermal/fluid sciences, energy conversion, design, and systems control. Introduction of advanced instrumentation concepts. Prerequisites: MAE 1312, 2181, 2284, 2314, 3182, 3314, 3319, and EE 2320 (or concurrent enrollment). \$15 lab fee.

**3302. AERODYNAMICS OF INCOMPRESSIBLE FLOWS (3-0) 3 hours credit.** Fundamental theory of incompressible flows with applications to the prediction of aerodynamic characteristics of wings and bodies. Viscous effects on aerodynamics. Prerequisites: MAE 2314 and MATH 3319.

**3303. AERODYNAMICS OF COMPRESSIBLE FLOWS (3-0) 3 hours credit.** Fundamentals of physical and mathematical gas dynamics; isentropic, adiabatic, barotropic and Prandtl-Meyer flows; normal, oblique shocks; the shock-expansion theory; thin-airfoil and small-perturbation theory; design principles for supersonic vehicles and wind tunnels. Prerequisites: MAE 3302.

**3304. ASTRONAUTICS I (3-0) 3 hours credit.** Introduction to astronautics, the solar system, and the two-body problem. Engineering approximation for orbital transfers and vehicle staging of powered trajectories. The single vehicle to orbit problem. Design considerations for earth satellites. Prerequisite: MAE 3305.

**3305. FLIGHT DYNAMICS (3-0) 3 hours credit.** General equations of motion of a flight vehicle. Determination of aircraft performance, static stability and control. Stability derivatives, stability of uncontrolled motion, and open loop and closed loop control. Prerequisites: MAE 3302, MATH 2326.

**3309. THERMAL ENGINEERING (3-0) 3 hours credit [FA, SP, LS].** Basic concepts and definitions, properties of pure substance, work and heat, first law of thermodynamics, second law of thermodynamics, entropy, and introduction to conductive, convective, and radiative transfer. Prerequisites: MATH 2325, PHYS 1444, CE 2312, and MAE 2322 or MAE 1312.

**3310. THERMODYNAMICS I (3-0) 3 hours credit [FA, SP, LS].** Basic concepts and definitions, properties of pure substance, work

and heat, first law of thermodynamics, second law of thermodynamics, entropy, and thermodynamics of gases, vapors, and liquids in various nonflow and flow processes. Prerequisites: MATH 2325; PHYS 1444; MAE 2206; and CE 2312, or MAE 2322, or MAE 1312.

**3311. THERMODYNAMICS II (3-0) 3 hours credit [FA, SP].** Irreversibility and availability, power and heat pump cycles, property relations and equations of state, ideal gas mixtures, mixtures of gases and vapors, combustion stoichiometry, thermodynamics of combustion, and compressible flow. Prerequisites: MATH 2326 and 3319; CHEM 1302; MAE 3310. Corequisite: MAE 2314.

**3314. HEAT TRANSFER (3-0) 3 hours credit [FA, SP].** The fundamental laws of heat and mass transfer, including steady and unsteady conduction, convection, and radiation. (Previously listed as ME 3302.) Prerequisites: MATH 3319, MAE 2314, MAE 3311, and EE 2320.

**3315. AEROSPACE STRUCTURAL STATICS (3-0) 3 hours credit.** Concepts of stress/strain tensor and traction vector, differential equations of equilibrium, constitutive relations, anisotropic solids, bending and extension of advanced beams, torsion in thin-walled closed sections. Shear in advanced beams. Prerequisite: AE 2312.

**3316. AEROSPACE STRUCTURAL DYNAMICS (3-0) 3 hours credit.** Elements of analytical dynamics. Hamilton's principle, Lagrange's equation, the Ritz method, axial vibration of rods, bending vibration of bars, torsional vibration, plate buckling and buckling of rods. Prerequisite MAE 3315.

**3317. LINEAR SYSTEMS (3-0) 3 hours credit.** Time-domain transient analysis, convolution, Fourier Series and transforms, Laplace transforms and applications, transfer functions, signal flow diagrams, Bode plots, stability criteria, sampling, and Z-transforms. Prerequisite: MATH 3319. Also taught as EE 3317.

**3318. KINEMATICS AND DYNAMICS OF MACHINES (3-0) 3 hours credit [SP, LS].** The motion and interaction of machine elements. Fundamental concepts of kinematics, statics, and dynamics applied to the determination of forces acting on the parts of machines. Specific mechanisms and applications such as cams, gears, flywheels, and balancing. Prerequisite: MAE 2323.

**3319. DYNAMIC SYSTEMS MODELING AND SIMULATION (3-0) 3 hours credit [FA, SP].** Introduction to modeling and prediction of behavior of engineering systems. Analytic and numerical simulation, state-space differential equations, and Laplace transform methods. Effects of physical characteristics of system elements on system design and dynamic performance. Prerequisites: MAE 2206, 2323, and MATH 3319.

**3320. NUMERICAL ENGINEERING (3-0) 3 hours credit.** Engineering applications of digital curve fitting, numerical differentiation and integration, least squares, matrices and tensors, statistics and Monte Carlo, ODE of IVP, BVP and ABVP types and systems of ODEs. PDEs introduced. Prerequisites: Differential Equations (MATH 3318 or MATH 3319) or concurrent and a knowledge of FORTRAN.

**3321. MECHANICAL BEHAVIOR OF MATERIALS (3-0) 3 hours credit [FA, SP].** The interrelationships between processing, structure, and properties of engineering materials with emphasis on the mechanical behavior of metals, polymers, and composite materials. Prerequisite: MAE 2321.

**3330. MICROPROCESSORS (3-0) 3 hours credit [FA, SP].** Studies in design and implementation of microprocessor/microcomputer based systems for mechanical engineering application. Includes ar-



chitecture, support components, interface, and programming. Prerequisites: MAE 2206.

**3342. ENGINEERING DESIGN I (3-0) 3 hours credit [SP, LS].** Material properties and principles of solid mechanics related to the design of machine elements. Prerequisite: MAE 2312, MAE 3318. Corequisite: MAE 3321.

**3344. INTRODUCTION TO MANUFACTURING ENGINEERING (3-0) 3 hours credit [SP, LS].** Introduction to casting, forming, machining, and joining processes for metals and non-metals. Prerequisites: MAE 2312, 2321.

**3350. PRIVATE PILOT AERONAUTICS (3-0) 3 hours credit.** Principles of private flying: weather, navigation, instruments, aircraft and engine operation, radio use, visual flight planning. Designed to provide student with appropriate ground school training leading to a private pilot license. Cannot be counted for credit toward a degree in aerospace engineering.

**3410. HONORS KINEMATICS AND DYNAMICS OF MECHANICAL SYSTEMS (4-0) 4 hours credit.** The relationships between forces acting on particles, systems of particles and rigid bodies and the changes in motion produced. Review of kinematics and vector analysis, Newton's laws, energy methods, methods of momentum, inertia tensor and Euler's equations of motion. The application of the principles of kinematics and dynamics to the motion and interactions of machine elements. Both analysis and synthesis of machine elements is emphasized. Prerequisites: Admission to Honors ME, MATH 2326 or 2525, MAE 1312 or CE 1312.

**4188. DESIGN PROJECT II (1-0) 1 hour credit.** The design project from MAE 4287 continued. The design is finalized, a physical model (prototype) is manufactured and tested. Redesign and retest is accomplished as desired. The final design is documented by written report and oral presentation. Prerequisite: MAE 4287.

**4191, 4291, 4391. SPECIAL PROBLEMS IN MECHANICAL AND AEROSPACE ENGINEERING (Variable credit, individual instruction).** Special problems in mechanical and aerospace engineering for students of senior standing.

**4287. DESIGN PROJECT I (2-0) 2 hours credit.** Team engineering approach to a design project that integrates engineering knowledge from several courses. Problem definition and creative synthesis of prospective design solutions. Engineering proposals, feasibility studies, trade-off studies, systems models and analysis, decision making, and engineering reports and presentations. Professionalism, ethics, and societal impact issues. Prerequisite: must be within two calendar semesters of graduation (possibly including an 11-week summer session).

**4294, 4494. HONORS MECHANICAL ENGINEERING PROBLEMS (variable credit, individual instruction).** A problem course designed to meet the needs of mechanical engineering undergraduate students in the honors program. This course may be repeated for credit as approved by the ME undergraduate advisor. Prerequisite: Admission to Honors ME.

**4301. SPECIAL TOPICS IN MECHANICAL AND AEROSPACE ENGINEERING (3-0) 3 hours credit.** Topics will vary from semester to semester depending on student interest and the availability of faculty. May be repeated, provided topics are different. Prerequisite: prior approval by the student's advisor.

**4302. HELICOPTER DYNAMICS/AERODYNAMICS (3-0) 3 hours credit.** Blade flapping motion; hub types and number of blades; in-plane and torsional deflections; aerodynamic fundamentals. Aeroelastic effects and couplings; coupling between rotor and

fuselage; ground resonance; fuselage vibrations; preliminary design considerations.

**4304. ASTRONAUTICS II (3-0) 3 hours credit.** The restricted three-body problem, the n-body problem and approximations. Interplanetary transfers. Design considerations for both manned and unmanned interplanetary vehicles. Prerequisite: MAE 3304.

**4307. FINITE ELEMENT METHODS (3-0) 3 hours credit.** Static response of complex structures and continua; application to field problems; mesh generation; error estimation and adaptive refinement. Prerequisite: MAE 3342

**4310. INTRODUCTION TO AUTOMATIC CONTROL (3-0) 3 hours credit [SP, LS].** Block diagram algebra, transfer functions, and stability criteria. The use of transient response, frequency response, and root locus techniques in the performance analysis, evaluation, and design of dynamic systems. Prerequisite: MAE 3319. Also offered as EE 4314.

**4312. CONTROL SYSTEMS COMPONENTS (3-0) 3 hours credit.** The components used in mechanical, electronic, and fluid power control systems. Modeling and performance analysis are used to help in the understanding of system behavior. Prerequisite: MAE 4310 or permission of instructor.

**4313. FLUID MECHANICS II (3-0) 3 hours credit.** A continuation of MAE 2314, consisting of a study of boundary-layer flows, inviscid incompressible flow, compressible flow, aerodynamic surfaces, and turbomachinery. Prerequisite: MAE 2314. \$15 lab fee.

**4314. MECHANICAL VIBRATIONS (3-0) 3 hours credit.** Harmonic and periodic motion including both damped and undamped free and forced vibration. Single- and multidegree-of-freedom systems. Matrix techniques suitable for digital computer solution. Prerequisites: MATH 3319 and MAE 2323.

**4315. INTRODUCTION TO COMPOSITES (3-0) 3 hours credit.** Composite classification, laminate coding, fabrication, processing and properties of composite laminates, point stress analysis and failure prediction of composite laminates, material allowables, issues in composite structural design. Prerequisite: MAE 1312, 2312, 2322 or CE 3311.

**4320. HYDRAULIC AND PNEUMATIC SYSTEMS (3-0) 3 hours credit.** The fundamentals of fluid mechanics as applied to hydraulic and pneumatic hardware. Mathematical models of pumps, motors, pistons, accumulators, valves, and transmission lines. Design and analysis procedures for implementing total fluid power systems with high operating efficiencies and adequate dynamic response characteristics. Theory is supported by laboratory demonstrations. Prerequisites: MAE 2314 and 4310 or permission of instructor.

**4321. AIR-BREATHING ENGINE PROPULSION (3-0) 3 hours credit.** First course of a two-semester sequence for students interested in aerospace propulsion. Development of thrust and efficiency relations, cycle analysis for ramjet, turbojet, and turbofan engines, component design and performance analysis, off-design performance analysis. Prerequisite: MAE 3303 or MAE 3311.

**4322. ROCKET PROPULSION (3-0) 3 hours credit.** Examines chemical, nuclear, and electrical propulsion concepts. Development of design and performance analysis methods. Flight performance of rocket-powered vehicles. Prerequisite: MAE 3303 or MAE 3311.

**4323. ENERGY CONVERSION (3-0) 3 hours credit.** Thermodynamics as applied to thermo-mechanical systems such as power cycles, engines, turbines, refrigeration, and air-conditioning systems. Prerequisites: MAE 3311 and 2314.

**4327. HEATING, VENTILATION, AND AIR CONDITIONING (3-0) 3 hours credit.** Application of engineering sciences to design of HVAC systems. Humidification and dehumidification, psychrometric charts, heat load, cooling load, degree-days, comfort zones, and air distribution systems. Prerequisites: MAE 3311 and 3314.

**4331. DESIGN FOR MANUFACTURING (3-0) 3 hours credit.** Manufacturing methods and operations. The interaction between design and manufacturing stressed in terms of drawing specifications versus process capability and tolerances, including standards applications and redesign for producibility. Prerequisites: MAE 2321, 3342, and 3344.

**4332. OPTIMUM MECHANICAL DESIGN (3-0) 3 hours credit.** Mathematical approximations, manufacturing errors, and factor of safety. A method of optimum design is formulated and applied to a number of mechanical elements. Prerequisite: MAE 3342.

**4336. ADVANCED MECHANICAL BEHAVIOR OF MATERIALS (3-0) 3 hours credit.** Concept of stress and strain, theory of plasticity; elementary dislocation theory. Deformation of single crystals; strengthening mechanisms like solid solution strengthening, and precipitation hardening. Fracture mechanics; microscopic aspects of fracture, fatigue, and creep of materials; design and processing of materials for improved mechanical properties. Prerequisites: MAE 2312, 3321.

**4337. PHYSICAL METALLURGY (3-0) 3 hours credit.** The scientific background to the properties of metals and alloys with special problems in physical metallurgy. Prerequisite: MAE 3321.

**4338. FAILURE ANALYSIS (2-3) 3 hours credit.** Theory and practice of techniques for determining modes of failure and fracture of engineering materials. Prerequisite: MAE 3321.

**4339. FRACTURE MECHANICS (3-0) 3 hours credit.** Theory and applications of fracture mechanics. Stress analysis of cracks, crack-tip plasticity, fatigue crack growth, and stress corrosion cracking. Applicability to materials selection, structural design, failure analysis, and structural reliability. Prerequisites: MAE 2312, 3321, 3342.

**4342. ENGINEERING DESIGN II (3-0) 3 hours credit [SP, LS].** A continuation of Engineering Design I. Emphasis on the design of mechanical elements and system synthesis. Prerequisites: MAE 3318 and 3342.

**4344. COMPUTER-AIDED DESIGN (3-0) 3 hours credit [FA, SP].** A study of the principles of computer-aided design in mechanical engineering. Applications in machine, structural, control, thermal, and fluid systems. Prerequisites: MAE 2206, 3319, and 3342.

**4345. INTRODUCTION TO ROBOTICS (3-0) 3 hours credit.** Overview of industrial robots. Principles of kinematics, dynamics, control as applied to robotic systems; robotic sensors and actuators; path planning; programming an industrial robot in the laboratory; survey of application of robots in manufacturing; and guidelines to robot arm selection. Prerequisites: MAE 3318, 3319. Corequisite MAE 4310. Also offered as EE 4315.

**4347. HEAT EXCHANGER DESIGN (3-0) 3 hours credit.** Design procedure system evaluation; design parameters in heat exchangers. The course considers various heat exchanger configurations and includes student design projects. Prerequisite: MAE 3314.

**4348. COOLING OF ELECTRONIC PACKAGES (3-0) 3 hours credit.** The calculation of heat loads and temperature fields using different cooling techniques. Includes parameter evaluation and design studies. Prerequisites: MAE 3309 or 3310 or 3314 and senior standing in engineering or science.

**4350. AEROSPACE VEHICLE DESIGN I (3-0) 3 hours credit.** Methodology and decision making involved in the preliminary design of aerospace vehicles. Applications to meet vehicle requirements and mission specifications, including conceptual design, preliminary sizing, trade-off studies, weight, and cost estimates. Prerequisites: MAE 3303, MAE 3305 and concurrent enrollment in MAE 4321.

**4351. AEROSPACE VEHICLE DESIGN II (3-0) 3 hours credit.** Applications of design methods to aircraft, space vehicles, vehicle propulsion systems, vehicle structural systems, or other vehicle systems. Design optimization through trade-off studies and iterative techniques. A formal design report will be required. Oral presentations will be required. Prerequisite: MAE 4350.

**4352. SPACE VEHICLE AND MISSION DESIGN (3-0) 3 hours credit.** Space vehicle design; influence of space environment, astrodynamics, and atmospheric re-entry. Space vehicle sub system design; propulsion, attitude determination and control, structural design, thermal control, power and telecommunications. Investigation into mission design concepts and considerations. Prerequisite: MAE 2323 and MATH 2326.

**4390. SPECIAL TOPICS IN MECHANICAL ENGINEERING (3-0) 3 hours credit.** Special topics pertinent to the field of mechanical engineering will vary from semester to semester depending on the availability of faculty. May be repeated, provided that topics are different. Prerequisite: prior approval by the student's advisor.

**4410. HONORS DYNAMIC SYSTEMS AND CONTROL (4-0) 4 hours credit.** Introduction to modeling and simulation (prediction of behavior) of dynamic engineering systems. Analytic and numerical simulation, state-space differential equations and Laplace transform methods. Effects of physical characteristics of system elements on system design and performance. Block diagram algebra, transfer functions and stability criteria. Use of transient response, frequency response and root locus techniques in performance analysis, evaluation and design of dynamic systems. Prerequisites: Admission to Honors ME and Math 3319.

## Other Engineering Subject Areas

Courses are offered in several other areas of engineering at either the undergraduate or graduate level, but no undergraduate degrees are offered in these areas. These areas are described in the following sections and in the graduate catalog.

## Biomedical Engineering

Undergraduate degree emphasis areas have been developed for students in aerospace engineering, civil engineering, computer science and engineering, electrical engineering, industrial engineering, and mechanical engineering to develop fundamental knowledge in the field of biomedical engineering. With the permission of the department's undergraduate advisor, a student may enroll in courses listed below and obtain an emphasis in biomedical engineering. Ordinarily, the student will take these courses as technical electives, free electives and science electives. The purpose of the program is to expose students to an emerging branch of engineering. The program is restricted to students having an overall grade point average of at least 2.75. Students should contact the graduate advisor of the Biomedical Engineering Program for additional information.

Elective courses for students who wish to obtain an emphasis in biomedical engineering:

**BME 4325:** Introduction to Biomedical Engineering.

Recommended lists of courses for non-engineering majors are available from the program graduate advisor.

## Biomedical Engineering Faculty

### Director

Professor Eberhart

### Professor

Chuong

### Associate Professor

Behbehani

### Assistant Professors

Liu, Nelson

## Biomedical Engineering (BME)

**4325. INTRODUCTION TO BIOMEDICAL ENGINEERING (3-0) 3 hours credit.** Major physiological systems. More than 10 biomedical engineering lecturers illustrate the application of engineering concepts and techniques to understand, define, and solve problems in biology and medicine. Prerequisite: junior or senior standing in engineering or science.

## Design Graphics Section (DG)

Design Graphics courses are administered through a section of the Department of Civil and Environmental Engineering.

**1350. GRAPHICS FOR ENGINEERS (2-3) 3 hours credit.** Free-hand, instrumental, and computer graphics, including CAD systems and graphical representation of data using microcomputer software. Emphasis on the use of computer software in the graphical process to originate ideas and to solve engineering problems and generate graphical representations to solutions. Prerequisite or co-requisite: MATH 1426. \$10 course specific fee. \$5 lab fee.

## Engineering Mechanics (EM)

A group of fundamental service courses, several of which are common to all engineering curricula, is taught in the subject area of engineering mechanics. Listings of these courses are included under aerospace, civil, and mechanical engineering course descriptions.

## Engineering (ENGR)

The following courses are administered through the Office of the Dean of Engineering.

**2100, 3100, 4100. SUPERVISED ENGINEERING WORK EXPERIENCE 1 hour credit.** For cooperative education students in engineering. These courses are taken during the semester, or summer in conjunction with supervised work experience in industry. Students are paid a salary during this time in industry. Those who are successful and complete the program normally receive credit toward their degree as a consequence of the industrial experience and may be eligible for a scholarship from the co-op company. Each student will prepare a technical report based upon the student's work experience. The co-op coordinator will establish the requirements for the report. Prerequisite: Acceptance into and continuance in the Engineering Cooperative Education Program. May be repeated.

**2301. FOUNDATIONS FOR ENGINEERING DESIGN OF PHYSICAL SYSTEMS (3-0) 3 hours credit.** Introduction to the analysis and design of mechanical systems based on the engineering applications of basic mathematics and physics. Prerequisites: PHYS 1443 and MATH 1426.

**2302. FOUNDATIONS FOR ENGINEERING DESIGN OF ELECTRICAL AND ELECTRONIC SYSTEMS (3-0) 3 hours credit.** Introduction to the analysis and design of electrical and electronic systems based on the engineering applications of basic mathematics and physics. Prerequisites: PHYS 1444 and MATH 2325.

## Materials Science (MATS)

A group of fundamental service courses in materials science is offered in the Department of Electrical Engineering and the Department of Mechanical and Aerospace Engineering at the undergraduate level.

# Aerospace Studies (Air Force ROTC)

The United States Air Force Reserve Officer Training Corps (AFROTC) provides men and women at Texas Christian University, Texas Wesleyan University, Dallas Baptist University, The University of Texas at Arlington, Weatherford College, and Tarrant County Junior College the education and training necessary to develop the management and leadership skills vital to professional Air Force officers.

Enrollment in the General Military Course (first two years) is voluntary for eligible students and does not obligate non-scholarship students for further military service. The Professional Office Course (last two years) is also voluntary but competitive. Because the POC leads to a commission in the U.S. Air Force, those selected to continue training may incur military obligation.

Aerospace Studies courses are taken concurrently with other degree programs. No degree is offered in Aerospace Studies, but up to 24 semester hours may be earned in Aerospace Studies over the four-year period. Students who enroll in Aerospace Studies must attend both classroom and leadership laboratory classes at Texas Christian University, 2800 W. Lowden St., Fort Worth, Texas. The laboratory classes give students firsthand experience in leadership and organizational skills while preparing them for enrollment in the Professional Officer Course.

## Programs Available

**Four-Year Program:** This program enables students to take advantage of four years of aerospace studies courses. Each semester for the first two years, cadets take a one-credit hour academic class and a one-credit hour pass/no credit Leadership Laboratory (LLab). The first two years collectively are referred to as the **General Military Course (GMC)**. Upon successful completion of the GMC and an ensuing four-week Air Force paid field training course, qualified and selected students may elect to enroll in the **Professional Officer Course (POC)**. Each semester in the POC, students will take a three-credit hour academic class and a one-credit hour pass/no credit LLab. AFROTC uniforms and textbooks are issued by the unit.

**Two-Year Program:** This program enables transfer students and other students who were unable to enroll or did not complete the GMC to obtain a commission in the United States Air Force. Prior to being selected for and enrolling in the POC, students are required to attend and complete a six-week field training course. Undergraduate and graduate students meeting criteria are eligible to enroll in this program.

Students electing this option must apply to the Professor of Aerospace Studies early in their sophomore semester, pass the Air Force Officer Qualifying Test, and pass a physical examination prior to attending the six-week field training course. Two-year students enrolled in the POC receive similar benefits and advantages to those enrolled in the four-year program, including the opportunity to apply for various Air Force ROTC college scholarships. Students selected for the POC are entitled to \$150 per month subsistence allowance, uniforms, and certain other benefits.

Upon successful completion of the AFROTC program and baccalaureate degree, a student will be commissioned a second lieutenant

in the United States Air Force. Newly commissioned officers normally can expect to be called into active service within 60 days from the date of their commissioning. In certain instances, active service can be delayed by students continuing in post-baccalaureate degree programs.

## General Qualifications

A student enrolling in AFROTC must:

- Be a full-time student (12 semester hours or more)
- Be a United States citizen
- Be in good physical condition
- Have good moral character
- Be no older than 29 years old (up to 34 years old with waivers) upon commissioning

## Scholarships

Air Force ROTC offers four-, three-, and two- and one-year (in some situations) scholarships. Most scholarships pay for tuition, textbooks, and fees plus a \$150 (non-taxable stipend) per month during the school year. Scholarships are offered in various majors. In addition to meeting general qualifications mentioned above, scholarship applicants must be at least 17 years old when the scholarship is activated and must be under 27 years old as of June 30 of their commissioning year. Individuals with previous military experience may obtain a year extension of the maximum age restriction for each year of prior service, up to age 29. Requirements for each scholarship category may vary; therefore, applicants should contact the department at (817) 921-7461 for specific details.

Applications for a four-year scholarship must be submitted by December 1 of the high school senior year. Applications for other scholarships are made through the Aerospace Studies Department. Scholarship applicants are selected using the "whole person" concept which includes objective factors (grade point average, physical fitness test and 1 1/2-mile run) and subjective factors (personal evaluations). Students who are enrolled in Air Force ROTC generally improve their scholarship selection opportunity.

## Program Benefits

As Air Force ROTC cadets, students are entitled to selective benefits. Social and extracurricular activities, together with leadership and academic training, are all part of Air Force ROTC. Students receive a non-taxable subsistence allowance of \$150 each month during the school year if they are in the POC or are a College Scholarship Program recipient. The department sponsors a Civil Air Patrol where cadets can obtain front-seat and back-seat flying time in Cessna aircraft for a small fee. Drill team, honor guard, Arnold Air Honor Society, Angels Service Organization, and Officer Christian Fellowship are just a few social outlets for the cadets. Summer op-

opportunities for cadets can include a visit to a military installation for 10 days, freefall, parachuting and soaring at the United States Air Force Academy, flight nurse shadowing, and cadet training officers duty at field training. These are only a few opportunities paid for by the Air Force.

## Course Substitution

Aerospace studies (AFROTC) courses may be taken for credit toward completion of a college degree. AS 1000/2000-level courses may be taken with or in lieu of exercise and sport activities (EXSA) or marching band. Upper level courses (AS 3000/4000 level) may be applied toward elective requirements. Credit will vary depending upon major.

## Additional Information

More detailed information about the Air Force ROTC program is available through the Department of Aerospace Studies. The department is located at 2800 W. Lowden St., on the Texas Christian University campus. The telephone number is (817) 921-7461. You also may call 1-800-TCU-FROG and ask admissions to connect you.

## Aerospace Studies Faculty

### Chair

Professor Householder

### Adjunct Assistant Professors

Nickell, Summers, Thomas

## Aerospace Studies (AS)

### General Military Course (GMC)

**1121. THE AIR FORCE TODAY I (1-0) 1 hour credit.** Introduces students to the U.S. Air Force and Air Force Reserve Officer Training Corps. Featured topics include: mission and organization of the Air Force, officership and professionalism, military customs and courtesies, Air Force officer opportunities, group leadership problems, and an introduction to communication skills. Leadership Laboratory is mandatory for Air Force ROTC cadets, and it complements this course by providing cadets with followership experiences. Fall.

**1122. THE AIR FORCE TODAY II (1-0) 1 hour credit.** A continuation of AS 1121. Leadership Laboratory is mandatory for Air Force ROTC cadets, and it complements this course by providing cadets with followership experiences. Prerequisite: AS 1121. Spring.

**1181. LEADERSHIP LABORATORY (0-1) 1 hour credit.** The first two years include a study of Air Force customs and courtesies, drill and ceremonies, issuing military commands, instructing, directing and evaluating the preceding skills, studying the environment of an Air Force officer and learning about areas of opportunity available to commissioned officers. The last two years consist of activities classified as advanced leadership experiences. They involve the planning and controlling of military activities of the cadet corps; the preparation and presentation of briefings and other oral and written com-

munications; and the providing of interviews, guidance, and information which will increase the understanding, motivation, and performance of other cadets. Mandatory for all Aerospace Studies students. May be repeated for additional credit.

**2121. THE AIR FORCE WAY I (1-0) 1 hour credit.** Facilitates the transition from Air Force ROTC cadet to Air Force ROTC candidate. Featured topics include: Air Force heritage, Air Force leaders, Quality Air Force, an introduction to ethics and values, introduction to leadership, group leadership problems, and continuing application of communication skills. Leadership Laboratory is mandatory for Air Force ROTC cadets, and it complements this course by providing cadets with their first opportunity for applied leadership experiences discussed in class. Prerequisite: AS 1121, 1122, or permission of the Professor of Aerospace Studies. Fall.

**2122. THE AIR FORCE WAY II (1-0) 1 hour credit.** A continuation of AS 2121. Leadership Laboratory is mandatory for Air Force ROTC cadets, and it complements this course by providing cadets with their first opportunity for applied leadership experiences discussed in class. Prerequisite: AS 1121, 1122, or permission of the Professor of Aerospace Studies. Spring.

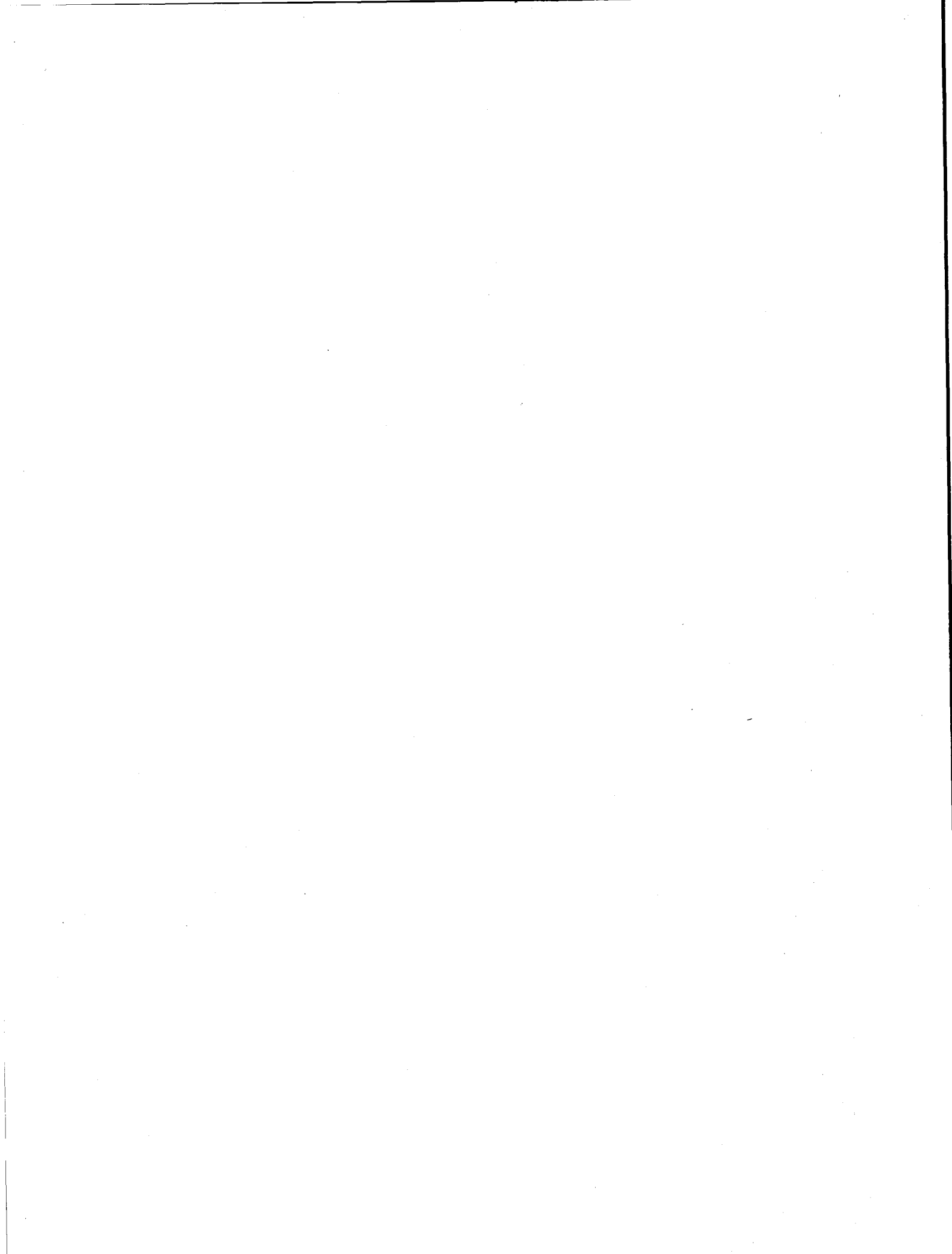
### Professional Officer Course (POC)

**3301. AIR FORCE LEADERSHIP AND MANAGEMENT I (3-0) 3 hours credit.** A study of leadership and quality management fundamentals, professional knowledge, leadership ethics, and communication skills required of an Air Force junior officer. Case studies are used to examine Air Force leadership and management situations as a means of demonstrating and exercising practical application of the concepts being studied. A mandatory Leadership Laboratory complements this course by providing advanced leadership experiences in officer-type activities, giving students the opportunity to apply leadership and management principles of this course. Prerequisite: Completion of GMC (lower-level courses) or accreditation by the Professor of Aerospace Studies, successful completion of summer training, and permission of the Professor of Aerospace Studies. Fall.

**3311. AIR FORCE LEADERSHIP AND MANAGEMENT II (3-0) 3 hours credit.** A continuation of AS 3301. A mandatory Leadership Laboratory complements this course by providing advanced leadership experiences in officer-type activities, giving students the opportunity to apply leadership and management principles of this course. Prerequisite: AS 3301. Spring.

**4301. PREPARATION FOR ACTIVE DUTY I (3-0) 3 hours credit.** Examines the national security process, regional studies, advanced leadership ethics, Air Force doctrine. Special topics focus on the military as a profession, officership, military justice, civilian control of the military, preparation for active duty, and current issues affecting military professionalism. Within this structure, continued emphasis is given to refining communication skills. An additional Leadership Laboratory complements this course by providing advanced leadership experiences, giving students the opportunity to apply the leadership and management principles of this course. Prerequisite: AS 3311. Fall.

**4311. PREPARATION FOR ACTIVE DUTY II (3-0) 3 hours credit.** A continuation of AS 4301. An additional Leadership Laboratory complements this course by providing advanced leadership experiences, giving students the opportunity to apply the leadership and management principles of this course. Prerequisite: AS 4301. Spring.



# The College of Liberal Arts

210 University Hall • Box 19617 • 817-272-3291

The College of Liberal Arts offers its students and all the students of the University an opportunity to broaden and deepen their understanding and appreciation of human experience and to develop a creative and constructive set of values in dealing with life decisions. The pace of societal change demands that students be prepared to confront new problems and to evaluate new ideas and strategies consciously and conscientiously. To live richly and purposefully in an increasingly complex milieu calls for an integrated vision of self, society, and the cosmos. Experience in the college is designed to help the student generate such a vision.

The college promotes this experience in the following ways:

- By helping students develop the tools for analysis, appreciation and communication; for written and oral expression; for comprehension, interpretation, and analysis of textual material; for analytic reasoning and scientific method; and for appreciation of aesthetic experience;
- By helping students prepare for professions or careers by offering specialized major programs; and
- By helping students understand and evaluate critically their cultural milieu—the attitudes and ideas that shape institutions and strategies in contemporary society.

The humane endeavor to bring order out of chaos, to motivate individuals toward the common good and to design and support the good life requires an awareness of the cultural matrices, past and present, which generate such efforts. The disciplinary units of the college provide appropriate perspectives on the individual, society, and the cosmos; the various disciplines taken together offer the student an experience of the range of data, issues, and methods that may be integrated in a comprehensive and contemporary vision of the human condition. The faculty of the college seek to prepare students to contribute through service in the community and the nation to the betterment of their own lives and the lives of others.

## Programs

The College of Liberal Arts, in order to realize these objectives, offers programs of studies in 13 academic units. These units offer majors leading to bachelor's degrees:

<b>Art and Art History</b>	<b>History</b>
<b>Classical Studies</b>	<b>Music</b>
<b>Communication</b>	<b>Philosophy</b>
<b>Criminology and Criminal Justice</b>	<b>Political Science</b>
<b>English</b>	<b>Sociology and Anthropology</b>
<b>Exercise/Sport/Health Studies</b>	<b>Theatre Arts</b>
<b>Foreign Languages</b>	

The Center for Professional Teacher Education, in cooperation with the College of Liberal Arts, offers programs leading to elementary, secondary, and all-level certification. The College also offers an interdisciplinary program leading to an undergraduate degree in interdisciplinary studies. Military Science offers a program that leads to a commission in the U.S. Army. The Center for Post-Soviet and East European Studies, the Asian Studies Committee, the Latin American Studies Committee, the Women's Studies Committee, the Religious Studies Committee, and the Southwestern Studies Committee coordinate area studies programs.

## Admission to the College of Liberal Arts

Students with a GPA of 2.25 or higher who meet U.T. Arlington residence and core-hour requirements for application to a major will be admitted to that major. Students with a GPA of 2.0 or higher who have completed 42 hours in residence and 42 hours in core courses will be admitted to any major on a space-available basis, as determined by the relevant department or program.

Individual departments and programs in the College of Liberal Arts may set requirements more specifically and restrictively than those stipulated in the Core Curriculum statement (See Degree Program), and may set additional requirements for admission to the major. Information may be obtained in department and program offices.

## Liberal Arts Major/ Business Administration Minor

It is possible for a student to combine an undergraduate major in a liberal arts discipline (anthropology, art, communication, English, foreign languages, history, philosophy, exercise/sport/health studies, political science) with a minor in business administration. Depending upon the student's major area and interests, and provided prerequisites have been fulfilled, any 18 hours, six of which must be advanced, may be selected from the College of Business Administration.

Liberal Arts majors planning to pursue a Master of Business Administration degree are advised to select a minor (18-24 semester hours) from the following courses: ACCT 2301, 2302, BUSA 2301, 2303, 3306, 3321, MANA 3319, FINA 3313, MARK 3321, and ECON 2305, 2306. In addition, MATH 1315 and 1316 are recommended to fulfill the mathematics requirement.

Completion of the above courses will allow the student, subject to normal graduate admission requirements, to reduce the foundation MBA program requirements. A student not completing all of the courses identified above will be required to enroll in the appropriate MBA foundation courses. All students minoring in business administration who may wish to pursue the MBA degree should consult with an Undergraduate Advisor in the College of Business Administration.

## Double Majors

Students in the College of Liberal Arts may obtain a double major by completing all requirements for a degree in any one of Liberal Arts' disciplines plus the major area requirements in any other discipline in the College of Liberal Arts. Requirements in the second major will fulfill the minor requirement. The diploma and transcript will reflect both majors.

## Pass-Fail

Any student majoring in the College of Liberal Arts may, with the permission of an advisor from his/her major department, take any course on a pass-fail basis, provided that the course is not required for the student's degree and provided the student has sophomore standing (30 hours credit). Students seeking teacher certification may not take education courses on a pass-fail basis with the exception of student teaching which is offered only on a pass-fail basis. Junior-senior level military science courses also may not be taken on a pass-fail basis.

# The Department of Art and Art History

335 Fine Arts Bldg. • Box 19089 • 817-272-2891

Art is a way of expressing and exploring who we are and what we are about as individuals and as a society. The department's mission is twofold. The studio program stresses innovative approaches to both traditional and emergent technologies. Art history addresses questions of purpose and value in art.

Students working toward degrees in art or art history are constantly challenged to think in experimental and creative as well as disciplined and established ways. As they take their places in a changing and increasingly complex world, they can choose among such varied options as teaching, design, graphic communication, studio art, scientific illustration, curatorial and conservation work, museum direction and gallery management, art historical research, art journalism, and film or video production.

The B.F.A. degree program offers intensive pre-professional preparation in the field of studio art. This program is designed for those aspiring to work in their field of interest as professionals or to enter graduate school upon completion of the degree. The B.F.A. degree has two emphases: Fine Arts (for students majoring in painting, drawing, printmaking, sculpture, clay, or metals) and Media Arts (for students majoring in photography, graphic design, or video). The B.A. in art history emphasizes historical research, preparing students for graduate work in art history or museum studies.

In addition to fulfilling University and the College of Liberal Arts requirements for admission, students planning to be majors in Studio Art must also fulfill the following requirements:

- 12 hours of art foundation courses with a 2.5 GPA and/or a portfolio review by a departmental committee of three faculty members (representatives from Fine Arts, Media Arts, and the chair or assistant chair).
- For transfer students: 6 hours in the major with a 2.5 GPA and/or a portfolio review.

In addition to fulfilling University and the College of Liberal Arts requirements for admission, students planning to be majors in Art History must also fulfill the following requirements:

- 9 hours of art history courses (1309, 1310, and 2300) with a 3.0 GPA and/or paper review.
- For transfer students: ART 2300 and faculty review of work.

The Center for Research in Contemporary Art is an exceptionally valuable resource for students in the department. CRCA (pronounced "circa") presents a full program of major exhibitions in its 4,000-square-foot gallery, including lectures, symposia, screenings, and publications. CRCA's program demonstrates the complementary roles of visual and verbal literacy.

Situated in the midst of two major metropolitan cities, each supporting a nationally significant cultural community, both the Department of Art and Art History and CRCA extend and enhance their programs through co-sponsorship of projects with these museums, off-campus courses, and student internships. This unique blend of resources and programs gives graduates of the department a distinctive point of view and better prepares them to make the transition into a challenging professional world.

## Requirements for a Bachelor of Arts Degree in Art History

The B.A. in art history is intended to provide a strong academic preparation for scholarly research and further study at the graduate level. In this degree program, the 18-hour minor requirement may be in studio art. Other suggested fields for the minor are history, literature, anthropology, psychology, philosophy, and foreign languages. Students seeking the B.A. degree in art history must complete all the requirements established by the College of Liberal Arts for the B.A. degree and an additional three hours of a 3000/4000-level history course.

Students are advised to complete the core requirements (the two-part survey and ART 2300) before beginning work in 3000/4000-level art historical courses. Students are required to take at least one course in each of the three groups: Ancient to Medieval (Group I), Medieval to Modern (Group II), and Modern (Group III). One course in a studio medium is required (prerequisites will be waived for art history majors). Art history majors may take an additional studio course in their 30 hours of 3000/4000-level art historical studies, as well as utilizing their elective hours for this purpose.

### English

Six hours of composition.

### Literature

Three hours of English or foreign language literature or other approved substitute.

### Liberal Arts Elective

Three hours above the freshman level of literature, or social and cultural studies designated as taught in the College of Liberal Arts, or fine arts or philosophy, or technical writing.

### Foreign Language

1441, 1442, 2313, and 2314 or equivalent.

### Political Science

2311, 2312.

### History

1311, 1312, and three advanced hours.

### Mathematics

Six hours (level of college algebra or higher).

### Science

11 hours of science—eight hours in single lab science (biology, chemistry, geology, or physics) and three hours in science or approved social science.

### Fine Arts and Philosophy

Three hours from architecture, art, dance, music, philosophy or theatre arts.

### Social/Cultural Studies

Three hours of designated courses in archaeology, classical studies, communication, economics, history, humanities, linguistics, political science, social or cultural anthropology, social/political/cultural geography, social psychology, sociology or women's studies.

### Electives

Sufficient to complete the total number of hours required for the degree.



**Major**

42 hours to include 1309, 1310, 2300, three hours of studio art work, and 30 hours advanced art history, with at least one course chosen from each of the following three groups:  
**Group I (Ancient to Medieval):** 3301, 3302, 3305, 3306, 3320, 4302, 4303, 4304, 4317.

**Group II (Medieval to Modern):** 3307, 3308, 3309, 3312, 3313, 3315, 3325, 3327, 3331, 4306, 4330.

**Group III (Modern):** 3310, 3311, 3313, 3314, 3315, 3331, 3389, 4310, 4314, 4315.

(An additional three hours of studio work may be included in these 30 advanced hours).

**Minor**

18 hours, at least six of which must be 3000/4000 level.

**Total**

128 hours, of which at least 36 must be 3000/4000 level, plus exercise and sport activities (EXSA) or ROTC or marching band as required.

## Requirements for a Bachelor of Fine Arts Degree in Art

Students who are interested in a B.F.A. may choose from two areas of emphasis, fine arts or media arts. The fine arts emphasis expands aesthetic awareness, and develops personal expression in clay, drawing, metals, painting, printmaking, and sculpture. The media arts emphasis explores concerns related to contemporary applications of graphic design, new genres, photography, and television/video.

Regardless of which emphasis is elected, students are advised to complete foundation requirements before beginning work in the concentration.

**English**

Six hours of composition.

**Literature**

Three hours of English or foreign language literature or other approved substitute.

**Liberal Arts Elective**

Three hours above the freshman level of literature, or social and cultural studies designated as taught in the College of Liberal Arts, or fine arts or philosophy, or technical writing.

**Foreign Language**

1441 or equivalent, and 1442.

**Political Science**

2311, 2312.

**History**

1311, 1312.

**Science**

11 hours of science—eight hours in single lab science (biology, chemistry, geology, or physics) and three hours in science or approved social science.

**Mathematics**

Six hours (level of college algebra or higher).

**Fine Arts and Philosophy**

Three hours from architecture, art, dance, music, philosophy, or theatre arts.

**Social/Cultural Studies**

Three hours of designated courses in archaeology, classical studies, communication, economics, history, humanities, linguistics, political science, social or cultural anthropology, social/political/cultural geography, social psychology, sociology or women's studies.

**Electives**

Sufficient to give the total number of hours required for a degree.

**Major****Fine Arts Emphasis****Foundation**

18 hours including 1307, 1309, 1310, 2308; and six hours to be selected from 1304, 1305, or 1306.

**Concentration**

49 hours in the field of art/art history as recommended by the major advisor to include three hours of upper level 2-D courses from 3343, 3347, 3348, 3349, 3371, 4393; three hours of upper level 3-D courses from 3341, 3342, 3353, 3363, 4366; three hours of media courses (Graphics, Photography, Video); ART 4100; and six hours of advanced art history in two different groups from the following:  
**Group I (Ancient to Medieval):** 3301, 3302, 3305, 3306, 3320, 4302, 4303, 4304, 4317.

**Group II (Medieval to Modern):** 3307, 3308, 3309, 3312, 3313, 3315, 3325, 3327, 3331, 4306, 4330.

**Group III (Modern):** 3310, 3311, 3313, 3315, 3331, 3389, 3391, 3392, 4310, 4314, 4315.

**Media Arts Emphasis****Foundation**

24 hours including 1304, 2354 or 2355, 2358, 2359, 1309, 1310; three hours media art history from 3310, 3391, 3392, 4310; three hours upper level art history from 3310, 3311, 3313, 3314, 3315, 3331, 3389, 3391, 3392, 4310, 4314, 4315. Some of the above courses have prerequisites.

**Concentration**

40 hours in the field of art/art history as recommended by the major advisor including three hours upper level, non-media art from 3341, 3342, 3343, 3347, 3348, 3349, 3353, 3371, 4342, 4343, 4345, 4353, 4371, 4373; three hours of upper level 3-D from 3341, 3342, 3353, 3363, and 4100. Prerequisites on non-media and 3-D courses will be waived.

**Total**

128 hours, of which at least 36 must be 3000/4000 level, plus exercise and sport activities (EXSA) or ROTC or marching band as required.

## Minor in Art

Students interested in art as a minor (whether in studio, art history, or a combination of the two) should consult an Art Department advisor to determine the most advantageous selection of courses in the light of their interests and experience. With such consultation, departmental prerequisites may be waived for the purposes of a minor.

## Department of Art and Art History Faculty

### Chair

Associate Professor North

### Professor

Anderson

### Associate Professors

Arday, Henderson, Keens, Maroney, Plummer, Scott,

Spurlock, Stegall, Travis, Wood, Wright

### Assistant Professors

Geller, Graham, Hart, Palmeri, Vaccaro

## Art (ART)

### Art Studio

Prefix and number in parentheses following the U.T. Arlington course number and title is the Common Course Number designation.

#### **1304. SIGHT, SOUND, AND PERCEPTION (2-4) 3 hours credit.**

The media arts with emphasis on color, light, sound, timing, and perception in electronic, photographic, and graphic arts media. \$25 special fee.

#### **1305. VISUAL CONCEPTS (2-4) 3 hours credit (ARTS 1311).**

The principles and elements of two-dimensional design as expressed through concepts and problems with various media and techniques. Formerly listed as ART 1302. Credit will not be granted for both 1302 and 1305. \$25 special fee.

#### **1306. FORM, SHAPE AND STRUCTURE (2-4) 3 hours credit**

**(ARTS 1312).** Three-dimensional design principles will be explored to expand knowledge of various materials and develop an awareness of spatial elements as a creative expression. Formerly listed as ART 1303. Credit will not be granted for both 1303 and 1306. \$25 special fee.

#### **1307. DRAWING FUNDAMENTALS (2-4) 3 hours credit (ARTS**

**1316).** Basic drawing principles and elements in varied media including such concepts and skills as hand-eye coordination, perceptual acuity, spatial organization, and interpretation of directly observed subjects. Formerly listed as ART 1347. Credit will not be granted for both 1307 and 1347. \$25 special fee.

It is strongly recommended that art and art history majors complete the core requirements or seek permission of the instructor before enrolling in upper level art courses.

#### **2308. SCALE, CONTENT AND IMAGE (2-4) 3 hours credit**

**(ARTS 1317).** Application of specific drawing skills with emphasis on personal expression. Course content will focus on conceptual development and media exploration as outlined by the instructor. Previous drawing experience strongly recommended or permission of the instructor. Formerly listed as ART 1348. Credit will not be granted for both 1348 and 2307. \$25 special fee.

#### **2350. INTRODUCTION TO NARRATIVE SCREENWRITING**

**(2-4) 3 hours credit.** Basic format styles, structures, and requisites of writing for film and television. Students will be required to study scripts, view films, conduct actor readings, produce original works, and complete other assignments. Prerequisites: ENGL 1301 and 1302. \$25 special fee.

**2354. GRAPHICS: TYPOGRAPHY (2-4) 3 hours credit.** Creative problem solving using basic elements of graphic communication with

an introduction to typography, composition, and materials. Prerequisites: ART 1302 or 1304 or permission of the instructor. \$25 special fee.

**2355. GRAPHICS: LAYOUT (2-4) 3 hours credit.** Development and application of concept, layout, and design as related to graphic communication and advertising design. Prerequisites: ART 1302 or 1304 or permission of the instructor. \$25 special fee.

**2358. INTRODUCTION TO VIDEO (2-4) 3 hours credit.** Video framed within an historical and aesthetic context. Basic equipment and techniques of small format, studio, and post-production will be included. \$75 special fee.

**2359. INTRODUCTION TO PHOTOGRAPHY (2-4) 3 hours credit.** Basic photographic imaging. Assignments emphasize an artistic approach and include black-and-white materials, darkroom procedure, and color transparencies. \$35 special fee.

**3341. SCULPTURE (2-4) 3 hours credit.** Investigation of form through varied media with emphasis on individual expression. May be repeated for up to six hours credit. Prerequisite: ART 1306 or permission of the instructor. \$25 special fee.

**3342. GLASS. (2-4) 3 hours credit.** The manipulation, formulation, construction and experimentation with glass as a sculptural medium. Emphasis will be on glassblowing. Other techniques may include furnace casting and kiln working. May be repeated for credit. Prerequisite: ART 1306 or permission of the instructor. \$75 special fee.

**3343. PRINTMAKING (2-4) 3 hours credit.** The philosophy, theory, and practice involved in printmaking. Techniques include lithography, intaglio, relief, and silk screen. May be repeated for up to six hours credit with permission of department. Prerequisites: ART 1305 and 1307 or permission of the instructor. \$25 special fee.

**3346. PAPERMAKING (2-4) 3 hours credit.** The methods and techniques of making handmade paper for two- and three-dimensional products. May be repeated for up to six hours credit. \$25 special fee.

**3347. ADVANCED DRAWING (2-4) 3 hours credit.** Conceptual and expressive problems to encourage independent thinking with regard to contemporary drawing issues. May be repeated for credit. Prerequisite: ART 2308. \$25 special fee.

**3348. LIFE DRAWING (2-4) 3 hours credit.** Drawing of the human figure using a variety of media in the solution of figure construction problems with emphasis on perceptual and creative expression. May be repeated for credit. Prerequisite: ART 2308. \$40 special fee.

**3349. WATER MEDIA PAINTING (2-4) 3 hours credit.** Transparent and opaque water color media and techniques. Emphasis on conceptual and manipulative skills. May be repeated for credit. Prerequisite: ART 1307 or permission of the instructor. \$25 special fee.

**3351. GRAPHICS: ILLUSTRATION (2-4) 3 hours credit.** A practical approach to concepts, history, mechanics and techniques in illustration with an emphasis on problem solving. May be repeated for up to 12 hours credit. Prerequisites: ART 2354 and 2355 or 3347 or 3371. \$2 lab fee, \$35 special fee.

**3353. METALSMITHING: JEWELRY (2-4) 3 hours credit.** Contemporary metal working techniques and concepts, including the construction of small metal forms, alone and combined with other media. Emphasis on learning basic manipulation techniques. May be repeated for credit. Prerequisite: ART 1306 or permission of the instructor. \$25 lab fee.

**3354. GRAPHICS: SIGN AND SYMBOL (2-4) 3 hours credit.** Design and problem-solving focusing on transformation of visual

elements into logos, logotypes, and information graphics. Prerequisites: ART 2354 and 2355 or permission of the instructor. \$35 special fee.

**3355. GRAPHICS: METHODOLOGIES (2-4) 3 hours credit.** Practical application of design methodologies to graphic communication and advertising design, with exposure to professional techniques and equipment including computers for graphics. Prerequisite: ART 3354 or permission of the instructor. \$35 special fee.

**3358. INTERMEDIATE VIDEO (2-4) 3 hours credit.** Advanced field, post, audio, studio, and computer techniques. Development of a critical and aesthetic understanding of the medium through video art and new genres and narrative, documentary, and commercial approaches. Prerequisite: ART 2358. Formerly listed as ART 3358 and 3362. \$75 special fee.

**3360. INTERMEDIATE PHOTOGRAPHY (2-4) 3 hours credit.** A continuation of ART 2359 with emphasis on advanced control of black-and-white photographic materials and the development of a deeper understanding of photographic history and criticism. Prerequisite: ART 2359. \$35 special fee.

**3363. CLAY (2-4) 3 hours credit.** The various methods of construction, manipulation, and decoration of clay. The integration of form, design, and concept, emphasizing clay as an expressive medium. May be repeated for credit. Prerequisite: ART 1306 or permission of the instructor. \$25 special fee.

**3371. PAINTING (2-4) 3 hours credit.** Fundamentals of painting, composition and techniques both traditional and contemporary. Prerequisite: ART 1307 or permission of the instructor. \$25 special fee.

**4100. SENIOR EXHIBITION (1-0) 1 hour credit.** Professional practices for graduating BFA art majors. Primary concentration will be exhibition preparation as well as senior BFA exhibition/presentation. \$25 special fee.

**4341. ADVANCED SCULPTURE (2-4) 3 hours credit.** Advanced work in continuation of ART 3341. Students are encouraged to develop a creative style in their own personal direction. A variety of materials and techniques is explored. May be repeated for credit. Prerequisite: ART 3341 or permission of the instructor. \$25 special fee.

**4342. ADVANCED GLASS. (2-4) 3 hours credit.** Continued development of ART 3342 with emphasis on advanced technique, manipulation and form development. Course assignments will emphasize personal creativity and exploration. May be repeated for credit. Prerequisite: ART 3342 or permission of instructor. \$75 special fee.

**4343. ADVANCED CLAY (2-4) 3 hours credit.** A continuation of ART 3363 with emphasis on individual style and techniques in sculptural clay forms. Also the introduction of wheel formed clay, kiln firing, moldmaking, slipcasting, and glazemaking. May be repeated for credit. Prerequisite: ART 3363 or permission of the instructor. \$25 special fee.

**4344. ALTERNATIVE PHOTOGRAPHIC PROCESSES (2-4) 3 hours credit.** Methods of manipulating the photographic image. Techniques may include manipulative printing, computer imaging, blueprint, brownprint, platinum/palladium, transfers, silkscreen, intaglio, and lithography. May be repeated for up to six hours credit. Prerequisite: ART 3360, or permission of the instructor. \$40 special fee.

**4345. ADVANCED PRINTMAKING (2-4) 3 hours credit.** Contemporary innovations, mixed techniques, and photo processes. Personal creativity and development stressed. May be repeated for up to 12 hours credit. Prerequisite: ART 3343. \$35 special fee.

**4349. VIDEO ART AND NEW GENRES (2-4) 3 hours credit.** Advanced work involving production, postproduction, and distri-

bution with a special emphasis on experimental and innovative applications. Instruction may include video integrated with performance, installation, audio/sound art, and computer graphics appropriate to the medium. Lectures, readings, and screenings will frame video art within an historical and critical survey of new genres. May be repeated for up to six hours credit. Prerequisite: ART 3358. \$75 special fee.

**4350. DOCUMENTARY VIDEO (2-4) 3 hours credit.** Documentary, non-fiction, and non-dramatic video and their influences on political, social, cultural, and artistic currents of the 20th Century. Using video as a tool for creative research, students will produce and direct original documentaries. May be repeated for up to six hours credit. Prerequisites: ART 2350, 3358. \$75 special fee.

**4351. COMMERCIAL VIDEO (2-4) 3 hours credit.** Corporate and commercial applications of video. Students produce individual projects integrating technical quality with conceptual design. May be repeated for up to six hours credit. Prerequisite: ART 3358. \$75 special fee.

**4352. NARRATIVE VIDEO (2-4) 3 hours credit.** History, theory, and techniques for creating dramatic video. Topics include dramatic writing, acting for the camera, and directing actors. Students will produce and direct original narratives. May be repeated for up to six hours credit. Prerequisite: ART 2350, 3358, or permission of the instructor. \$75 special fee.

**4353. ADVANCED METALS (2-4) 3 hours credit.** Continued development of ART 3353. Advanced techniques will be explored utilizing a wide variety of materials. Class assignments will emphasize personal creativity and expression. May be repeated for credit. Prerequisite: ART 3353 or permission of the instructor. \$25 special fee.

**4354. ADVANCED NARRATIVE SCREENWRITING (2-4) 3 hours credit.** A continuation of ART 2350 focusing on writing an original (no adaptations), narrative, full-length screenplay through all stages to final draft status. Students study screenplays, view films, conduct actor readings, and complete various other assignments. Prerequisite: ART 2350 or permission of the instructor. May be repeated for credit. \$25 special fee.

**4355. GRAPHICS: APPLICATIONS (2-4) 3 hours credit.** Exploration and application of graphic communication and advertising design as used in the communication arts, with continued exposure to computers and technical equipment. Prerequisite: ART 3355 or permission of the instructor. \$35 special fee.

**4356. GRAPHICS: PROFESSIONAL PREPARATION (2-4) 3 hours credit.** Further intensification of professional capabilities applied to graphic communication and advertising design. Emphasis on portfolio construction and complex professional skills. May be repeated for up to six hours credit. Prerequisite: ART 4355 or permission of the instructor. \$35 special fee.

**4357. GRAPHICS: ADVERTISING DESIGN (2-4) 3 hours credit.** Typography, layout, visualization, and conceptual problem-solving as applied to advertising. Students design individual ads and complete campaigns for electronic and print media. May be repeated for up to nine hours credit. Prerequisite: ART 2354 or ART 2355 or permission of the instructor. \$35 special fee.

**4358. GRAPHICS: COMPUTER GRAPHICS (2-4) 3 hours credit.** Computer techniques and mechanics as applied to graphic design and advertising design, with emphasis on using the computer as a problem solving tool. May be repeated for up to nine hours credit. Prerequisites: ART 3355 or permission of the instructor. \$50 special fee.

**4359. ADVANCED PHOTOGRAPHY (2-4) 3 hours credit.** This course encourages students to use a variety of photographic processes (b & w, color, non-silver, computer imaging, etc.) with an emphasis on the development of a personal stance. Students will work on individual projects and present work in an environment of critical discussion. May be repeated for up to 12 hours credit. Prerequisite: Three hours to be selected from ART 4344, 4360, or 4363 or permission of the instructor. \$40 special fee.

**4360. COLOR PHOTOGRAPHY (2-4) 3 hours credit.** The development of an aesthetic and critical response toward photographic color. Techniques include exposure and printing of both color negative and positive materials. May be repeated for up to six hours credit. Prerequisite: ART 3360, or permission of the instructor. \$40 special fee.

**4362. ADVANCED VIDEO (2-4) 3 hours credit.** Experimental and innovative applications of video. Students are expected to develop individual projects and present their work in an atmosphere of critical discourse. May be repeated for up to 15 hours credit. Prerequisites: six hours to be selected from ART 4349, 4350, 4351, 4352 or permission of instructor. \$75 special fee.

**4363. STUDIO PHOTOGRAPHY (2-4) 3 hours credit.** The theory and practice of situational photography. Studio lighting and large format camera techniques. May be repeated for up to six hours credit. Prerequisite: ART 3360, or permission of the instructor. \$40 special fee.

**4364. COMMERCIAL PHOTOGRAPHY (2-4) 3 hours credit.** Methods and techniques of advertising and commercial photography. Students will produce projects integrating technical concerns with commercial concepts. Emphasis on portfolio development. May be repeated for up to nine hours credit. Prerequisite: ART 4363, or permission of the instructor. \$40 special fee.

**4371. ADVANCED PAINTING (2-4) 3 hours credit.** Further work in the fundamentals of painting, composition, and techniques, both traditional and contemporary. Students are encouraged to develop the style which best complements their development as visual thinkers. May be repeated for credit. Prerequisite: ART 2308 and 3371 or permission of the instructor. \$25 special fee.

**4373. ADVANCED THREE-DIMENSIONAL STUDIES (2-4) 3 hours credit.** Class is designed for students to continue the development of advanced three-dimensional work and engage in a cross section of various media. May be repeated for credit. Prerequisite: 12 hours to be selected from ART 3341, 3342, 3363, 4341, 4342, 4343, 4353 or permission of the instructor. Formerly listed as ART 4366. Credit will be granted for both 4366 and 4373. \$48 special fee.

**4391, 4291, 4191. INDEPENDENT STUDY (Variable credit as arranged).** Mature, capable students may be permitted to pursue individual art problems. Problems must be stated in writing, approved by supervising faculty member, and definite conference schedule arranged prior to registration. May be repeated for credit for varied subject matter. Prerequisite: B average in art concentration. 4191: \$30; 4291: \$40; 4391: \$50.

**4392. SPECIAL STUDIES (2-4) 3 hours credit.** Special coursework in new or experimental offerings for which there is immediate need and for which special resources are available. May be repeated for credit. Primarily for art majors. \$48 special fee.

**4394. HONORS THESIS/SENIOR PROJECT (3-0) 3 hours credit.** Required of all students in the University Honors Program. During the senior year, the student must complete a thesis or a project under the direction of a faculty member in the major department.

**4395, 4695. ART INTERNSHIP (3 or 6 hours credit as arranged).** An opportunity to apply academic training as participant/observer in a professional organization relevant to a major area of concentration. With permission of advisor, internships may be repeated for up to a maximum of nine hours credit. Internships must be arranged with the internship supervisor in the semester prior to enrolling for this course. Prerequisite: permission of the instructor.

**4397. SPECIAL STUDIES IN VIDEO (2-4) 3 hours credit.** Special studies in new or experimental approaches to video for which there is immediate need and resources available. May be repeated for credit. Prerequisite: ART 3358 or permission of the instructor. \$75 special fee.

## Art History

Prefix and number in parentheses following the U.T. Arlington course number and title is the Common Course Number designation.

**1301. INTRODUCTION TO ART (3-0) 3 hours credit (ARTS 1301).** Intended to develop an understanding, appreciation, and enjoyment of art in its many forms. Art majors will take part in field trips to studios, galleries, and museums. Also available as a humanities elective for non-art majors. Formerly listed as ART 1303; credit will not be granted for both 1301 and 1303. \$8 special fee.

**1309. ART OF THE WESTERN WORLD I: GREECE THROUGH RENAISSANCE (3-0) 3 hours credit (ARTS 1303).** Major developments in art, from Archaic Greece through the European Renaissance. \$8 special fee.

**1310. ART OF THE WESTERN WORLD II: BAROQUE TO MODERN (3-0) 3 hours credit (ARTS 1304).** The work of major figures in European and American art from the 17th Century to the present. \$8 special fee.

It is strongly recommended that art and art history majors complete the core requirements or seek permission of the instructor before enrolling in upper level art history courses.

**2300. METHODS FOR THE STUDY OF ART HISTORY (3-0) 3 hours credit.** Sources and procedures of art historical research. Introduction to methodologies of art historical scholarship. \$8 special fee.

**3300. MUSEUM TECHNIQUES (2-4) 3 hours credit.** A seminar in the administration and programming of contemporary art galleries and museums. Lectures and assigned readings in museum history and practice. Students enrolling in the seminar will participate in the design and installation of exhibits in the gallery of the Center for Research in Contemporary Art. Prerequisites: ART 1309 and 1310 or permission of the instructor. Previously listed as ART 4307; credit will be granted only once. \$8 lab fee.

**3302. GREEK ART (3-0) 3 hours credit.** Architecture, painting, and sculpture of ancient Greece, beginning with the Minoans and Mycenaeans of the Aegean Bronze Age (ca. 2500 B.C.) and concluding with the Hellenistic Age of Alexander the Great (ca. 31 B.C.) Special attention on Periklean Athens, the sanctuaries of Olympia and Delphi, and themes such as the origins of imagery and the creation of a Greek style in terms of its ritual and cultural associations. \$8 special fee.

**3305. EARLY CHRISTIAN AND BYZANTINE (3-0) 3 hours credit.** The regeneration of art in the Mediterranean world under Christian and Oriental influences between the 2nd Century and the 15th. \$8 special fee.

**3306. THE MIDDLE AGES (3-0) 3 hours credit.** The invigoration of art in Northern and Western Europe through the confluence of

barbarian and Christian traditions between the 7th Century and the 14th. \$8 special fee.

**3307. THE EARLY RENAISSANCE (3-0) 3 hours credit.** Developments in the art and architecture of Italy in the 13th and 14th Centuries focused on the changing status of the artist and the political and religious role of art. Includes a workshop based on 14th Century recipes for the making of art. \$8 special fee.

**3308. HIGH RENAISSANCE (3-0) 3 hours credit.** Developments in the art and architecture of 16th Century Italy (Leonardo, Raphael, and Michelangelo) understood in historical context. Themes include the notion of creative genius in the Renaissance; Mannerism and the Counter-Reformation; the restoration of the Sistine Chapel. \$8 special fee.

**3310. FILM AS ART (3-0) 3 hours credit.** The history and aesthetics of the motion picture from 1895 to the present day. Screening and analysis of film as an artistic medium, focusing on various technical innovations, filmmakers, and landmarks of film history. \$8 special fee.

**3311. AMERICAN ART (3-0) 3 hours credit.** The role of art in the shaping of a national identity with emphasis on our beginnings and attention to vernacular and indigenous traditions. \$8 special fee.

**3312. NEO-CLASSICISM AND ROMANTICISM (3-0) 3 hours credit.** European painting from 1760 to 1840, primarily in France. \$8 special fee.

**3313. BACKGROUNDS OF MODERN ART (3-0) 3 hours credit.** Painting, sculpture, and photography of the period c. 1850-1900 in western Europe, focusing on Realism, Impressionism, Post-Impressionism and Symbolism (fin de siècle). \$8 special fee.

**3314. MODERN ART (3-0) 3 hours credit.** The history of European and American art from the late 19th Century to World War II. Emphasis on the formal and conceptual evolution of modernism in art and society, and on the rise of the avant-garde. \$8 special fee.

**3315. IMPRESSIONISM (3-0) 3 hours credit.** The history, theory, and aesthetics of Impressionist painting in France, from 1860 to 1900. \$8 special fee.

**3320. MESOAMERICAN ART (3-0) 3 hours credit.** Art and architecture of the Aztecs, Maya, and other selected cultures of Mexico and Central America. \$8 special fee.

**3325. STUDIES IN THE BAROQUE (3-0) 3 hours credit.** Developments in the art and architecture of Baroque Europe (Italy, Low Countries and Spain), with an emphasis on patronage and the social, religious and historical context of artistic production. May be repeated for credit. \$8 special fee.

**3331. ENGLISH ART: EIGHTEENTH AND NINETEENTH CENTURIES (3-0) 3 hours credit.** The great age of painting in England, from Hogarth, through Constable and Turner, to Burne-Jones, in the styles of Sensibility, Romanticism, Realism, and Pre-Raphaelitism. \$8 special fee.

**3389. CONTEMPORARY ART (3-0) 3 hours credit.** A focus on the period after World War II. A study of the aesthetics of late modernism and the beginnings of the postmodern period including Abstract Expression, Pop, Minimal, and Conceptual art, with emphasis on intermedia. \$8 special fee.

**3391. HISTORY OF PHOTOGRAPHY (3-0) 3 hours credit.** The history of still photography from its inception to the present. Emphasis on the conceptual and technical evolution of photography as an artistic medium. \$8 special fee.

**3392. HISTORY AND AESTHETICS OF THE VIDEO IMAGE (3-0) 3 hours credit.** History, theory, and analysis of video/film/

computer in relation to visualization and new genres. Study of symbolic rhetoric, composition, sound/music, editing, movement, and style. \$8 special fee.

**4301. ART AND GENDER (3-0) 3 hours credit.** Approaches to the interpretation of art from the stance of gender and feminism. Emphasis is placed on the work of significant female artists and on gendered representation of art in general, both male and female. Also listed as WOMS 4301; credit will be granted only once. \$8 special fee.

**4302. GREEK AND ROMAN PAINTING (3-0) 3 hours credit.** Painting in ancient Greece and Rome, from the Greek Geometric through the Roman republican periods. Narrative art of the Greek vase-painting and extant examples of Greek and Roman wall decoration from ancient tombs and houses. \$8 special fee.

**4303. ROMAN ART (3-0) 3 hours credit.** The art of Etruria and Rome from the Etruscan Villanovan period through the late empire. Developments of portraiture and illusionism as characteristic aspects of Roman art, the history of Etruscan and Roman wall painting, and the socio-political context of art and architecture in monuments of the Roman empire. \$8 special fee.

**4304. THE ETRUSCANS (3-0) 3 hours credit.** Art and culture of the Etruscan and neighboring peoples of pre-Roman Italy. Special emphasis on the stylistic characteristics of folk art in primitive Italy and its relation to the orientaling and classical Greek styles that influenced Etruscan art from the 7th to the 4th Centuries BC. \$8 special fee.

**4306. MID-RENAISSANCE (3-0) 3 hours credit.** Art and architecture in 15th Century Italy, beginning with developments in Renaissance Florence. The relation of humanism and science to the visual arts, patronage, and the social and historical contexts of artistic production. \$8 special fee.

**4308. MUSEUM PRACTICE (2-4) 3 hours credit.** A continuation of ART 3300 with emphasis on current issues and developments in museum practice. The seminar concentrates on the University's Center for Research in Contemporary Art exhibitions and guest essayist programs, supplemented by lectures and assigned readings. Prerequisite: ART 3300 or permission of the instructor. May be repeated for credit. \$8 lab fee.

**4310. TOPICS IN FILM STUDY (3-0) 3 hours credit.** Historical surveys of non-fiction film, experimental cinema, and genres (e.g., the western, the gangster film, science-fiction films), as well as geographical or national movements (e.g., German expressionism, Italian neo-realism, French new wave) and film theory and criticism. The particular subject will change from year to year. Prerequisite: ART 3310 or consent of the instructor. \$8 special fee.

**4312. TOPICS IN 19TH C. ART. (3-0) 3 hours credit.** An in-depth study of topics in European and American art c. 1780 to 1900, such as the art and revolutions (the French Revolution, the American Revolution, 1830, 1848, the Commune); Romanticism; Symbolism. May be repeated for credit as course content changes. Prerequisite: permission of the instructor. \$8 special fee.

**4314. TOPICS IN TWENTIETH CENTURY ART (3-0) 3 hours credit.** Topics from c. 1970 to c. 1970, such as Cubism, Expressionism, Dada and Surrealism, De Stijl and the Bauhaus, Abstract Expressionism, Pop Art, and Minimal Art. May be repeated for credit. Prerequisite: departmental permission. \$8 special fee.

**4315. ASPECTS OF CONTEMPORARY ART (3-0) 3 hours credit.** Topics from c. 1970 to the present, such as performance and conceptual art, art in and about the natural environment, post-modern-

ism and critical perspectives, art in the social context, and the genres of the 1980's. May be repeated for credit. Prerequisite: departmental permission. \$8 special fee.

**4317. THE ART OF OTHER TRADITIONS (3-0) 3 hours credit.** Work in various media developed in isolation from the European tradition, with particular emphasis on Black African and Oceanic art. \$8 special fee.

**4330. EIGHTEENTH CENTURY ART (3-0) 3 hours credit.** A history of European art from the end of the Baroque era through the Rococo and Neo-Classical styles to the beginning of Romanticism. Emphasis will be on the painting of Watteau, Hogarth, Chardin, David and Goya. \$8 special fee.

**4390. CONFERENCE COURSE: ART HISTORY (3-0) 3 hours credit.** Independent study or research in an area of art history agreed upon in advance with the instructor. Written permission and the determination of obligations and objectives are required before registration. May be repeated for credit. \$8 special fee.

**4394. HONORS THESIS/SENIOR PROJECT (3-0) 3 hours credit.** Required of all students in the University Honors Program. During the senior year, the student must complete a thesis or a project under the direction of a faculty member in the major department.

**4396. SPECIAL STUDIES IN ART HISTORY (3-0) 3 hours credit.** Subjects of immediate interest in various fields of art history; to complement temporary museum exhibitions and/or faculty research specializations. May be repeated for credit as course content changes. \$8 special fee.

#### Concepts and Issues in Art

**3322. CURRENT PROBLEMS IN ART (3-0) 3 hours credit.** Seminar on social, psychological, and cultural concerns affecting art. Selection and solution of individual topics and problems. May be repeated for up to nine hours credit.

# Classical Studies

305 Carlisle Hall • Box 19527 • 817-272-3216

The Western cultural tradition begins with the achievements of the ancient Greeks and Romans in a wide range of fields including politics, literature, art, and philosophy. The Bachelor of Arts degree in Classical Studies provides a general education in a comprehensive humanistic discipline; it can also provide preparation for students who intend to do graduate work. The degree coordinates courses in Greco-Roman antiquity taught by members of various departments in the College of Liberal Arts:

Majors must take at least 30 hours from the courses listed below, including:

- At least six hours from CLAS courses
- At least three hours from four of the other eight areas
- At least 21 hours from 3000/4000 level courses
- CLAS 2310 or HIST 3374
- CLAS 2320 or HIST 3375

## CLAS

- 1300.** Introduction to Classical Mythology
- 2303.** The Classical Roots of English Vocabulary
- 2310.** Introduction to Greek Civilization
- 2320.** Introduction to Roman Civilization
- 4323.** Classical Mythology
- 4335.** Topics in Classical Studies
- 4391.** Conference Course

## ANTH

- 2339.** Principles of Archaeology
- 4322.** Archaeology of Classical Greece
- 4322.** Archaeology of Egypt
- 4358.** Archaeology of the Prehistoric Aegean

## PHIL

- 3301.** History of Philosophy: Ancient Philosophy
- 3302.** History of Philosophy: Roman Medieval Philosophy

## POLS

- 4327.** Political Ideas: Ancient and Modern

## ENGL

- 3339.** Classical Backgrounds
- 4380.** Classical Literature

## HIST

- 3374.** Ancient Greece
- 3375.** Ancient Rome
- 3380.** History of Ancient Sport

## ART

- 3302.** Greek Art
- 4302.** Greek Painting
- 4303.** Roman Art

## GREK

- 1441.** Level I
- 1442.** Level II
- 2313.** Level III
- 2314.** Level IV
- 4391.** Conference Course

## LATN

- 1441.** Level I
- 1442.** Level II
- 2313.** Level III
- 2314.** Level IV
- 4391.** Conference Course

It is strongly recommended that students majoring in Classical Studies choose either ancient Greek or Latin as their foreign language (students planning to attend graduate school in Classics will need both languages). Either Greek or Latin may be used to satisfy foreign language requirements. More advanced study may be pursued in conference courses; six semesters of either language satisfy the requirements for a minor.

## Requirements for Admission to a Major in Classics

Students may be admitted to the major in classics upon satisfaction of the following requirements:

- An overall 2.0 GPA, including at least 6 hours of the math and science requirement taken in residence or 12 hours of math and science overall.
- A minimum GPA of 2.5 at the time of admission to the major for all major courses applicable to the classics degree and for all Greek and Latin courses taken.
- A minimum of 6 hours of major courses applicable to the classics degree taken at UTA.
- A writing sample approved by the Classics Coordinator. (See the Classics Coordinator for specific conditions on the writing sample and its grading.)

The Classics Coordinator must certify that these requirements have been satisfied. Admission to the Classics major may take place at any time that the requirements have been satisfied consistent with the requirements of the Academic Foundations Program.

## Requirements for a Bachelor of Arts Degree in Classical Studies

### English

Six hours of composition.

### Literature

Three hours of English or foreign language literature or other approved substitute.

### Liberal Arts Elective

Three hours above the freshman level of literature, or social and cultural studies designated as taught in the College of Liberal Arts, or fine arts or philosophy, or technical writing.

### Foreign Language

1441, 1442, 2313, and 2314 or equivalent (Greek or Latin strongly recommended).

**Political Science**

2311, 2312.

**History**

1311, 1312.

**Mathematics**

Six hours (level of college algebra or higher).

**Science**

11 hours (eight hours in a single lab science).

**Fine Arts and Philosophy**

Three hours from architecture, art, dance, music, philosophy, or theatre arts.

**Social/Cultural Studies**

Three hours of designated courses in archaeology, classical studies, communication, economics, history, humanities, linguistics, political science, social or cultural anthropology, social/political/cultural geography, social psychology, sociology or women's studies.

**Major**

30 hours, to include CLAS 2310 and 2320, and at least one course each in four of the six areas comprising the major (Classics, Art, English, History, Philosophy, Political Science).

**Minor**

18 hours, of which six must be 3000/4000 level.

**Electives**

Sufficient to give the total number of hours required for the degree. (16 hours).

**Total**

128 hours, at least 36 of which must be 3000/4000 level, plus EXSA, or ROTC, or marching band, as required.

**Classics (CLAS)**

All Classics courses are taught in the English language. They satisfy core requirements for social and cultural studies.

**Note:** There are no prerequisites for 2000-level courses.

**1300. INTRODUCTION TO CLASSICAL MYTHOLOGY (3-0) 3 hours credit.** Major Greek and Roman myths and their influence, with emphasis on the visual arts from antiquity to the present, including popular films. Open to all students; satisfies University core social sciences and cultural studies requirement.

**2303. THE CLASSICAL ROOTS OF ENGLISH VOCABULARY (3-0) 3 hours credit.** Etymology (word origins) focusing on the large stock of English words derived from ancient Greek and Latin prefixes, roots, and suffixes. Primarily for students seeking to improve their general vocabulary and reading comprehension.

**2310. INTRODUCTION TO GREEK CIVILIZATION (3-0) 3 hours credit.** Ancient Greek culture to the time of the Roman conquest. Topics covered include politics and society, literature, art, philosophy, and religion.

**2320. INTRODUCTION TO ROMAN CIVILIZATION (3-0) 3 hours credit.** Roman life and thought through 476 A.D. A broad cultural survey including politics and society, literature, art, technology, and law.

**3323. CLASSICAL MYTHOLOGY (3-0) 3 hours credit.** Advanced study of Greek and/or Roman myths, with emphasis on the cultural context and methods of myth interpretation (anthropological, psychoanalytical, structuralist, etc.).

**3335. TOPICS IN CLASSICAL STUDIES (3-0) 3 hours credit.** Studies in the social, political, and cultural development of the ancient Greeks and Romans, including their influence on subsequent societies. May be repeated for credit with departmental permission.

**4391. CONFERENCE COURSE (3-0) 3 hours credit.** Independent study in the preparation of a paper on a research topic; consultation with instructor on a regular basis. May be repeated for credit. Prerequisites: consent of the department and completion of or concurrent enrollment in a 3000-level course.

For complete descriptions of the other courses included in the Classical Studies major, consult the listings of the relevant departments (Art, English, History, Philosophy and Humanities, and Political Science).

The classical languages listed below, which are offered through the Department of Philosophy and Humanities, satisfy the foreign-language requirement both for the Classical Studies degree and for liberal arts majors generally.

**Greek (GREK)**

**1441. LEVEL I (3-2) 4 hours credit.**

**1442. LEVEL II (3-2) 4 hours credit.** Prerequisite: GREK 1441 or equivalent.

**2313. LEVEL III (3-0) 3 hours credit.** Prerequisite: GREK 1442 or equivalent.

**2314. LEVEL IV (3-0) 3 hours credit.** Prerequisite: GREK 2313 or equivalent.

**2391. INDEPENDENT STUDY (3-0) 3 hours credit.** By consent of the department only.

**4391. CONFERENCE COURSE (3-0) 3 hours credit.** Advanced independent study in Greek literature. May be repeated for credit with departmental permission. Prerequisite: departmental permission.

**Latin (LATN)**

Prefix and number in parentheses following the U.T. Arlington course number and title is the Common Course Number designation.

**1441. LEVEL I (3-2) 4 hours credit (LATN 1411).**

**1442. LEVEL II (3-2) 4 hours credit (LATN 1412).** Prerequisite: LATN 1441 or equivalent.

**2313. LEVEL III (3-0) 3 hours credit (LATN 2311).** Prerequisite: LATN 1442 or equivalent.

**2314. LEVEL IV (3-0) 3 hours credit (LATN 2312).** Prerequisite: LATN 2313 or equivalent.

**2391. INDEPENDENT STUDY (3-0) 3 hours credit.** By consent of the department only.

**4391. CONFERENCE COURSE (3-0) 3 hours credit.** Advanced independent study in Latin literature. May be repeated for credit with departmental permission. Prerequisite: departmental permission.



# The Department of Communication

118 Fine Arts Bldg. • Box 19107 • 817-272-2163

The degree Bachelor of Arts in Communication is offered in broadcast communication, journalism, and speech communication. The department curricula provide students with an overview of the role and function of communication in society. These courses present a broad academic exposure, including theories, skills, techniques, critical analysis, historical perspectives, and aesthetic appreciation.

The Department of Communication seeks to emphasize theories and techniques which give students ability to adapt to rapid changes in communication technology.

Within the major disciplines, specializations are available in advertising, broadcast news, broadcast management, news-editorial journalism, photojournalism, public relations, organizational communication, and oral communication. A suggested plan of study for each is available from the office of the Department of Communication.

## Requirements for a Bachelor of Arts Degree in Communication

### English

Six hours of composition.

### Literature

Three hours of English or foreign language literature or other approved substitute.

### Liberal Arts Elective

Three hours above the freshman level of literature, or social and cultural studies designated as taught in the College of Liberal Arts, or fine arts or philosophy, or technical writing.

### Foreign Language

1441, 1442, 2313, and 2314 or equivalent.

### Political Science

2311, 2312.

### History

Six hours of American history or three hours of American and three hours of Texas history.

### Mathematics

Six hours (level of college algebra or higher).

### Science

11 hours—eight hours in single lab science (biology, chemistry, geology, or physics) and three hours in science or approved social science.

### Social/Cultural Studies

Three hours of designated courses in archaeology, classical studies, communication, economics, history, humanities, linguistics, political science, social or cultural anthropology, social/political/cultural geography, social psychology, sociology or women's studies.

### Fine Arts and Philosophy

Three hours from architecture, art, dance, music, philosophy, or theatre arts.

### Electives

Sufficient to give the total number of hours required for a degree.

### Major

A minimum of 39 semester hours, 18 of which must be 3000/4000-level courses. A student must complete the requirements for one of the departmental specializations.

### Minor

18 hours, six of which must be 3000/4000 level, in a field outside the Department of Communication, selected after consulting with an adviser.

### Total

128 hours, of which at least 36 must be 3000/4000 level, plus exercise and sport activities (EXSA) or ROTC or marching band as required.

## Department of Communication Degree Programs

### Broadcast Communication

#### Broadcast News

JOUR 1345, BCMN 1355, 2350, 2357, 3340, 3341, and 4340. COMM 4310, and another COMM 4000-level course.

Twelve hours electives in the department.

#### Broadcast Management

BCMN 2350, 2357, 3318, 3319, 4319, and 4320.

COMM 4310, and another COMM 4000-level course.

Fifteen hours electives in the department.

### Journalism

#### News-Editorial Journalism

JOUR 1345, 2340, 2346, 3328, and 3345.

COMM 4305, COMM 4310, and another COMM 4000-level course.

Six hours from JOUR 4326, 4327, 4378.

Nine hours electives in the department.

#### Photojournalism

JOUR 1345, 2340, 2346, 3303, 3341, 4341, and 4380.

COMM 4305 and 4310.

Three hours from JOUR 4326, 4327, 4378.

Nine hours electives in the department.

#### Advertising

JOUR 1345, 3303; ADVT 2337, 3304, 3305, 3306, and 4301.

COMM 4310, and another COMM 4000-level course.

Twelve hours electives in the department.

#### Public Relations

JOUR 1345, 2346, 3303, and three hours from JOUR 3345, 3350, or 4326.

PREL 2338, 3339, 3355, and 4316.

COMM 4310, and another COMM 4000-level course.

Nine hours electives in the department.

**Speech****Organizational Communication**

SPCH 1301, 2304, 2305, and 3309.

Six hours from SPCH 3310, 3316, 3320.

Six hours from SPCH 4300, 4315, 4320.

COMM 4315, and another COMM 4000-level course.

Nine hours electives in the department.

**Oral Communication**

SPCH 1301, 2304, 3310, and 3312.

Six hours from SPCH 3321, 3322, 3323.

SPCH 4302, 4360.

COMM 4315, and another COMM 4000-level course.

Nine hours electives in the department.

**Teacher Certification**

Department specializations which provide for teacher certification are the following: secondary teaching level in journalism, or speech communication; elementary teaching level in speech communication. Students interested in Texas Teacher Certification should consult the Center for Professional Teacher Education section of this catalog for the most recent changes in requirements regarding admission to teacher education, completion of University programs in preparation for certification, and eligibility for certification after graduation. Students whose major is taken in the Department of Communication will complete at least 30 semester hours in the major field.

Students seeking teacher certification with a major in a communication field should follow the sections below:

- **Secondary certification, Journalism major requirements** (30 semester hours):  
COMM 1300 and 4310.  
JOUR 1345, 2340, 2346, 3335, and 3345.  
JOUR 3350 or 4326.  
Six additional hours of advanced JOUR.
- **Secondary certification, Speech Communication major requirements** (30 semester hours):  
COMM 1300  
SPCH 1301, 1302, 2304.  
SPCH 3305, 3321.  
Six hours from SPCH 3306, 3307, 3310, 3312, 3315, 3316, 3322.  
Three hours from SPCH 4300, 4302, 4321, or COMM 4310.  
SPCH 4360.
- **Elementary certification, Speech Communication Specialization requirements** (30 semester hours):  
COMM 1300.  
SPCH 1301, 1302, 3307, 3321, 3323.  
Six hours from SPCH 3306, 3310, 3312, 3315, 3316, 3322.  
Three hours from SPCH 4300, 4302, 4321, or COMM 4310.  
SPCH 4360.

**Department of Communication Faculty****Chair**

Professor McCallum

**Professor**

Andresen

**Associate Professors**

Hamric, Ingram, Stone

**Assistant Professors**

Hickey, Pennington, Markham, Mwakikoti,

Shaw, Shuford, Woods

**Instructor**

Nace

**Communication (COMM)**

Prefix and number in parentheses following the U.T. Arlington course number and title is the Common Course Number designation.

**1300. INTRODUCTION TO COMMUNICATION (3-0) 3 hours credit (COMM 1307).** Application of communication theories and principles to human communication; from the oral tradition to the printing press, photography, electronic media, and information technology.

**Prerequisite for COMM 4000-level courses: Junior standing.**

**4300. COMMUNICATION RESEARCH (3-0) 3 hours credit.** Introduction to communication research, design, and methodology. Readings and criticism in interpersonal, public address, and mass communication research; project required.

**4305. COMMUNICATION AND SOCIETY (3-0) 3 hours credit.** Readings and analysis of the role of communication in modern society; its impact on contemporary social, cultural, political, and intellectual trends.

**4310. COMMUNICATION LAW AND REGULATIONS (3-0) 3 hours credit.** Study of constitutional, statutory, and administrative regulations as applied to print media, broadcast media, advertising, and film; rights, responsibilities, and ethics.

**4315. COMMUNICATION THEORY (3-0) 3 hours credit.** Study of communication theories; interpersonal, organizational, mass media, and intercultural.

**4325. COMMUNICATION HISTORY (3-0) 3 hours credit.** Evolution and trends in forms of human communication; development of symbols and media technology with attention to their effects on society.

**4330. POLITICAL COMMUNICATION (3-0) 3 hours credit.** Communication theories, principles, and strategies in modern political campaigns and events.

**4335. INTERNATIONAL-INTERCULTURAL COMMUNICATION (3-0) 3 hours credit.** Cultural, ethnic, and cross-national differences in communication. National systems of communication are compared.

**4393. COMMUNICATION TOPICS (3-0) 3 hours credit.** Seminar in interdisciplinary topics. Prerequisite: upper division standing. May be repeated when topics vary.

**4394. HONORS THESIS/SENIOR PROJECT.** Required of all students in the University Honors Program. During the senior year, the student must complete a thesis or a project under the direction of a faculty member in the major department.

## Advertising (ADVT)

Prefix and number in parentheses following the U.T. Arlington course number and title is the Common Course Number designation.

**2337. INTRODUCTION TO ADVERTISING (3-0) 3 hours credit (COMM 2327).** The role of advertising in society. Basic concepts include marketing message creation, budget determination, agency-client relationships, and social responsibility of advertisers.

**3304. ADVERTISING STRATEGY (3-0) 3 hours credit.** Strategic research, problem definition, planning, creativity, and ethics in advertising and public service announcements. Applying the techniques of research and the principles of communication and persuasion to the development of advertising objectives, strategy, and creative concepts. Prerequisites: JOUR 1345 and ADVT 2337.

**3305. ADVERTISING MEDIA (3-0) 3 hours credit.** Decision-making in selection and use of advertising media. Evaluation of media alternatives in terms of marketing objectives, audience analysis, cost, and editorial and program content. Selection of space time units and media schedules. Prerequisites: JOUR 1345 and ADVT 2337.

**3306. ADVERTISING COPYWRITING (3-0) 3 hours credit.** The theory and practice of developing appropriate messages to reach and influence target audiences. Integrating research, strategy, and audio/visual methodology into the creation of concepts and copy for the primary ad media. Includes consumer and business media and direct advertising. Prerequisites: JOUR 1345 and ADVT 2337.

**4301. ADVERTISING CAMPAIGNS (2-3) 3 hours credit.** Advanced study of advertising, marketing, and communication theories. Development of advertising plans for specific business firms by students working as account service groups. Prerequisites: JOUR 3303, ADVT 3304, 3305, and 3306.

**4391. CONFERENCE COURSE (3 hours credit as arranged).** Topic assigned on an individual basis, covering individual research or study in the designated areas. Can be taken more than once when topic varies. Prerequisite: permission of department.

**4393. SPECIAL TOPICS (3-0) 3 hours credit.** Special studies in advertising. Topic varies from semester to semester. May be repeated when topic changes, for a maximum of six credit hours. Prerequisite: permission of department.

**4395. PROFESSIONAL INTERNSHIP (0-10) 3 hours credit.** Individual research while working with business and industry. Individual conference to be arranged. Prerequisite: appropriate junior level course completed in student's option and permission of supervising professor and department. Graded P/F.

## Broadcast Communication (BCM N)

**1355. BROADCAST DICTION (3-0) 3 hours credit.** Application of the phonetic alphabet to improve vocal processes, articulation, and pronunciation. Practice in the reading of broadcast copy. Credit will be given for only one of BCM N 1355, THEA 1302, or SPCH 1302.

**2350. BROADCAST WRITING (3-0) 3 hours credit.** Writing of non-dramatic scripts for broadcast. Includes continuity, commercial copy-writing, public service announcements, news, and program scripts. Prerequisite: ENGL 1301, 1302. JOUR 1345 recommended.

**2357. RADIO PRODUCTION (3-1) 3 hours credit.** The fundamentals of radio broadcasting. The techniques of announcing, interviewing, script writing, programming, types of radio production,

audience analysis, and vocational opportunities. Students participate in typical broadcasting activities.

**2358. TELEVISION WORKSHOP (2-2) 3 hours credit.** Fundamentals of television broadcasting, including programming concepts, writing, lighting, and switching practices.

**3318. BROADCAST SALES (3-0) 3 hours credit.** Process of developing an effective sales staff in the telecommunication industry. Sales policies, procedures, techniques, time-management, client relationships, closing, and sales service are discussed. Prerequisites: BCM N 2357.

**3319. BROADCAST MANAGEMENT (3-0) 3 hours credit.** Management procedures, policies, and responsibilities in the successful operation of telecommunication industries. Areas covered are planning, problem-solving, personnel, facilities, government, financial resources, and public service. Prerequisites: BCM N 2357.

**3340. ELECTRONIC NEWS (2-2) 3 hours credit.** News writing and gathering for the electronic media; use of basic audio and video electronic equipment; editing of audio and video tapes of news stories for analysis and criticism. Prerequisites: BCM N 2357.

**3341. PUBLIC AFFAIRS AND NEWS PROGRAMMING (3-0) 3 hours credit.** Planning of public affairs and news programs; story ideas, news judgments, reporting, shooting, editing, and presentation. Prerequisite: BCM N 3340.

**3350. TELEVISION REPORTING (2-2) 3 hours credit.** Producing and reporting of news information for the television media. Students will participate in news gathering, writing, and shoot packaging for television. Prerequisite: BCM N 2350.

**3355. BROADCAST ANNOUNCING I (2-2) 3 hours credit.** Concentrated study of phrasing, timing, voice modulation, pronunciation, and articulation. Analysis and interpretation of all types of broadcast copy. Integration of announcing and performance into broadcast production. Prerequisites: BCM N 1355, 2357; BCM N 3357 recommended.

**3356. BROADCAST ANNOUNCING II (2-2) 3 hours credit.** Continued concentration on announcing and the interpretation of broadcast copy including vocal delivery, phrasing, and communication of meaning. Prerequisite: BCM N 3355.

**3357. ADVANCED RADIO PRODUCTION (2-2) 3 hours credit.** Development of production and announcing skills basic to professional broadcasting. Students perform a variety of broadcasting assignments. Prerequisites: BCM N 2357.

**4319. BROADCAST PROMOTION (3-0) 3 hours credit.** Emphasizes positioning a station among its competitors with respect to promotional and marketing plans designed to build and maintain an audience. Relationship of broadcast ratings to programming and sales. Prerequisite: appropriate junior level course in student's option.

**4320. CURRENT ISSUES IN TELECOMMUNICATIONS (3-0) 3 hours credit.** Recent and current literature in radio and television broadcasting, cablecasting, industrial video, satellite distribution, and national and international telecommunication policies. Current problems and possible solutions. Prerequisite: appropriate junior level course completed in student's option.

**4340. NEWS PRACTICUM (1-6) 3 hours credit.** Production and evaluation of news programs for transmission on electronic media. Students will participate in production of newscasts for airing via broadcast and cable systems. Prerequisite: BCM N 3341 or 3356.

**4357. RADIO COMMERCIAL PRODUCTION (2-2) 3 hours credit.** Development of commercial, public service, and promotional announcements for radio and cable transmission. Studio recording

techniques, music, sound effects, and vocal techniques are studied. Prerequisite: BCMN 3357.

**4360. CABLE OPERATIONS (2-2) 3 hours credit.** Application of programming theories and techniques to materials for release via RF/Cable/Satellite systems. Prerequisite: appropriate junior level course completed in student's option.

**4391. CONFERENCE COURSE (3 hours credit as arranged).** Topic assigned on an individual basis, covering individual research or study in the designated areas. Can be taken more than once when topic varies. Prerequisite: permission of department.

**4393. SPECIAL TOPICS (3-0) 3 hours credit.** Special studies in broadcasting. Topic varies from semester to semester. May be repeated when topics change, for a maximum of six credit hours. Prerequisite: permission of department.

**4395. PROFESSIONAL INTERNSHIP (0-10) 3 hours credit.** Individual research while working with business and industry. Individual conference to be arranged. Prerequisite: appropriate junior level course completed in student's option and permission of supervising professor and department. Graded P/F.

## Journalism (JOUR)

Prefix and number in parentheses following the U.T. Arlington course number and title is the Common Course Number designation.

**1345. WRITING FOR MASS MEDIA (2-2) 3 hours credit (COMM 2309).** News gathering and writing techniques as applied to newspapers, broadcast media, and public relations with practice in research and writing.

**2340. PHOTOJOURNALISM I (2-2) 3 hours credit.** Basic theory and techniques of photojournalism; introduction to electronic digital photography and editing; professional, technical, and esthetic values.

**2346. REPORTING (2-2) 3 hours credit (COMM 2310).** Complex journalistic stories with emphasis on ethics, interviewing, and writing of general news stories, features, and specialized stories. Prerequisites: JOUR 1345.

**3303. COMMUNICATION GRAPHICS (3-0) 3 hours credit.** History, current practice, principles and trends in typography, imaging, pre-press and production, sheet finishing, bindery, paper and ink, logo design, advertising layout, publication design, and computer layout, design, and publishing.

**3328. PUBLIC AFFAIRS REPORTING (3-0) 3 hours credit.** Research in planning and writing techniques required for covering such public affairs news sources as governmental offices, bureaus, and agencies. Experience in covering local governmental agencies. Prerequisite: JOUR 2346.

**3335. STUDENT PUBLICATION ADVISORY PROCEDURES (3-0) 3 hours credit.** Problem-solving approaches to sponsorship of student publications; editorial policies, advertising sales and promotions, business procedures, and staff motivation techniques.

**3341. PHOTOJOURNALISM II (2-2) 3 hours credit.** Advanced electronic imaging techniques as applied to newspapers, magazines, and public relations. Prerequisites: JOUR 2340.

**3345. NEWS EDITING (2-2) 3 hours credit.** The function of the editor and copy editor; extensive practice in newspaper page makeup, headline writing, and copy editing. Prerequisite: JOUR 2346.

**3350. MAGAZINE EDITING (2-2) 3 hours credit.** Theory and techniques of magazine editing, content and design with practice in

editing, layout, graphics, principles and problems of general and specialty magazines, and company publications and business journals.

**4326. MAGAZINE WRITING (3-0) 3 hours credit.** Nature, function, and structure of articles for magazines and newspapers. Research and interviewing techniques; extensive practice in writing.

**4327. OPINION AND PERSUASIVE WRITING (3-0) 3 hours credit.** Reading and analysis of the forms of persuasive writing, including editorials, commentaries, reviews, and interpretive articles.

**4341. PHOTOJOURNALISM III (2-2) 3 hours credit.** Electronic imaging in news, illustrative, narrative, and essay formats. Readings in visual communication research, law, and ethics. Prerequisite: JOUR 3341.

**4378. DEPTH REPORTING (3-0) 3 hours credit.** Investigative and in-depth methods of news gathering and writing with emphasis on social science techniques. Prerequisite: JOUR 2346.

**4380. PICTURE EDITING (2-2) 3 hours credit.** Advanced theory and techniques of picture selection, sizing, cropping, layout design, electronic imaging. Ethics as applied to print media. Prerequisite: JOUR 2340.

**4391. CONFERENCE COURSE (3 hours credit as arranged).** Topic assigned on an individual basis, covering individual research or study in the designated areas. Can be taken more than once when topic varies. Prerequisite: permission of department.

**4393. SPECIAL TOPICS (3-0) 3 hours credit.** Special studies in journalism. Topic varies from semester to semester. May be repeated when topics change, for a maximum of six credit hours. Prerequisite: permission of department.

**4395. PROFESSIONAL INTERNSHIP (0-10) 3 hours credit.** Individual research while working with business and industry. Individual conference to be arranged. Prerequisite: appropriate junior level course completed in student's option and permission of supervising professor and department. Graded P/F.

## Public Relations (PREL)

**2338. INTRODUCTION TO PUBLIC RELATIONS (3-0) 3 hours credit.** Principles and methods of building goodwill and obtaining publicity; process of influencing public opinion; analysis of media; implementation of public relations programs.

**3339. PUBLIC RELATIONS METHODS (2-2) 3 hours credit.** The theory and practice of selecting the appropriate mass media channels to reach and influence specialized groups, with practice in public relations writing. Prerequisite: PREL 2338 and JOUR 2346.

**3355. PUBLIC RELATIONS CASE STUDIES (3-0) 3 hours credit.** The use of case studies to study the techniques of goal-setting and strategy-selection as applied in actual programs and under varying information conditions. Prerequisite: PREL 2338.

**4316. PUBLIC RELATIONS CAMPAIGNS (3-0) 3 hours credit.** The study of advanced public relations campaign strategies based on research techniques; campaign development, implementation and assessment. Prerequisites: PREL 3339, 3355, and either JOUR 3345, 3350, or 4326.

**4391. CONFERENCE COURSE (3 hours credit as arranged).** Topic assigned on an individual basis, covering individual research or study in the designated areas. Can be taken more than once when topic varies. Prerequisite: permission of department.

**4393. SPECIAL TOPICS (3-0) 3 hours credit.** Special studies in public relations. Topic varies from semester to semester. May be re-

peated when topic changes for a maximum of six credit hours. Prerequisite: permission of department.

**4395. PROFESSIONAL INTERNSHIP (0-10) 3 hours credit.** Individual research while working with business and industry. Individual conference to be arranged. Prerequisite: appropriate junior level course completed in student's option and permission of supervising professor and department. Graded P/F.

## Speech (SPCH)

Prefix and number in parentheses following the U.T. Arlington course number and title is the Common Course Number designation.

**0185. FORENSICS (0-4) 1 hour credit (SPCH 1144).** Preparation for and participation in intercollegiate and intersquad forensic activities. Students engage in supervised research, development of debate skills and individual speaking activities. Prerequisite: permission of the instructor.

**1301. FUNDAMENTALS OF SPEECH (3-0) 3 hours credit (SPCH 1311).** Stress on development of the individual's speaking abilities and confidence in a variety of speaking situations.

**1302. VOICE AND DICTION (3-0) 3 hours credit (SPCH 1342).** Designed to improve the quality of the individual's speech. Enunciation, articulation, pronunciation, and the fundamentals of voice production. The phonetic alphabet as a visual means of teaching auditory differences.

**2304. GROUP COMMUNICATION PRINCIPLES (3-0) 3 hours credit.** Principles and practice of effective interaction within small groups including meeting planning, agenda setting, conflict management, and decision making.

**2305. BUSINESS AND PROFESSIONAL COMMUNICATION (3-0) 3 hours credit (SPCH 1321).** Insight into communication skills. Designed to give the student experience in interviewing, business presentations, organizational reports, and the relationship of visual and oral presentations to business.

**3302. PROFESSIONAL AND TECHNICAL COMMUNICATION (3-0) 3 hours credit.** Theory and practice in written and oral presentations with an emphasis on business and technical professions.

**3305. ARGUMENTATION AND DEBATE (3-0) 3 hours credit.** An advanced course in the development of effective argument. Research, presentation, and criticism of logic-based advocacy. Prerequisite: six hours of speech.

**3306. PERSUASIVE SPEAKING (3-0) 3 hours credit.** Theories of persuasion applied in speaking situations. Motivational and emotional appeals, development of source credibility and alternative organizational strategies. Presentation and analysis of student speeches. Prerequisite: six hours of speech.

**3307. SPEECH ACTIVITIES (3-0) 3 hours credit.** Theory and practice of extra-curricular activities in speech.

**3309. ORGANIZATIONAL COMMUNICATION (3-0) 3 hours credit.** Communication functions within formally structured social systems such as business, government, and education. Emphasis on conceptual schemes for conducting analysis of training programs in organizational communication. Prerequisite: six hours of speech.

**3310. GROUP COMMUNICATION THEORY (3-0) 3 hours credit.** Characteristics of group communication including group function and formation, norms, cohesion, problem solving, leadership, and ethics. Prerequisite: SPCH 2304.

**3312. BACKGROUNDS OF PUBLIC ADDRESS (3-0) 3 hours credit.** Traditional works pertinent to theories of communication. Emphasis on discovering the traditional bases shared by empirical and critical studies of rhetorical communication. Prerequisite: six hours of speech or permission of department.

**3315. EFFECTIVE ORAL PRESENTATION (3-0) 3 hours credit.** Development of oral proficiency in a pedagogical situation. Primary presentational methods in groups and instructional settings.

**3316. COMMUNICATION IN HUMAN RELATIONS (3-0) 3 hours credit.** The human communication process within the social, business, and family context. Theories and principles of interpersonal communication and perception of self and others. Prerequisite: six hours of speech.

**3320. INTERVIEW PRINCIPLES (3-0) 3 hours credit.** Theory and research of interviewing as it relates to information-gathering and responses in broadcast communication, print media, surveys, and organizational environments. The psychology of question formulation and responses. Prerequisite: six hours of speech.

**3321. ORAL INTERPRETATION (3-0) 3 hours credit.** The fundamental principles of oral interpretation and techniques of interpretation. Stresses background research concerning author and type of material. Prose is emphasized. Credit will not be granted for THEA 3321 and SPCH 3321. Prerequisite: six hours of speech or theatre.

**3322. ORAL INTERPRETATION (3-0) 3 hours credit.** Principally drama and poetry, although prose may be touched on. Acquiring an effective technique for sharing the enjoyment of literature with an audience. Credit will not be granted for THEA 3322 and SPCH 3322. Prerequisite: six hours of speech or theatre.

**3323. ORAL INTERPRETATION OF CHILDREN'S LITERATURE (3-0) 3 hours credit.** Designed to help the oral reader select, analyze, and read aloud, for audiences of children and adults. Story telling for children included. Credit will not be granted for THEA 3323 and SPCH 3323. Prerequisite: six hours of speech or theatre.

Prerequisite for SPCH 4000-level courses: Appropriate 3000-level course completed in student's specialization.

**4300. PERSUASIVE COMMUNICATION (3-0) 3 hours credit.** Analysis of the means by which persuasive communication affects individuals and society. Extensive reading of theories of techniques of persuasion. Study of the adaptation of motivational appeals, structural strategies, and other persuasive techniques in interpersonal and public contexts.

**4302. MODERN PUBLIC ADDRESS (3-0) 3 hours credit.** Analysis of major 20th-Century forms of public address and speakers. Application of various models for criticism and public address. Prerequisite: SPCH 3312.

**4315. BUSINESS PRESENTATIONS (3-0) 3 hours credit.** The role of internal and external informative presentations in business organizations. Extensive readings and practice with an emphasis on research, development, organization, and critical evaluation of oral and visual presentations. Prerequisite: appropriate 3000-level course completed in student's specialization.

**4320. MANAGERIAL COMMUNICATION (3-0) 3 hours credit.** Analysis of the role of the business manager; readings in research and theory with emphasis on problem-solving and motivation.

**4321. READER'S THEATRE (3-0) 3 hours credit.** Readers interpret various kinds of literature for an audience. Analysis and criticism of literature are stressed. Credit will not be granted for THEA 4321 and SPCH 4321.

**4360. SPEECH DYNAMICS (3-0) 3 hours credit.** Activities and theories involved in developing speaking and listening skills.

**4391. CONFERENCE COURSE (3 hours credit as arranged).** Topics assigned on an individual basis, covering research or study in the designated areas. Can be taken more than once when topic varies. Prerequisite: permission of department.

**4393. SPECIAL TOPICS (3-0) 3 hours credit.** Special studies in speech. Topics will vary from semester to semester. May be repeated when topics vary or until a maximum of six credit hours is attained. Prerequisite: permission of department.

**4395. INTERNSHIP (0-10) 3 hours credit.** Individual research while working with business and industry. Individual conference to be arranged. Prerequisite: Appropriate junior level course completed in student's option and permission of supervising professor and department. Graded P/F.

# Criminology and Criminal Justice

362 University Hall • Box 19595 • 817-272-3318

The Criminology and Criminal Justice Program at The University of Texas at Arlington is designed to strike a balance between theory and application. The program's curriculum emphasizes the theoretical foundations necessary to understand human behavior; the criminal justice system; and the application of theoretical knowledge to the development and critical analysis of policy implications. The curriculum provides strong preparation for graduate work in both academic and professional programs and prepares students to more fully understand, analyze, and operate in a variety of settings within or related to the justice system.

The curriculum includes (1) general education courses required to provide a background in the liberal arts, (2) disciplinary courses that provide valuable theoretical and methodological perspectives, and (3) courses that examine various aspects of crime and the judicial, law enforcement, and correctional processes that have been developed to deal with the crime problem.

## Requirements for a Bachelor of Arts Degree in Criminology and Criminal Justice

### English

Six hours of composition.

### Literature

Three hours of English or foreign language literature or other approved substitute.

### Liberal Arts Elective

Three hours above the freshman level of literature, or social and cultural studies designated as taught in the College of Liberal Arts, or fine arts or philosophy, or technical writing.

### Foreign Language

1441, 1442, 2313, 2314 or equivalent.

### History

1311, 1312.

### Political Science

2311, 2312.

### Mathematics

Six hours (level of college algebra or higher)

### Science

11 hours (eight hours in a single lab science).

### Fine Arts and Philosophy

Three hours from architecture, art, dance, music, philosophy, or theatre arts.

### Social/Cultural Studies

Three hours of designated courses in archaeology, classical studies, communication, economics, history, humanities, linguistics, political science, social or cultural anthropology, social/political/cultural geography, social psychology, sociology or women's studies.

### Major

#### Core (Required)

Students majoring in criminology and criminal justice must complete CRCJ 2334 or equivalent, or have permission of advisor, before taking other criminology and criminal justice courses. PSYC 1315; SOCI 1311; CRCJ 2334, 3336, 3338, 4301, 4332 or 4333, 4380; SOCI 3305, SOCI 3313 or CRCJ 3300; SOCI 3352.

#### Major Electives

Nine hours, at least six of which must be in CRCJ-prefix courses. CHEM 1463; CRCJ 2340, 3307, 3337, 3380, 3390, 4300, 4309, 4315, 4331, 4332 or 4333, 4345, 4352, 4386, 4387, 4388, 4389, 4390, 4394; HIST 4385; POLS 3331, 3333, 3335, 4331, 4332; PSYC 3303, 3324; PSYC 3318 or SOCI 4332; SOCI 3312, 3317, 3322, 3357, 4310, 4315; SOCW 2311.

#### Minor

18 hours, at least six of which must be 3000/4000 level.

#### Electives

Nine hours.

#### Total

127 hours, at least 36 of which must be 3000/4000 level, plus exercise and sport activities (EXSA) or ROTC or marching band as required.

## Requirements for a Minor in Criminology and Criminal Justice

A minor in criminology and criminal justice consists of 18 semester hours, at least 12 of which must be 3000/4000 level. Students choosing to minor in this course of study are encouraged to complete CRCJ 2334 prior to taking other criminology and criminal justice courses.

## Criminology and Criminal Justice Faculty

**Director**

Associate Professor Bing

**Professor**

Stevens

**Assistant Professor**

Gay, Heard

**Adjunct Associate Professor**

MacKenna

## Criminology and Criminal Justice (CRCJ)

Prefix and number in parentheses following the U.T. Arlington course number and title is the Common Course Number designation.

**1317. ISSUES IN CRIME AND CRIMINAL JUSTICE (3-0) 3 hours credit.** Review of selected crime-related issues in contemporary American society. Examination of their implications for the criminal justice system and for the society of which it is a part. Issues selected by instructor.

**2334. INTRODUCTION TO THE CRIMINAL JUSTICE SYSTEM (3-0) 3 hours credit (CRIJ 1301).** An overview of the entire criminal justice system; history and development, law enforcement, prosecution and defense, courts and trial processes, and corrections. Formerly CRCJ 3334; credit will not be granted for both 3334 and 2334.

**2340. CRIMINAL INVESTIGATION (3-0) 3 hours credit (CRIJ 2314).** Fundamentals of criminal investigation, including theory and history, conduct at crime scenes, sources of information, collection and preservation of evidence, case and trial preparation. Formerly CRCJ 2314; credit will be given for CRCJ 2340 or 2314, but not both.

**3300. PERSPECTIVES ON THE CRIMINAL JUSTICE SYSTEM (3-0) 3 hours credit.** The methodological and theoretical perspectives of the social and biological sciences as integrated into the criminal justice system.

**3307. INTRODUCTION TO SECURITY SYSTEMS (3-0) 3 hours credit.** Historical development of private security, its form and practice in modern society. Emphasis on three major divisions within the field: industrial, commercial and governmental security organizations and issues.

**3336. POLITICS AND POLICE LEADERSHIP (3-0) 3 hours credit.** Examines the principles of administration, management, politics and leadership with emphasis on their applicability to law enforcement planning, organization, direction, control and personnel management.

**3337. ADVANCED CRIMINAL PROCEDURE (3-0) 3 hours credit.** The processes involved in the criminal justice system; the rules of evidence; the laws of arrest, search and seizure; and the judicial process from offense to conviction.

**3338. JUVENILE JUSTICE SYSTEMS (3-0) 3 hours credit.** Organization, processes, and functions of the juvenile justice system in the United States, its historical antecedents, and contemporary challenges. Consideration also given to sociopolitical factors in juvenile justice decision-making.

**3380. ETHNIC AND GENDER ISSUES IN CRIMINAL JUSTICE (3-0) 3 hours credit.** An overview of ethnic and gender issues focusing on victims, offenders, and professionals in the criminal justice system. Also listed as WOMS 3380; credit will be granted only once.

**3390. VICTIMOLOGY (3-0) 3 credit hours.** The relationship between victims of crime and the criminal justice system. Includes an analysis of the characteristics of crime victims, victim reporting and nonreporting patterns, treatment of victims by the various segments of the criminal justice system, victim assistance programs, and the issue of compensation and/or restitution for victims of crime.

**4300. EDUCATIONAL STRATEGIES FOR OFFENDER POPULATIONS (3-0) 3 hours credit.** Design, implement, and evaluate educational curricular for offender populations. Special attention is given to diversity issues such as culture, ethnicity/race, religion, gender, and class.

**4301. THE AMERICAN JUDICIAL SYSTEM (3-0) 3 hours credit.** Federal, state, and local judicial systems, with special emphasis on state trial courts having criminal jurisdiction. Court structure and function, court management, and judicial behavior.

**4309. PRIVATE SECURITY ADMINISTRATION (3-0) 3 hours credit.** The essentials of governmental and proprietary security development and program planning; including personnel recruitment and training, developing and conducting security audits, records and information protection, and general applications of modern management techniques to security organization. Prerequisite: CRCJ 3307.

**4315. CRIMINAL CAREERS AND BEHAVIOR SYSTEMS (3-0) 3 hours credit.** Study and analysis of criminal syndicates, corporate crime, computer crime, criminal corporations, organized crime, and transnational criminal operations.

**4331. CORRECTIONAL LAW (3-0) 3 hours credit.** Major civil liberties issues associated with institutional and community-based supervision of adult and juvenile offenders. Includes statutes, jail standards, case law, constitutional rights, recommended standards by professional groups and government commissions. Recent and future trends are examined.

**4332. COMMUNITY CORRECTIONS (3-0) 3 hours credit.** Evaluation of practices, issues, and trends in community corrections. Emphasis is on the de-institutionalization movement, probation, parole, intermediate punishments, and other community alternatives to incarceration.

**4333. INSTITUTIONAL CORRECTIONS (3-0) 3 hours credit.** Examination and evaluation of practices, issues, and trends in institutional corrections. Emphasis is on administration, organization, and effectiveness of incarceration.

**4345. CRIME AND THE CRIMINAL JUSTICE SYSTEM IN THE MEDIA (3-0) 3 hours credit.** An examination of crime and the criminal justice system as depicted in the media; special emphasis on the roles of the media in influencing individual and societal perceptions of, and reactions to, crime and the criminal justice system.

**4352. TERRORISM AND MASS VIOLENCE (3-0) 3 hours credit.** Examination of historic and current trends in civil disruption from domestic/international perspectives. Considers literature and philosophical basis of political terrorism; costs of terrorism; future trends and deterrence by civil or military intervention. Formerly CRCJ 3352; credit will not be granted for both 4352 and 3352.



**4380. COMPARATIVE CRIMINAL JUSTICE SYSTEMS (3-0) 3 hours credit.** An overview of criminal justice systems in other countries. Includes an intensive study and analysis of materials on their law enforcement, judicial, and corrections components; review of comparative studies on a variety of criminal justice topics.

**4386. TOPICS IN CORRECTIONS (3-0) 3 hours credit.** May be repeated for credit as the topics vary, but credit will not be granted for more than 12 semester hours of CRCJ-prefix topics courses without permission of advisor.

**4387. TOPICS IN CRIME AND CRIMINOLOGY (3-0) 3 hours credit.** May be repeated for credit as the topics vary, but credit will not be granted for more than 12 semester hours of CRCJ-prefix topics courses without permission of advisor.

**4388. TOPICS IN LAW AND JUDICIAL PROCESSES (3-0) 3 hours credit.** May be repeated for credit as the topics vary, but credit will not be granted for more than 12 semester hours of CRCJ-prefix topics courses without permission of advisor.

**4389. TOPICS IN LAW ENFORCEMENT AND PRIVATE SECURITY (3-0) 3 hours credit.** May be repeated for credit as the topics

vary, but credit will not be granted for more than 12 semester hours of CRCJ-prefix topics courses without permission of advisor.

**4390. INTERNSHIP IN CRIMINAL JUSTICE (3-0) 3 hours credit.** Provides the student with an opportunity to apply academic experience to practical situations by serving for a specified number of hours as participant-observer in a criminal justice agency. May be taken for a total of six semester hours. Internships must be arranged with internship supervisor in the semester prior to enrolling for this course. Formerly listed as CRCJ 4394; credit will be granted only once. Prerequisite: permission of the instructor.

**4391, 4291, 4191. CONFERENCE COURSE IN CRIMINAL JUSTICE (Variable credit).** Directed individual study; research and study on a topic agreed upon by instructor and student. No more than six hours credit will be granted for conference courses in criminal justice. Prerequisite: permission of the instructor.

**4394. HONORS THESIS/SENIOR PROJECT (3-0) 3 hours credit.** Required of all students in the University Honors Program. During the senior year, the student must complete a thesis or a project under the direction of a faculty member in the major department.

# The Department of English

203 Carlisle Hall • Box 19035 • 817-272-2692

By studying literature, rhetoric, and composition, English majors acquire experience in assimilating large amounts of material representative of many cultures and periods. They learn critical approaches to texts that enable them to interpret and compare interpretations, to read closely, critically, and with empathy, to conduct research, to weigh evidence, and to write with insight and expertise.

These skills are widely applicable. They enable English majors to seek out and create careers in education, business, research and development, government, media, foundations, and publishing.

By majoring in English, students are simultaneously involved with two activities that are essentially and uniquely human: language and art. They make contact with the literary classics of America, England, and the world. They learn what men and women have thought about themselves and their worlds over the course of history, and they experience what others have experienced in their own words. They learn to understand the power of language and to use it well.

## Admission to Department of English Degree Programs

There are no special requirements that prospective majors in the Department of English must fulfill beyond the minimum 2.0 GPA and the completion of (a) 30 hours in residence and 30 hours of the core curriculum or (b) 12 hours in residence and 40 hours of the core curriculum necessary for exiting the Academic Foundations Program.

## Requirements for a Bachelor of Arts Degree in English

### Foreign Language

1441, 1442, 2313, and 2314 or equivalent.

### Political Science

2311, 2312.

### History

1311, 1312, and six hours of English history.

### Mathematics

Six hours at the level of college algebra or higher.

### Science

11 hours—eight hours in a single lab science (biology, chemistry, geology, or physics) and three hours in science or social science.

### Fine Arts and Philosophy

Three hours from architecture, art, dance, music, philosophy, or theatre arts.

### Social/Cultural Studies

Three hours of designated courses in archaeology, classical studies, communication, economics, history, humanities, linguistics, political science, social or cultural anthropology, social/political/cultural geography, social psychology, sociology or women's studies.

### Electives

Sufficient to complete the total number of hours required for the degree.

## Major

A total of 42 hours to include ENGL 1301 and 1302 (or waivers for advanced standing).

Any two of the following four 2000-level literature courses: ENGL 2303, 2309, 2319, 2329.

30 hours of 3000-4000 level courses. At the 3000-level, the following are required: ENGL 3340, 3351 or 3352, and 3361 or 3362, plus 3371 and 3384. In addition to these required courses, majors are required to take 15 hours of 3000/4000-level literature, literary criticism, rhetoric or theory courses. Before taking advanced work in English, students must apply to the Department of English for an officially designated advisor who will help them prepare their program.

## Minor

18 hours, at least six of which must be 3000/4000 level.

## Total

128 hours, of which at least 36 must be 3000/4000 level, plus exercise and sport activities (EXSA) or ROTC or marching band as required.

## Teacher Certification

Students wishing to take a Bachelor of Arts Degree in English with Elementary or Secondary Teacher Certification must complete 36 hours in English as follows:

- ENGL 1301 and 1302 (or waivers for advanced standing).
- Any two of the following four 2000-level literature courses: ENGL 2303, 2309, 2319, 2329.
- 24 hours of advanced courses. At the 3000 level, all of the following are required: ENGL 3340, 3351 or 3352, and 3361 or 3362, plus 3371 and 3384.
- Certification majors are required to take ENGL 4365 (for Elementary Certification) or ENGL 4370 (for Secondary Certification) and six additional hours of 3000/4000-level English courses.
- The requirement of six hours of English history (see B.A. degree) does not pertain to students obtaining teacher certification.

Students interested in Texas Teacher Certification should consult the Center for Professional Teacher Education section of this catalog for other requirements and for the most recent changes in requirements regarding admission to Teacher Education, completion of University programs in preparation for certification, and eligibility for certification after graduation.

## Option for Minor in Writing

The Writing Option is offered for students who wish to concentrate in writing as a part of their undergraduate curriculum. With the permission of their departmental Undergraduate Advisor, students may enroll in a series of courses and obtain a minor in writing.

Students selecting the Writing Option should consult first with the Undergraduate Advisor in their department or program for approval of the minor, then with the undergraduate English advisor. Working with advisors, students will select a sequence of advanced courses to fulfill their minor requirements.

### Required Courses for Students Selecting the Writing Option:

English 3371.

Nine hours advanced writing electives.

## Department of English Faculty

### Chair

Associate Professor Cohen

### Professors

Estes, Faris, Kellner, T. Porter, Roemer,

Swearingen, Vitanza, Wood

### Associate Professors

Barros, Danahay, Frank, Hanks, Lacy, Moffett, Morris,

L. Porter, Reddick, Smith, Turbeville

### Assistant Professors

Alaimo, Eidelman, Kolko, Ryan, Sudan

## English (ENGL)

Prefix and number in parentheses following the U.T. Arlington course number and title is the Common Course Number designation.

**0300. READING COMPREHENSION AND WRITING INSTRUCTION (3-0) 3 hours credit.** Offers assistance to students who require remediation for either the reading or writing section of TASP. Instruction in comprehending college-level reading material and principles of writing short academic essays in standard written English. This course may not be substituted for any other English course. Credit in this course does not fulfill any degree requirement.

**1301. CRITICAL THINKING, READING, AND WRITING I (3-0) 3 hours credit (ENGL 1301).** The critical thinking about, and reading and writing of, referential/expository discourse. Introduction to inventional procedures. Writing assignments focusing on identification and development of a subject, on organization, audience analysis, style, and the revision process.

**1302. CRITICAL THINKING, READING, AND WRITING II (3-0) 3 hours credit (ENGL 1302).** Continues ENGL 1301, but with an emphasis on critical thinking about, and reading and writing of, argumentative discourse. Introduction to inventional procedures such as types of proofs and claims and the Toulmin model. Writing assignments focusing on the identification, development, and support of propositions of fact, cause, value, and policy. Prerequisite: ENGL 1301.

### Information on Sophomore Courses

When registering for the second year of college English, students should consult their course outlines printed elsewhere in this catalog. In general, students may register for any two 2000 English subjects in any order. Transfer students who already have sophomore English credit should not register for additional sophomore English courses before seeing a department counselor. Unless otherwise indicated, six hours of freshman English credit is prerequisite to all 2000-level courses, and six hours of sophomore English credit is prerequisite to all 3000- or 4000-level courses. However, students who complete three hours of sophomore literature with a grade of A may choose to substitute a 3000-level course in place of the other three-hour sophomore requirement.

**2303. TOPICS IN LITERATURE (3-0) 3 hours credit.** May include topics in film and literature, women in literature, short story, and autobiography. May be repeated for credit when content changes.

**2305. INTERMEDIATE HONORS EXPOSITION (3-0) 3 hours credit.** An intermediate writing course that includes generating ideas, collecting data, determining audience, and organizing material into clear, coherent compositions. May be repeated for credit with permission of the Honors Program Director. Prerequisite: membership in the Honors Program.

**2309. WORLD LITERATURE (3-0) 3 hours credit (ENGL 2331).** Significant works of world literature with emphasis on ideas and the ways in which they reflect cultural and aesthetic values; emphasis on critical methods of reading, writing, and thinking. Examines at least three genres and six authors. Prerequisites: ENGL 1301, 1302.

**2319. BRITISH LITERATURE (3-0) 3 hours credit (ENGL 2322).** Significant British works with emphasis on ideas and the ways in which they reflect cultural and aesthetic values; emphasis on critical methods of reading, writing, and thinking; at least three genres and six authors considered. Prerequisites: ENGL 1301, 1302.

**2329. AMERICAN LITERATURE (3-0) 3 hours credit (ENGL 2326).** Consideration of significant American works with a focus on ideas and the ways in which they reflect cultural and aesthetic values; emphasis on critical methods of reading, writing, and thinking; at least three genres and six authors considered. Prerequisites: ENGL 1301, 1302.

**2371. HONORS AMERICAN LITERATURE I (3-0) 3 hours credit.** Consideration of significant American works with a focus on ideas and the ways in which they reflect cultural and aesthetic values from America's beginnings to 1850. Prerequisites: ENGL 1302 or equivalent exam credit; membership in the Honors Program.

**2372. HONORS AMERICAN LITERATURE II (3-0) 3 hours credit.** Consideration of significant American works with a focus on ideas and the ways in which they reflect cultural and aesthetic values from 1850 to the present. Prerequisites: ENGL 1302 or equivalent exam credit; membership in the Honors Program.

### Information on Advanced Courses

The prerequisite for all the following courses is six credit hours of sophomore (2000) English.

**3300. SPECIAL TOPICS IN LITERATURE (3-0) 3 hours credit.** May include topics on Utopian literature, the American short story, Southwestern American literature, and modern British fiction. May be repeated for credit when content changes.

**3301. NINETEENTH-CENTURY RUSSIAN LITERATURE IN TRANSLATION (3-0) 3 hours credit.** Study of representative works of the major Russian writers from Pushkin through Chekhov. Also listed as RUSS 3301, but credit will be granted in only one department.

**3306. TWENTIETH-CENTURY RUSSIAN LITERATURE IN TRANSLATION (3-0) 3 hours credit.** Study of representative works of Russian writers immediately preceding the 1917 Revolution; of writing by Soviet authors acceptable to the Communist regime as well as by dissident voices; of the works from the period of *glasnost*; and of works written after the dissolution of the USSR. Also listed as RUSS 3306; credit will be granted in only one department.

**3339. CLASSICAL BACKGROUNDS (3-0) 3 hours credit.** Literature of the Greco-Roman world including, but not limited to, the *Odyssey*, selected Greek tragedies, the *Aeneid*, the *Metamorphoses*, and selected lyrics, epigrams, and satires.

**3340. HISTORY OF AMERICAN LITERATURE (3-0) 3 hours credit.** American literature from its beginnings as related to the development of American culture; may include the study of canon formation.

**3341. AMERICAN DRAMA (3-0) 3 hours credit.** Dramatic structure and techniques, as well as the study of drama in its cultural contexts.

**3342. AMERICAN POETRY (3-0) 3 hours credit.** Examines the forms, traditions, and cultural contexts of the poetry of the United States. May include the relationship between American poetry and

poetry written in English elsewhere. May include the relationship between American poetry and poetry written in other languages.

**3343. TOPICS IN AMERICAN ETHNIC LITERATURE (3-0) 3 hours credit.** Examination of African-American, native-American, Mexican-American or other ethnic literatures. May be repeated for credit when course content changes.

**3351. HISTORY OF BRITISH LITERATURE I (3-0) 3 hours credit.** British literature and language from their origins through the 18th Century, as they relate to the development of British culture.

**3352. HISTORY OF BRITISH LITERATURE II (3-0) 3 hours credit.** British literature from the Romantic period to the present, as it relates to the development of British culture.

**3361. HISTORY OF WORLD LITERATURE I (3-0) 3 hours credit.** Examines the literature of the world, from antiquity to 1700.

**3362. HISTORY OF WORLD LITERATURE II (3-0) 3 hours credit.** Examines the literature of the world, from 1700 to the present.

**3370. WOMEN IN LITERATURE (3-0) 3 hours credit.** Works by women writers and/or images of women in literature. May be repeated for credit as subject matter changes. Also listed as WOMS 3370; credit will be granted only once.

**3371. ADVANCED EXPOSITION (3-0) 3 hours credit.** An advanced writing course emphasizing writing that explains, demonstrates, or explores a subject. Attention given to audience, invention, style (coherence, unity, and clarity), and to the revision process.

**3372. COMPUTERS AND WRITING (3-0) 3 hours credit.** An advanced writing course, conducted in a computerized classroom. An emphasis on rhetorical analyses of electronic discourse and writing in electronic environments.

**3374. WRITING, RHETORIC, AND MULTIMEDIA AUTHORING I (3-0) 3 hours credit.** Introduction to the rhetorical structure of multimedia. An emphasis on composing writing-intensive and research-oriented projects for academic, business, and/or creative audiences. Prerequisites: ENGL 1301 and 1302 or equivalent.

**3375. LITERARY WRITING (3-0) 3 hours credit.** Focuses on the craft of narrative, poetic, and dramatic discourses. Attention to figurative language, characterization, dialogue, point of view, and poetic structure as well as other elements of the craft. Assignments may include the writing of character sketches, short stories, poetry in various forms, and one-act plays.

**3384. STRUCTURE OF MODERN ENGLISH (3-0) 3 hours credit.** Introduction to the grammatical structure of modern English at the level of the word, clause, and discourse, with applications for effective writing.

**3385. SPECIAL TOPICS IN RHETORIC (3-0) 3 hours credit.** May include such topics as presidential rhetoric, campaign rhetoric, legal rhetoric, and American civil rights rhetoric. May be repeated for credit when content changes.

**3390. HONORS COLLOQUIUM (3-0) 3 hours credit.** An interdisciplinary course designed to meet the needs of advanced undergraduates in the Honors Program. Prerequisite: participation in the Honors Program and/or permission of instructor.

**4301. HISTORY AND DEVELOPMENT OF THE ENGLISH LANGUAGE (3-0) 3 hours credit.** The sounds and structure of the English language from pre-history to the present.

**4306. SELECTED AMERICAN AUTHORS BEFORE 1900 (3-0) 3 hours credit.** An intensive study of one to three authors.

**4307. AMERICAN LITERATURE BEFORE 1800 (3-0) 3 hours credit.** Considers the diversity of early American literatures and cultures; may include Native American oral narratives and songs, travel

accounts, Puritan writings, diaries, autobiography, poetry, drama, and Gothic fiction.

**4308. SELECTED AMERICAN AUTHORS AFTER 1910 (3-0) 3 hours credit.** An intensive study of one to three authors. May be repeated for credit as course content changes.

**4311. AMERICAN LITERATURE, 1800-1860 (3-0) 3 hours credit.** Literary movements, such as Romanticism, in their cultural contexts; may include essays, journals, and poetry by transcendentalists such as Emerson, Thoreau, and Fuller, as well as the fiction, poetry, autobiography, and/or criticism of such writers as Poe, Hawthorne, Douglass, Stowe, and Melville.

**4312. AMERICAN LITERATURE, 1860-1910 (3-0) 3 hours credit.** Literary movements such as Realism and Naturalism in their cultural contexts; may draw upon such writers as Dickinson, Whitman, Twain, Howells, Crane, Chopin, Gilman, and James.

**4313. AMERICAN LITERATURE, 1910-1945 (3-0) 3 hours credit.** Examines modern American literature within relevant cultural contexts (such as Modernism); draws from a range of genres and writers.

**4314. AMERICAN LITERATURE, 1945-PRESENT (3-0) 3 hours credit.** Contemporary literary movements in their cultural contexts. Genres studied may include fiction, poetry, drama, and literary criticism.

**4321. MEDIEVAL BRITISH LITERATURE (3-0) 3 hours credit.** Literature of England from its beginnings to the end of the 15th Century. Formerly listed as 3303. Credit cannot be received for both 3303 and 4321.

**4322. SIXTEENTH CENTURY BRITISH LITERATURE (3-0) 3 hours credit.** Poetry, prose, and drama of the 16th Century. The works of Spenser, Sidney, or the sonneteers may be emphasized.

**4323. SEVENTEENTH CENTURY BRITISH LITERATURE (3-0) 3 hours credit.** Seventeenth Century prose, poetry, drama. May include a study of Milton.

**4324. RESTORATION AND EIGHTEENTH CENTURY LITERATURE (3-0) 3 hours credit.** Literature of England from 1660 to 1798, centering on various representative works with attention to literary forms and historical contexts.

**4325. CHAUCER (3-0) 3 hours credit.** Works of the 14th-Century English poet Geoffrey Chaucer. Examination of his works, intellectual milieu, and literary influence.

**4326. SHAKESPEARE (3-0) 3 hours credit.** Selected plays by Shakespeare in their historical and literary context. May include his nondramatic works.

**4330. ADVANCED LITERARY WRITING (3-0) 3 hours credit.** Workshop focusing on the art of narrative, poetic, and dramatic discourse. Attention to the conception, design, and execution of the whole work, rather than to its components. Assignments may include the writing of short stories, poetry in various forms, single- or multi-act plays, and novels. Prerequisite: ENGL 3375.

**4331. THE BRITISH ROMANTICS (3-0) 3 hours credit.** Works of authors from the last decades of the 18th Century to well into the 19th Century. The works of one or more of the major Romantic poets (Blake, Wordsworth, Coleridge, Byron, Shelley, Keats) may be emphasized.

**4332. THE VICTORIANS (3-0) 3 hours credit.** Literature of England, 1830-1900. May focus on major figures, major themes, or issues in social, ethical, and aesthetic thought.

**4333. LITERARY GENRES (3-0) 3 hours credit.** May include such topics as modern British drama, the continental novel, patterns of narrative. May be repeated for credit as course content changes.

**4334. SPECIAL TOPICS: THEMES IN BRITISH LITERATURE (3-0) 3 hours credit.** May include such topics as the Arthurian theme in literature, innocence and experience, love as a theme in literature. May be repeated for credit as course content changes.

**4336. SPECIAL TOPICS IN AMERICAN LITERATURE (3-0) 3 hours credit.** Important themes, movements, regions, genres, or cross-cultural relationships. May be repeated for credit when course content changes.

**4337. SPECIAL TOPICS: THEMES IN COMPARATIVE LITERATURE (3-0) 3 hours credit.** May include such topics as literature and psychoanalysis or literature and revolution. May be repeated for credit as course content changes.

**4338. TWENTIETH CENTURY BRITISH LITERATURE (3-0) 3 hours credit.** Literature of England from the turn of the century to the present focusing on major figures, major themes, or literary movements. May include major Irish works.

**4339. RHETORIC AND COMPOSITION (3-0) 3 hours credit.** Focuses on the historical development of rhetorical practices from the classical to the contemporary period. Emphasis is on the study of style and the methods of discovering and developing topics, determining audiences, and organizing discourses. Assignments include the writing of both informative and argumentative discourse.

**4340. LITERATURE BY WOMEN (3-0) 3 hours credit.** Focus on women's writing in a particular genre or historical period or on a concept or issue of importance to women writers. May be repeated for credit as subject matter changes. Also listed as WOMS 4340; credit will be granted only once.

**4355. LITERARY CRITICISM I (3-0) 3 hours credit.** Readings and discussion of classics of literary criticism from Plato through Pater. Primary focus on traditional answers to the question of the nature and function of the literary critic. Formerly taught as 3327. Credit cannot be received for both 3327 and 4355.

**4356. LITERARY CRITICISM II (3-0) 3 hours credit.** Readings, discussion, and practical application of outstanding 20th-Century methodologies, such as New Criticism, Formalism, and Structuralism. Formerly listed as 3327. Credit cannot be received for both 3327 and 4356.

**4365. CHILDREN'S LITERATURE (3-0) 3 hours credit.** A survey of literature for children; analysis of outstanding authors and illustrators of that literature. Designed for prospective elementary teachers. Prerequisites: EDUC 4301, 4340. Formerly listed as 3365. Credit cannot be received for both 3365 and 4365.

**4370. THEORY AND PRACTICE: READING/COMPOSITION (3-0) 3 hours credit.** A series of workshops in the theory and practice of reading and composition.

**4371. ARGUMENTATIVE WRITING (3-0) 3 hours credit.** Emphasis on writing that aims to persuade and convince. Attention to invention, audience, logic (deductive, inductive, dialectic, and the Toulmin model), to case construction, and to ethical appeal. Assignments may focus on all forms of argumentative discourse, including advertising, political oratory, and editorials.

**4374. WRITING, RHETORIC, AND MULTIMEDIA AUTHORING II (3-0) 3 hours credit.** Advanced study of the rhetorical structure of multimedia. An emphasis on composing writing-intensive and re-

search-oriented projects for academic, business, and/or creative audiences. Prerequisite: ENGL 3374 or permission of the instructor.

**4380. CLASSICAL LITERATURE (3-0) 3 hours credit.** Greek and Roman masterpieces of prose and poetry, especially those which most deeply affected the development of Western literature.

**4381. MEDIEVAL LITERATURE (3-0) 3 hours credit.** Various aspects of Western literature from the Fifth to the end of the 15th Century. May focus on major figures and their milieu and heritage or on particular genres, themes, or topics.

**4382. RENAISSANCE AND BAROQUE LITERATURE (3-0) 3 hours credit.** Aspects of Western literature of the 16th and 17th Centuries. May focus on Petrarchan, anti-Petrarchan, Platonic, and anti-Platonic poetry; meditative poetry; drama or the relationship of literature and the arts, with special attention to Mannerism and Baroque and Rococo styles. Course may be repeated when content changes.

**4383. NEOCLASSICISM AND ROMANTICISM (3-0) 3 hours credit.** Tenets and dicta of Neoclassicism with examples from the drama, satire, and epic works from the period of Corneille through the 18th Century; the growth of Romanticism from its emergence in Enlightenment thought through its displacement of Realism, with emphasis on English, French, German, Italian, and Spanish poetry, fiction, drama, and essay.

**4384. REALISM AND NATURALISM (3-0) 3 hours credit.** Realistic and Naturalistic fiction and drama from their beginnings in Romanticism through their displacement by Impressionism. Examples drawn from the literature of France, Germany, Russia, Italy, Spain, England, and the Americas.

**4385. MODERNISM (3-0) 3 hours credit.** Major works of the early and mid-twentieth century in Europe that belong to the movement known as "modernism." May include study of Freud and literature, Impressionism, Surrealism, and Existentialism.

**4386. DANTE (3-0) 3 hours credit.** In depth study of the *Commedia* and of *La Vita Nuova* as the culminating works of the Middle Ages.

**4387. CONTEMPORARY LITERATURE (3-0) 3 hours credit.** Contemporary literary forms and movements.

**4388. MAJOR FIGURES IN COMPARATIVE LITERATURE (3-0) 3 hours credit.** Works by writers who have contributed significantly to world literature. May be repeated for credit with departmental permission.

**4391. LITERATURE CONFERENCE COURSE (3-0) 3 hours credit.** Requires permission of the department chair and the instructor.

**4394. HONORS THESIS/SENIOR PROJECT (3-0) 3 hours credit.** Required of all students in the University Honors Program. During the senior year, the student must complete a thesis or project under the direction of a faculty member in the major department.

# The Department of Exercise, Sport and Health Studies

112 Physical Education Bldg. • Box 19259 • 817-272-3288

The mission of the Department of Exercise, Sport and Health Studies is to pursue the study and practice of exercise, sport, dance, and health. The programs of instruction, research, and service are conducted within the context of fitness, sport performance, dance, aquatics, preventative and rehabilitative activities, and health promotion and education. This mission is achieved through educational and research activities related to cultural, biomechanical, physiological, psychological, and educational principles of human behavior.

Degree and certification programs are offered for physical education and health teachers. In addition, there are degree programs for students interested in exercise science as preparation for fitness management, clinical exercise physiology, and pre-physical therapy. Other curricular options provide offerings for recreational leadership, coaching, sport-related business, dance, performance, health promotion, and athletic training.

In addition to fulfilling University and College of Liberal Arts requirements for admission, students planning to be Exercise and Sport Studies majors must also fulfill the following Exercise, Sport and Health Studies requirements:

- GPA of 2.0 for 12 hours taken at UTA
- Completion of ENGL 1301 and 1302 with a passing grade
- Completion of EXSS 1124, EXSS 1215, and EXSS 1314 with a minimum grade of C

## Requirements for a Bachelor of Arts Degree in Exercise and Sport Studies

### English

Six hours of composition.

### Literature

Three hours of English or foreign language literature or other approved substitute.

### Liberal Arts Elective

Three hours above the freshman level of literature, or social and cultural studies designated as taught in the College of Liberal Arts, or fine arts or philosophy, or technical writing above the freshman level.

### Foreign Language

1441, 1442, 2313, and 2314 or equivalent.

### History

1311, 1312.

### Mathematics

Six hours (level of college algebra or higher).

### Political Science

2311, 2312.

### Science

BIOL 1441, 2457, 2458.

### Fine Arts and Philosophy

Three hours from architecture, art, dance, music, philosophy, or theatre arts.

### Social/Cultural Studies

Three hours of designated courses in archaeology, classical studies, communication, economics, history, humanities, linguistics, political science, social or cultural anthropology, social/political/cultural geography, social psychology, sociology or women's studies.

### Speech

1301.

### Major (36 hours)

#### Performance Core

Major Only activity courses: 1101, 1103, 1105, 1110, 1114, 1116, and 1118. Four of these hours will be used to fulfill the university requirement. Students may use proficiency exams to reduce this requirement and increase their electives. Substitutions for one-hour performance courses may be made by the departmental advisor.

#### Academic Core

1124, 1215, 1314, 3301, 3306, 3315, 4325.

#### Major Electives

Courses will be selected in consultation with the departmental advisor to complete the degree requirements. Emphasis areas are available in Exercise Science, Sport Performance, Sport Health, Dance, and Recreation. A minimum of 18 credits in the major must be 3000/4000-level courses.

#### Electives

Sufficient to give the total number of hours required for the degree.

#### Total

128 hours, 36 of which must be 3000/4000 level, plus four hours of required exercise and sport or dance activities.

Many of the courses in the Exercise, Sport and Health Studies curriculum require prerequisite courses which are identified in the course descriptions.

### Suggested EXSS Course Sequence— B.A. in Exercise and Sport Studies

#### Freshman Year

EXSS 1124, 1215, 1314, Majors Only Activity, 3 hours.

#### Sophomore Year

Majors Only Activity, 4 hours.

#### Junior Year

EXSS 3301, 3306, 3315.

#### Senior Year

EXSS 4325.

## Option for Minor in Dance

The Dance Minor is offered for students who wish to concentrate in dance as a part of their undergraduate curriculum. With the permission of their departmental advisors, students may enroll in a series of courses and obtain a minor in dance. Students selecting the Dance Minor should consult first with the advisors in their departments or programs for approval of the minor, then with the Exercise, Sport and Health Studies advisor.

### Required Courses for Students Selecting the Dance Minor

DNCA 1232 and 1235.

DNCE 3210, 3312, and 4332.

EXSS 1124, 1314, and 3301.

#### Other Dance Classes Available:

DNCA 0130, 0131, 0132, 0134, 0135, 0136, 0139.

DNCE 4310, 4312.

## Requirements for a Bachelor of Science Degree in Exercise Science

### English

1301, 1302.

### Literature

Three hours of English or foreign language literature or other approved substitute.

### Liberal Arts Elective

Three hours above the freshman level of literature, or social and cultural studies designated as taught in the College of Liberal Arts, or fine arts or philosophy, or technical writing.

### History

Six hours U.S. History or three hours U.S. and three hours Texas.

### Mathematics

1302, plus three hours of statistics.

### Political Science

2311, 2312.

### Psychology

2310.

### Science

BIOL 1441, 2457, 2458, CHEM 1284, 1301, 1302, PHYS 1441, 1442.

### Fine Arts and Philosophy

Three hours from architecture, art, dance, music, philosophy, or theatre arts.

### Social/Cultural Studies

Three hours of designated courses in archaeology, classical studies, communication, economics, history, humanities, linguistics, political science, social or cultural anthropology, social/political/cultural geography, social psychology, sociology or women's studies.

### Speech

1301.

### Computer Literacy

CSE 1301 or BUSA 2303.

### Health Education

1316, 3301, 4340.

### Science Electives

Nine hours, including three hours advanced.

Major (36 hours)

### Performance Core

Four hours from EXSA conditioning courses—0154, 0156, 0157, 0172, 0184, 1240.

### Academic Core

1124, 1215, 1314, 2330, 3301, 3302, 3306, 3315, 4300, 4315, 4325, 4387, 4388.

### Total

128 hours, 36 of which must be 3000/4000 level, plus four hours of required exercise and sport or dance activities.

Many of the courses in the Exercise, Sport and Health Studies curriculum require prerequisite courses which are identified in the course descriptions.

## Requirements for a Bachelor of Arts Degree in Exercise and Sport Studies

### (In Preparation for Teacher Certification<sup>1</sup>)

### English

Six hours of composition.

### Literature

Three hours of English or foreign language literature or other approved substitute.

### Liberal Arts Elective

Three hours above the freshman level of literature, or social and cultural studies designated as taught in the College of Liberal Arts, or fine arts or philosophy, or technical writing.

### Foreign Language

1441, 1442, 2313, and 2314 or equivalent.

### History

1311, 1312.

### Mathematics

Six hours (level of college algebra or higher).

### Political Science

2311, 2312.

### Science

BIOL 1441, 2457, 2458.

### Fine Arts and Philosophy

Three hours from architecture, art, dance, music, philosophy, or theatre arts.

### Social/Cultural Studies

Three hours of designated courses in archaeology, classical studies, communication, economics, history, humanities, linguistics, political science, social or cultural anthropology, social/political/cultural geography, social psychology, sociology or women's studies.

### Speech

1301.

### Computer Literacy

To be advised.

### Electives

Sufficient to meet degree and/or certification requirements.

**Elementary (36 hours)****Performance Core**

1110, 1116, and five hours from 1101, 1103, 1105, 1114, 1118, 1120. Four of these hours will be used to fulfill the university requirement. Students may substitute 4192 or 4292 for one of the selected activities. Students may use proficiency exams to reduce this requirement and increase electives. Substitutions of other activity courses or advanced technique courses for the one-hour performance courses may be made by the departmental advisor.

**Academic Core**

1124, 1215, 1314, 3301, 3304, 3306, 3315, 3388, 4321, 4325.

**Electives**

EXSS electives sufficient to give the total number of hours required for the degree and to meet certification requirements.

**Total**

128 hours (plus additional hours needed to meet certification requirements), 36 of which must be 3000/4000 level, plus four hours of required exercise and sport or dance activities.

<sup>1</sup>Student must pass a Red Cross First Aid Certification course prior to student teaching.

**Secondary (36 hours)****Option I**

Single Teaching Field, 36 hours (21 of which must be advanced).

**Option II**

Dual Teaching Field, 36 hours (21 of which must be advanced). 27 hours (12 advanced) from the academic core will be used for the teacher certification plan.

**Performance Core**

1110, 1116, and five hours from 1101, 1103, 1105, 1114, 1118, 1120. Four of these hours will be used to fulfill the university requirement. Students may substitute 4192 or 4292 for one of the selected activities. Students may use proficiency exams to reduce this requirement and increase electives. Substitutions of other activity courses or advanced technique courses for the one-hour performance courses may be made by the departmental advisor.

**Academic Core**

1124, 1215, 1314, 3301, 3304, 3306, 3315, 3388, 4320, 4325.

**Electives**

EXSS electives sufficient to give the total number of hours required for the degree and to meet certification requirements.

**Second Teaching Field (Option II only)**

27 hours with a minimum of 12 advanced (consult the Center for Professional Teacher Education).

**Minor (Option I only)**

18 hours

**Total**

Option I and Option II 128 hours (plus additional hours needed to meet certification requirements), 36 of which must be advanced, plus four hours of required exercise and sport or dance activities.

**All-Level (36 hours)****Performance Core**

1110, 1116, and five hours from 1101, 1103, 1105, 1114, 1118, 1120. Four of these hours will be used to fulfill the university requirement. Students may substitute 4192 or 4292 for one of the selected activities. Students may use proficiency exams to reduce this

requirement and increase electives. Substitutions of other activity courses or advanced technique courses for the one-hour performance courses may be made by the departmental advisor.

**Academic Core**

1124, 1215, 1314, 3301, 3304, 3306, 3315, 3388, 4320, 4321, 4325.

**Electives**

EXSS electives sufficient to give the total number of hours required for the degree and to meet certification requirements.

**Total**

128 hours (plus additional hours needed to meet certification requirements), 36 of which must be 3000/4000 level, plus four hours of required exercise and sport or dance activities.

**Teacher Certification**

Students interested in Texas Teacher Certification should consult the Center for Professional Teacher Education section of this catalog for the most recent changes in requirements regarding admission to Teacher Education, completion of University programs in preparation for certification, and eligibility for certification after graduation.

**Requirements for a Second Teaching Field Exercise and Sport Studies<sup>1</sup>****Secondary**

27 hours.

**Performance Core**

Four semesters selected from 1101, 1103, 1105, 1110, 1114, 1116, 1118. These hours will be used to fulfill the university requirement.

**Academic Core**

1124, 1215, 1314, 3301, 3304, 3306, 3315, 3388, 4320, 4325.

**All-Level**

30 hours.

**Performance Core**

Four semesters selected from 1101, 1103, 1105, 1110, 1114, 1116, 1118. These hours will be used to fulfill the university requirement.

**Academic Core**

1124, 1215, 1314, 3301, 3304, 3306, 3315, 3388, 4320, 4321, 4325.

**Health**

24 hours.

1316, 2340, 4340, and 15 hours from 1301, 2317, 3303, 3330, 4312, 4320, 4391.

<sup>1</sup>Students electing exercise and sport studies as a second teaching field must also have credit for anatomy and physiology.

**Suggested EXSS Course Sequence—B.A. in Exercise and Sport Studies (Elementary Teaching Certification)****Freshman Year**

EXSS 1124, 1215, 1314, Majors Only Activity, 3 hours.

**Sophomore Year**

Majors Only Activity, 4 hours.

**Junior Year**

EXSS 3301, 3304, 3306, 3315, 3388.

**Senior Year**

EXSS 4321, 4325.



### Suggested EXSS Course Sequence—B.A. in Exercise and Sport Studies (Secondary Teaching Certification)

#### Freshman Year

EXSS 1124, 1215, 1314, Majors Only Activity, 3 hours.

#### Sophomore Year

Majors Only Activity, 4 hours.

#### Junior Year

EXSS 3301, 3304, 3306, 3315, 3388.

#### Senior Year

EXSS 4320, 4325.

### Suggested EXSS Course Sequence—B.A. in Exercise and Sport Studies (All-Level Teaching Certification)

#### Freshman Year

EXSS 1124, 1215, 1314, Majors Only Activity, 3 hours.

#### Sophomore Year

Majors Only Activity, 4 hours.

#### Junior Year

EXSS 3301, 3304, 3306, 3315, 3388.

#### Senior Year

EXSS 4320, 4321, 4325.

## Department of Exercise, Sport and Health Studies Faculty

#### Chair

Professor McKeown

#### Professors

Anderson, Ridgway

#### Associate Professors

Bechler, Reeves

#### Assistant Professors

Barnick-Ben-Ezra, Beckham, Boone,

Downing, Maxwell, Wiginton, Yilla

#### Specialists

Dangelmaier, Harper, Reimer, Walts, Wooten

## Theory Courses (EXSS)

Certain EXSS courses require lab or special fees (locker room, supplies, computer use, etc.) ranging from \$2 to \$14, which will be assessed at registration.

**1124. BIOPHYSICAL PRINCIPLES OF HUMAN MOVEMENT LABORATORY (0-3) 1 hour credit.** Lab experiences designed for application of fundamental principles covered in EXSS 1314. Provides opportunity for student to achieve and maintain an optimal level of physical fitness. Prerequisite: Concurrent enrollment in EXSS 1314.

**1215. CULTURAL FOUNDATIONS OF EXERCISE AND SPORT (2-0) 2 hours credit.** A study of exercise and sport within the cultural context. Emphasis on the development of exercise and sport in our society.

**1314. BIOPHYSICAL PRINCIPLES OF HUMAN MOVEMENT (3-0) 3 hours credit.** Human movement factors in terms of biophysical principles. Applied biophysical principles in sport, condi-

tioning, and dance. Prerequisite: concurrent enrollment in EXSS 1124.

**2220. LIFEGUARD TRAINING (1-2) 2 hours credit.** Advanced skills and theory in lifeguarding techniques. American Red Cross (ARC) Lifeguard Training certification offered.

**2330. CARE AND PREVENTION OF ATHLETIC INJURIES (3-0) 3 hours credit.** Causative factors, the care, the treatment, and the prevention of athletic injuries.

**2340. PRINCIPLES OF SWIMMING INSTRUCTION (2-3) 3 hours credit.** Methods and techniques for teaching swimming and emergency water safety skills. Includes methods for teaching American Red Cross (ARC) and Emergency Water Safety courses. Swimming Instructor Certification will be issued upon successful completion. Prerequisites: 17 years of age, current ARC Emergency Water Safety or Advanced Lifesaving certification, or permission of instructor.

**3220. LIFEGUARD INSTRUCTOR (1-2) 2 hours credit.** Methods for teaching Lifeguard Training. Upon successful completion of this course, students will be certified to teach the American Red Cross (ARC) course Lifeguard Training. Prerequisites: current ARC Lifeguard Training, Water Safety Instructor certification, or permission of instructor.

**3301. BIOMECHANICS OF HUMAN MOVEMENT (2-2) 3 hours credit.** Emphasizing the application of anatomical and mechanical principles to the study and analysis of human movement. Emphasis on sport, exercise, dance, and activities of daily living. Prerequisites: EXSS 1124, 1314, BIOL 2457 and 2458, or permission of instructor.

**3302. BEHAVIORAL DYNAMICS OF EXERCISE AND SPORT (3-0) 3 hours credit.** Analysis of exercise and sport activities in terms of behavioral skills and strategies. Emphasis on the examination of perceptual and affective processes used in exercise and sport.

**3303. ORGANIZATIONAL PRINCIPLES OF EXERCISE AND SPORT ACTIVITIES (3-0) 3 hours credit.** An organizational analysis of exercise and sport in terms of participation rules, regulations, and responsibilities. Emphasis on knowledge and understanding of the principles governing the organization and conduct of exercise and sport activities.

**3304. ADAPTED EXERCISE AND SPORT ACTIVITIES (3-0) 3 hours credit.** Analysis of conditions which impact individuals with special needs. Emphasis on biomechanical, neurological, structural, and behavioral anomalies which impact participation in exercise and sport activities. Prerequisite: EXSS 3301, 3306 or permission of instructor.

**3306. MOTOR INTEGRATION (2-2) 3 hours credit.** Principles of motor skill acquisition, performance, and control. Emphasis on the use of transfer, memory, practice schedules, motivation, knowledge of results, neuromotor functioning, and differences in motor abilities that are involved in motor skill performance. Prerequisites: EXSS 1124, 1314, BIOL 2457, BIOL 2458 or permission of instructor.

**3307. SOCIO-CULTURAL ASPECTS OF SPORT (3-0) 3 hours credit.** Sociological dynamics as they relate to sport and exercise activities. Examination of the interdependent nature of sociological structures and current issues.

**3309. FOUNDATIONS OF RECREATION (3-0) 3 hours credit.** Leisure time in our social structure and the agencies which have developed to provide leisure time activities. Program development and leadership skills in the recreation profession.

**3311. RECREATION AND LEISURE SERVICE (3-0) 3 hours credit.** Application of management and organizational principles, objectives, and procedures involved in implementing recreational and leisure service programs.

**3315. PHYSIOLOGY OF EXERCISE (2-2) 3 hours credit.** Provides the physiology background necessary for an understanding of the acute and chronic effects of exercise on the body. Physiological concepts and their relationship to exercise, sport, and health programs. Laboratory experiences are designed for evaluating physiological responses to exercise. Prerequisites: EXSS 1124, 1314, BIOL 2457 and 2458, or permission of instructor.

**3330. ADVANCED ATHLETIC TRAINING (2-2) 3 hours credit.** Provides the student with an understanding of advanced athletic training procedures. Emphasis on injury recognition and management, therapeutic modalities, rehabilitation techniques, and administrative issues in athletic training. Prerequisites: EXSS 2330, BIOL 2457 and 2458, and permission of the instructor.

**3388. THEORY AND APPLICATION IN MOTOR DEVELOPMENT (3-0) 3 hours credit.** Practice of fundamental motor patterns within the context of developmental theory. The theoretical bases of motor development are applied through sequential progression of skills in selected activities. Prerequisite: EXSS 1124, 1314.

**4201. ADVANCED TECHNIQUES AND TACTICS OF BASEBALL (1-2) 2 hours credit.** Development and analysis of skills, offensive and defensive strategies used in the sport of baseball.

**4202. ADVANCED TECHNIQUES AND TACTICS OF BASKETBALL (1-2) 2 hours credit.** Development and analysis of skills, offensive/defensive strategies used in the sport of basketball.

**4203. ADVANCED TECHNIQUES AND TACTICS OF FOOTBALL (1-2) 2 hours credit.** Development and analysis of skills, offensive and defensive strategies used in the sport of football.

**4204. ADVANCED TECHNIQUES AND TACTICS OF TRACK AND FIELD (1-2) 2 hours credit.** Development and analysis of track and field event techniques and strategies.

**4205. ADVANCED TECHNIQUES AND TACTICS OF VOLLEYBALL (1-2) 2 hours credit.** Development and analysis of skills, offensive and defensive strategies used in the sport of volleyball.

**4300. APPLIED EXERCISE PHYSIOLOGY (2-2) 3 hours credit.** Application of physiological principles of training for physical fitness and sport. Training methods, influential factors and their effect on health and fitness. Cardiovascular, neuromuscular, bioenergetics, body composition, ergonomics, ergogenic aids. Prerequisites: EXSS 3315, or permission of instructor.

**4305. STRATEGIES OF PERFORMANCE (3-0) 3 hours credit.** Application of sport psychology principles and strategies to performance dynamics in sport, music, dance, and other performance arenas. Issues such as personality, arousal management, motivation, attribution, awareness, concentration, communication, and performance enhancement; emphasis on self-application.

**4315. FITNESS MEASUREMENT (2-3) 3 hours credit.** The classroom and laboratory experiences of this course are intended to provide the student with an opportunity to become familiar with the assessment of physical fitness and the design of exercise programs. Specific areas of study include graded exercise testing, body composition, muscular strength and endurance, and flexibility. Prerequisites: Current CPR certification, EXSS 3315, or permission of instructor.

**4320. INTEGRATION OF PRINCIPLES OF EXERCISE AND SPORT: PERFORMANCE (2-3) 3 hours credit.** Designed to syn-

thesize the sciences of anatomy, physiology, biomechanics, and exercise physiology, and to integrate the resulting principles with theories of motor learning and motor control as applied to exercise and sport performance. Prerequisites: EXSS 3301 and 3306, or permission of instructor.

**4321. INTEGRATION OF PRINCIPLES OF EXERCISE AND SPORT: TRANSITIONAL ACTIVITIES (2-3) 3 hours credit.** Designed to synthesize the sciences of anatomy, physiology, biomechanics, and exercise physiology, and to integrate the resulting principles with theories of motor learning and motor control as applied to transitional activities. Prerequisites: EXSS 3301 and 3306, or permission of instructor.

**4325. DATA ACQUISITION AND MANAGEMENT (3-0) 3 hours credit.** Current practices in the conduct of data-based measurement and evaluation processes applied to programs related to exercise, sport, and related fields. Prerequisites: EXSS 1124, 1314, MATH 1302, computer literacy, or permission of instructor.

**4387. EXERCISE SCIENCE PRACTICUM (0-9) 3 hours credit.** Academic training within the internal setting of U.T. Arlington's exercise science laboratories. Each student will receive 135 hours of professional practicum experience in a variety of exercise science settings including wellness, physical fitness activity classes, physical fitness theory classes, the physical fitness center, and/or other exercise science settings. Prerequisites: EXSS 4300, 4315, and permission of instructor.

**4390. PRACTICUM IN SPORT PERFORMANCE (0-9) 3 hours credit.** Designed on an individual basis as a field experience in the observation of sport performance, and the application of performance principles to sport participation. Students must make application for enrollment prior to October 1 for Spring Semester and prior to April 1 for Fall Semester.

**4191, 4291, 4391. UNDERGRADUATE CONFERENCE COURSE (Variable credit as arranged).** Topics assigned on an individual basis covering personal research or study in the designated area. Prerequisite: permission of department chairperson.

**4192, 4292, 4392. EXERCISE AND SPORT ACTIVITIES PRACTICUM (Variable credit as arranged).** Designed to provide supervised experiences in an exercise and sport activity setting. Allows for experience in agency, educational, industrial, or recreational settings. Prerequisites: junior standing and departmental permission. May be repeated once for recreation area. Students must make application for enrollment prior to October 1 for Spring Semester and April 1 for Fall Semester.

**4393. PRACTICUM IN ATHLETIC TRAINING TECHNIQUES (0-9) 3 hours credit.** Experiences in athletic training on an individual basis under direct supervision of a certified athletic trainer. May be repeated for credit. Prerequisite: EXSS 2330.

**4394. HONORS THESIS/SENIOR PROJECT (3-0) 3 hours credit.** Required of all students in the University Honors Program. During the senior year, the student must complete a thesis or a project under the direction of a faculty member in the major department.

**4395. INDIVIDUAL STUDY IN EXERCISE AND SPORT (3-0) 3 hours credit.** The completion of an existing course on an individual basis as contracted with an approved faculty member. This procedure is limited to emergency situation, and must be identified through the departmental advising process.

**4196, 4296, 4396. SPECIAL TOPICS IN EXERCISE AND SPORT (Variable credit as arranged).** Designed to meet the current needs of students. May be repeated for credit when the topic changes.

**4388, 4688, 4988. EXERCISE SCIENCE INTERNSHIP (Variable credit as arranged).** Individualized academic training in an external professional exercise science setting (e.g., hospital, physical therapy, university laboratory) under the direct supervision of an exercise science professional. Prerequisites: G.P.A. of 3.0 or above in EXSS 1124, 1314, 3315, 4300, 4315, and GPA of 3.0 or above or concurrent enrollment in 4387, current CPR certification, proof of sufficient professional liability insurance, and permission of instructor.

**4389, 4689, 4989. FITNESS MANAGEMENT INTERNSHIP (Variable credit as arranged).** Designed on an individual basis to allow the student to apply academic training in a professional fitness center under the direct supervision of a fitness specialist. Prerequisites: Current CPR certification, proof of sufficient professional liability insurance, and permission of instructor.

## Dance Theory Courses (DNCE)

**1300. DANCE APPRECIATION (3-0) 3 hours credit.** Designed to develop an awareness and appreciation of dance in its artistic, social, and cultural contexts through an overview of the aesthetic and critical dimensions of viewing and creating various dance idioms. Offers a variety of dance experiences, including the viewing of dance in live and video formats, reading about dance, and experiencing selected dance movements from various dance genres. Explores the relationship of dance to other art forms. The class is open to all students as a fine arts elective.

**3210. DANCE IMPROVISATION (1-2) 2 hours credit.** Study of basic concepts and movement problems through spontaneous movement. Study will include application of improvisational techniques to movement exploration, relationship between techniques, and choreographic process, and improvisation as a performance form. Prerequisites: EXSA 1232 and 1235 or permission of instructor.

**3312. DANCE HISTORY (3-0) 3 hours credit.** The development of dance from primitive civilizations to the 20th Century. The communicative development and the aesthetic aspects of dance which connect the multicultural development throughout history.

**4310. DANCE PRODUCTION (2-2) 3 hours credit.** Lecture and practical experience with production techniques and problems involved in dance events. Study will include techniques in directing, lighting design, sound, costuming, publicity, and administrative procedures.

**4312. INTEGRATION AND APPLICATION OF PRINCIPLES OF DANCE (2-2) 3 hours credit.** Designed to synthesize the sciences of anatomy, physiology, and biomechanics, and to apply scientific principles to dance performance. Prerequisite: EXSS 3301 or permission of instructor.

**4332. CHOREOGRAPHY (3-0) 3 hours credit.** Principles of dance composition. Idea generation, form and flow of movement design elements, and dramatic staging through development of movement themes and evaluation of compositional forms. Credit will not be given for both EXSS 4210 (former course number) and DNCE 4332. Prerequisite: permission of instructor.

## Exercise and Sport Activity (EXSA) Courses and Dance Activity (DNCA) Courses

Four hours of exercise and sport (EXSA) and/or dance (DNCA) activities are required for graduation and it is recommended that these courses be taken in the first four semesters of attendance. Activity courses on the 1200 level taken for a semester will satisfy two semester hours of the requirement.

**Uniforms:** With the exception of swimwear and special footwear, as needed, uniforms are furnished by the Department of Exercise, Sport, and Health Studies in those activity classes where the student is required to suit out.

**Periods:** All one-semester-hours activity classes meet two laboratory hours per week, with the exception of the Majors Only classes which meet three times per week. All two-semester-hour classes meet three hours per week. The amount of class and laboratory time will vary.

**Fees:** Special, lab and/or service fees ranging from \$2 to \$165 are assessed in all activity classes. Fees can be found in the current schedule of classes.

The following activities are offered:

### Dance Activity Courses (DNCA)

#### Activity Courses—Dance (0-2) 1 hour credit.

- 0130. Country & Western Dance
- 0131. Ballroom Dance
- 0132. Modern Dance
- 0133. Square Dance
- 0134. Tap Dance
- 0135. Ballet
- 0136. Jazz Dance
- 0139. Dance Performance (Audition Required)

#### Activity Courses—Dance (0-3) 2 hours credit.

- 1232. Intermediate Modern Dance
- 1235. Intermediate Ballet

### Exercise and Sport Activity Courses (EXSA)

#### Activity Courses—Individual Sports (0-2) 1 hour credit.

- 0101. Archery
- 0105. Badminton
- 0107. Martial Arts
- 0120. Bowling
- 0140. Golf
- 0145. Beginning Fencing
- 0166. Racquetball
- 0177. Tennis—Beginning and Intermediate
- 0178. Tennis—Advanced

#### Activity Courses—Team Sports (0-2) 1 hour credit.

- 0108. Basketball
- 0167. Soccer
- 0180. Volleyball
- 0181. Volleyball Advanced

**Activity Courses—Swimming (0-2) 1 hour credit.**

- 0170. Beginning Swimming
- 0171. Water Polo
- 0172. For Fitness
- 0173. Intermediate and Advanced
- 0174. Water Aerobics

**Activity Courses—Recreation and Conditioning (0-2) 1 hour credit.**

- 0154. Fitness Walking
- 0155. Individualized Fitness Program
- 0156. Jogging for Fitness
- 0157. Aerobic Dance
- 0158. Physical Conditioning
- 0159. Exercise and Sport for the Handicapped
- 0160. Step Aerobics
- 0161. Backpacking
- 0162. Orienteering
- 0184. Weight Training

**Activity Courses (1-2) 2 hours credit.**

- 1220. Lifeguard Training
- 1240. Healthy Lifestyles
- 1241. Beginning Gymnastics—Women's Events
- 1242. Advanced Gymnastics—Women's Events
- 1243. Beginning Gymnastics—Men's Events
- 1244. Advanced Gymnastics—Men's Events
- 1246. Self Defense for Women
- 1247. Emergency Water Safety (Lifesaving)
- 1248. Weight Management
- 1249. SCUBA Diving\*
- 1250. Lifetime Fitness
- 1259. Advanced SCUBA\*

**Activity Courses—Special Permission Classes (0-2) 1 hour credit.**

- 0189. Intercollegiate Athletics

**Activity Courses—Designated Activities (0-2) 1 hour credit.**

- 0191. Designated Activities

**Activity Courses—For EXSS Majors Only (0-3) 1 hour credit.**

- 1101. Basketball
- 1103. Soccer
- 1105. Volleyball
- 1110. Dance
- 1114. Tennis
- 1116. Tumbling
- 1118. Aquatics
- 1120. Track and Field

\* SCUBA course requires a \$163 fee in addition to a laboratory fee of \$2. This fee will be assessed at registration. Students should fully understand the purpose of this extra cost and should talk with the SCUBA instructor before registering for the course. NAUI (National Association of Underwater Instructors) certification offered.

**Health (HEED)**

Prefix and number in parentheses following the U.T. Arlington course number and title is the Common Course Number designation.

**1301. NUTRITION (3-0) 3 hours credit.** A study of nutrients essential to an adequate diet and good health; the nutritive values of common foods. Also listed as BIOL 1301. Credit will be granted for only one of these courses. Students seeking certification in Health must enroll in HEED 1301. Students seeking credit toward their science requirement must enroll in BIOL 1301. Cannot be counted toward a BS degree in biology.

**1316. FOUNDATIONS OF HEALTH (3-0) 3 hours credit.** Learning experiences designed to develop knowledge, understanding, and appreciation of the functions of the human body, and health practices necessary for the maintenance of a healthy life.

**2101. EMERGENCY RESPONSE (0-2) 1 hour credit.** To provide the citizen responder with the knowledge and skills necessary in an emergency to help sustain life, reduce pain, and minimize the consequence of injury or sudden illness until professional medical help arrives. Upon successful completion of the course, the student will receive a three-year American Red Cross First Aid Responding to Emergencies certificate and a one-year Adult CPR certificate.

**2300. STUDENT HEALTH PEER TRAINING (3-0) 3 hours credit.** Train students to be peer counselors who will work as group leaders both on campus and in the community in the Fall and Spring Semesters. Students learn about alcohol and other drugs and their relation to health and sex issues which prepare them for group presentations and in making referrals when necessary. Topics of training include alcohol and other drug use/abuse, sexually transmitted diseases (STDs), HIV/AIDS, acquaintance rape, smoking/tobacco cessation, eating disorders, suicide, and self-esteem. Prerequisite: permission of the instructor.

**2317. BASIC CONCEPTS IN HUMAN SEXUALITY (3-0) 3 hours credit.** The physiological, psychological, sociological aspects of human sexuality. Also listed as BIOL 2317 and PSYC 2317. Credit will be granted for one only. Students seeking certification in Health must enroll in HEED 2317. Students seeking credit toward their science requirement must enroll in BIOL 2317. Cannot be counted for major credit toward a degree in biology, psychology, or sociology.

**2340. FIRST AID (3-0) 3 hours credit (PHED 1306).** Theory and practice in the standard course of the American Red Cross in First Aid.

**3301. PRINCIPLES OF APPLIED NUTRITION (3-0) 3 hours credit.** The etiology of disease as related to nutritional factors, current research regarding the link between diet and chronic diseases, and application of dietary behaviors to promote health-enhancing lifestyles.

**3303. DRUGS AND BEHAVIOR (3-0) 3 hours credit.** A survey of psycho-active agents, their therapeutic uses, and their social abuses. Alcohol, nicotine, caffeine, narcotics, hallucinogens, stimulants, and tranquilizers. Also listed as PSYC 3303 and BIOL 3303. Credit will be granted only once under present and former numbers. Students seeking credit in PSYC should enroll in PSYC 3303 (formerly 3312), and students seeking credit in BIOL should enroll in BIOL 3303.

**3305. WOMEN'S HEALTH ISSUES (3-0) 3 hours credit.** Will address specific issues of importance to women and their health, including growth and development, nutrition, reproductive health, pregnancy, chronic diseases, and relationship/family issues. Also listed as WOMS 3305. Credit will not be granted for both courses.

**3330. CONSUMER HEALTH (3-0) 3 hours credit.** Basic principles involved in purchasing goods and services which affect the health of society.

**4312. ENVIRONMENTAL HEALTH AND DISEASE (3-0) 3 hours credit.** Basic principles of ecology as they relate to the general health of society. Control and prevention of diseases.

**4320. AGING—DEATH (3-0) 3 hours credit.** Presents the health aspects of aging and dying. Individual and group health problems faced during the aging process; salient issues and problems in dealing with dying and death.

**4340. PRINCIPLES OF HEALTH APPLICATIONS (3-0) 3 hours credit.** This course is designed to integrate the information base of health studies into action plans for organizations and agencies. Prerequisite: HEED 1316 plus nine additional credit hours in health.

**4191, 4291, 4391. UNDERGRADUATE CONFERENCE COURSE (Variable credit as arranged).** Topics assigned on an individual basis covering personal research or study in the designated area. Prerequisite: permission of department chairperson.

**4192, 4292, 4392. SPECIAL TOPICS IN HEALTH (Variable credit as scheduled).** Designed to present topics in health not currently offered in existing curriculum. May be repeated for credit when the topic changes.

# The Department of Foreign Languages

230 Hammond Hall • Box 19557 • 817-272-3161

The Department of Foreign Languages contributes to the three-fold mission of the College of Liberal Arts by enabling students to develop basic competencies and defined proficiency levels in any of several foreign languages, by helping students to prepare for the world of work by means of specialized courses and degree options, and by providing students with the tools for understanding and evaluating the diversity of human culture as represented in a number of the world's languages and literatures.

- Foreign language learning is skills development. To this end the department offers a full range of language offerings, from courses for beginning language learners to advanced courses in written and oral expression. All four language skills—speaking, listening, reading, and writing—are developed.
- Foreign language competency, whether in an ancillary or primary sense, can be a valuable asset to many professions and careers. It can be the primary focus in such careers as teaching and government service, or an important—even essential—asset for professions in, for example, the travel industry, health care, and international business enterprises of all kinds.
- Cultural and linguistic diversity characterize the human experience even in a world made smaller by mass communication and technology. Through literature and language classes students gain the insights needed to appreciate the world views of people in other countries and cultures and, inversely, to learn more about themselves by knowing what people elsewhere think about them and their culture.

## Criteria for Admission to a Major in the Department of Foreign Languages

In addition to satisfying the entrance requirements for the College of Liberal Arts, prospective majors in the Department of Foreign Languages must meet the following criteria:

- A 3.0 GPA is required in the 1441-2314 Foreign Language sequence, or a grade of B on the Foreign Language placement test, or approval of the departmental advisor.
- Transfer students who have not taken the 1441-2314 sequence at UTA are required to take the Foreign Language placement exam and score at least a B equivalent for the 2314 level.
- After admission to the Foreign Language major, students must maintain a 2.75 GPA in major classes.

## Requirements for a Bachelor of Arts Degree in French, German, Russian, or Spanish

### English

Six hours of composition.

### Literature

Three hours of English or foreign language literature or other approved substitute.

### Liberal Arts Elective

Three hours above the freshman level of literature, or social and cultural studies designated as taught in the College of Liberal Arts, or fine arts or philosophy, or technical writing.

### Political Science

2311, 2312.

### History

1311, 1312.

### Mathematics

Six hours (level of college algebra or higher).

### Science

11 hours—eight hours in a single lab science (biology, chemistry, geology, or physics) and three hours in science or approved social science.

### Fine Arts and Philosophy

Three hours from architecture, art, dance, music, philosophy, or theatre arts.

### Social/Cultural Studies

Three hours of designated courses in archaeology, classical studies, communication, economics, history, humanities, linguistics, political science, social or cultural anthropology, social/political/cultural geography, social psychology, sociology or women's studies.

### Electives

Sufficient number of hours to complete the total hours required for a degree.

### Major

1441, 1442, 2313, 2314, or equivalent; plus 24 hours at 3000/4000 level in the major language field, at least nine of which must be at the 4000 level.

### Minor

18 hours, at least six of which must be 3000/4000 level. Options within the department include any other foreign language (1441, 1442, 2313, 2314, or equivalent, plus six advanced hours, or 12 advanced hours for secondary teacher certification).

### Total

128 hours, of which at least 36 must be 3000/4000 level, plus exercise and sport activities (EXSA) or ROTC or marching band as required.

## Options

The following options may be selected, but courses listed under options do not substitute for courses specified by number in the basic degree plan above.

### Teacher Certification

**Bachelor of Arts Degree in a Foreign Language with Secondary Certification:** This plan requires a second teaching field.

**Bachelor of Arts Degree in a Foreign Language with Elementary Teacher Certification:** This plan is a dual major: French/Elementary Education, German/Elementary Education, Russian/Elementary Education, or Spanish/Elementary Education. This plan does not require a second teaching field.

Students interested in Texas Teacher Certification should consult the Center for Professional Teacher Education section of this catalog for the most recent changes in requirements regarding admission to Teacher Education, completion of University programs in preparation for certification, and eligibility for certification after graduation.

### Ibero-American Studies

(Bachelor of Arts Degree in Foreign Languages with a concentration in Ibero-American studies)

#### Political Science

3316.

#### History

4365, 4366, 4367.

#### Economics

4321, 4322, (recommended).

#### Major

Spanish.

#### Minor

Portuguese.

### Post-Soviet and East European Studies

(Bachelor of Arts Degree in Russian with a concentration in area studies)

#### Political Science or History

4362\*, 4363\*, 4364\*, 4387\*.

#### History

4359\*, 4360\*.

#### English

3301\*, 3306\*.

#### Major

Russian, plus selected Russian area courses from the following: 3322, 3323, 4322, 4323, 4334, 4335, 4359, 4360, 4362, 4363, 4364, 4387, 3301, and 3306.

\* Other courses approved by the major advisor may be substituted if these designated courses are taken for credit in Russian language.

### Intensive Language Program

Students with no previous experience or courses in a foreign language may choose to begin French, German, Spanish, or Russian by enrolling in the Intensive Program, and may complete Levels I and II (8 credit hours), or Levels III and IV (6 credit hours) of the chosen language in one Fall or Spring semester. A 14 credit hour intensive (Levels I, II, III, and IV) in Russian or Spanish may be taken in the 11-week summer term. The Intensive Program offers one of the most effective methods for learning a foreign language. Students are cautioned to take these courses prior to their senior years because of the possibility of enrollment limitations. These classes may not be offered every semester or every summer. Check with the Department of Foreign Languages for available classes.

### BBA in International Business/Foreign Language

In cooperation with the Department of Foreign Languages, the School of Business Administration offers a Bachelor of Business Administration with dual concentrations in international business and a foreign language. The BBA in International Business offers concentrations in French, German, Russian or Spanish. In addition to 32 hours in a foreign language, students in this program get a solid foundation in business courses, including accounting, economics, finance, management, marketing, and information systems.

### Language Acquisition Center

The Department of Foreign Languages maintains a fully equipped audio, video, and computerized language laboratory on the third floor of Trimble Hall. Lab attendance is required for language classes. Audio tapes, video tapes, computerized language software, organized additional instruction, and tutoring are used as supplemental modes of assistance in the language acquisition process. A home study option is available, in that the lab technicians will, for a nominal fee and upon student request, make copies of audio taped lessons onto tapes provided by the student.

### Credit by Examination

Students wishing to earn credit by examination for any of the first four (1441, 1442, 2313, 2314) levels of French, German, or Spanish must present an official score received on one of two nationally administered examinations recognized by the department: (1) Advanced Placement Examination of the College Entrance Examination Board (CEEB), or (2) College-Level Examination Program (CLEP) of the CEEB. At U.T. Arlington the examinations will be administered by the Testing Services Office of Counseling and Career Development on dates to be announced.

### Study Abroad

Students should give serious consideration to the unique learning experience of studying abroad. The department offers several opportunities for gaining credit while studying abroad. All arrangements must be made through the Department Study Abroad Advisor. Summer Study—Regular programs are offered which provide opportunities for summer study in various countries including Austria, France, Germany, Mexico, Spain, the post-Soviet States/ Eastern Europe, and the People's Republic of China.

## Department of Foreign Languages Faculty

### Chair

Professor Gross

### Professors

McDowell, Ordóñez, Werth

### Associate Professors

Capote, Israel-Pelletier, Rings, Sánchez, Viña

### Assistant Professors

Conway, Cowan, Holder, Elliott,

Palangian, Sol, VanNoort, Wyszynski

### Specialist

Smith

## Course Descriptions

Each foreign language—French, German, Russian, Spanish, and Portuguese—has course designations 1441, 1442, etc. The student should check the language desired for the course description.

Native speakers or near native speakers may not enroll in courses numbered below 3000.

**Information on Advanced Courses:** In FREN, GERM, RUSS, and SPAN, the prerequisite for 3000-level courses is the completion of the 2314 course or equivalent with at least a grade of C or departmental permission; the prerequisite for 4000-level courses is the completion of at least two 3000-level courses or departmental permission. Prerequisites for advanced courses in other areas are stated under their specific headings.

## Foreign Language (FORL)

**1441. TOPICS IN FOREIGN LANGUAGE LEVEL I (3-2) 4 hours credit (Chinese, etc.).** This course parallels the 1441 courses in FREN, GERM, RUSS, and SPAN.

**1442. TOPICS IN FOREIGN LANGUAGE LEVEL II (3-2) 4 hours credit (Chinese, etc.).** This course parallels the 1442 courses in FREN, GERM, RUSS, and SPAN. Prerequisite: FORL 1441 or equivalent.

**2313. TOPICS IN FOREIGN LANGUAGE LEVEL III (3-0) 3 hours credit (Chinese, etc.).** This course parallels the 2313 courses in FREN, GERM, RUSS, and SPAN. Prerequisite: FORL 1442 or equivalent.

**2314. TOPICS IN FOREIGN LANGUAGE LEVEL IV (3-0) 3 hours credit (Chinese, etc.).** This course parallels the 2314 courses in FREN, GERM, RUSS, and SPAN. Prerequisite: FORL 2313 or equivalent.

**3301. TOPICS IN COMPARATIVE LANGUAGES, CULTURE, AND LITERATURES (3-0) 3 hours credit.** Comparisons of language and language/culture issues across languages and/or time. Topics may include folklore across cultures, comparison of language and cultural production (e.g., international film and international feminism). No prerequisites. Cannot be counted toward fulfilling core curriculum requirement in literature or culture. May be repeated for credit with departmental permission.

## French (FREN)

Prefix and number in parentheses following the U.T. Arlington course number and title is the Common Course Number designation.

**1441. LEVEL I (3-2) 4 hours credit (FREN 1411).**

**1442. LEVEL II (3-2) 4 hours credit (FREN 1412).** Prerequisite: FREN 1441 or equivalent.

**2313. LEVEL III (3-0) 3 hours credit (FREN 2311).** Prerequisite: FREN 1442 or equivalent.

**2314. LEVEL IV (3-0) 3 hours credit (FREN 2312).** Prerequisite: FREN 2313 or equivalent.

Levels I and II, or III and IV may be elected as one intensive program which permits the completion of two levels in one semester. Students planning to enroll in this program must: (1) arrange a conference with the instructor prior to registration; (2) register for section 082 for each level. The intensive program may not be offered every semester. Students are cautioned to take these courses prior to their senior year because of the possibility of enrollment limitations.

**2391. INDEPENDENT STUDY (3-0) 3 hours credit.** By consent of the department only.

**3304. SELECTED READINGS AND COMPOSITIONS (3-1) 3 hours credit.** Introduction to the analysis of literary texts with emphasis on reading comprehension, grammar, writing skills and compositional techniques. Lab attendance required. Strongly recommended prior to 3311, 3312, and 4000 level courses. Prerequisite: FREN 2314 with a grade of C or better, or consent of the department.

**3311. FRENCH LITERATURE AND CULTURE I (3-0) 3 hours credit.** The main currents of French literature, art, and thought from the Middle Ages to the 18th Century in relation to French political and social history. Prerequisite: FREN 2314 with a grade of C or better; or a knowledge of the language and consent of the instructor. Required of French majors.

**3312. FRENCH LITERATURE AND CULTURE II (3-0) 3 hours credit.** The main currents of French literature, art, film, and thought of the 19th and 20th Centuries in relation to French political and social history. Prerequisite: FREN 2314 with a grade of C or better; or a knowledge of the language and consent of the instructor. Required of French majors.

**3315. ADVANCED FRENCH CONVERSATION AND PHONETICS (3-0) 3 hours credit.** Practice in oral expression with an introduction to practical phonetics and vocabulary building. Of special interest to students who wish to improve their skill in pronunciation, comprehension, and oral expression. Credit will not be granted to native speakers of French. Prerequisite: FREN 2314 with a grade of C or better; or a knowledge of the language and consent of the instructor.

**3316. TOPICS: CITIES OF FRANCE (3-0) 3 hours credit.** Major cities and regions (Paris, Marseille, Normandie, Provence, etc.) at different periods in their history. Representation of the city, suburb, province, industry, commerce, and transportation in various artistic media, e.g., literature, the visual arts (including film), and the media. May be repeated for credit when content changes. Prerequisite: FREN 2314 with a grade of C or better, or a knowledge of the language and consent of the department.



**3318. TOPICS: THE REPRESENTATION OF CLASS IN FRENCH CULTURE (3-0) 3 hours credit.** Study of one or more social, economic, and political classes (e.g., bourgeois, peasant, aristocrat, worker, intellectual) from the Middle Ages to the present. Construction of class in works of literature and art and in the media, entertainment, political discourse, and the discourse on education. May be repeated for credit when content changes. Prerequisite: FREN 2314 with a grade of C or better, or a knowledge of the language and consent of the department.

**4314. ADVANCED FRENCH GRAMMAR AND COMPOSITION (3-0) 3 hours credit.** A detailed study of French grammar with practice in composition requiring original themes, essays, and research papers. An overview of the history of the French language and the influences of other languages and cultures on its evolution. Recommended for senior French majors. Prerequisite: FREN 3311 or 3312 with a grade of C or better; or knowledge of the language and consent of the instructor.

**4322. STUDIES IN THE SEVENTEENTH CENTURY (3-0) 3 hours credit.** Political and artistic climate of a defining period in French culture. Classical doctrine and literature, the "Libertins," the "Jesuites," "Port Royal," "Preciosite," the role of these movements in the formation of institutions, the monarchy, and concepts of the self. Prerequisite: FREN 3311 with a grade of C or better; or a knowledge of the language and consent of the instructor.

**4324. TOPICS IN NINETEENTH-CENTURY FRENCH STUDIES (3-0) 3 hours credit.** Major currents such as Romanticism, Realism, and Impressionism in literature and art. Emphasis on bourgeois tastes and institutions, the role of capitalism in the development of culture, and the commercial and representational construction of leisure. May be repeated for credit when content changes. Prerequisite: FREN 3312 with a grade of C or better; or a knowledge of the language and consent of the instructor.

**4328. TOPICS IN TWENTIETH-CENTURY FRENCH STUDIES (3-0) 3 hours credit.** Cultural and literary output of France before and after the Second World War. Patterns of French thought, writing, and self-representation, the "New Europe," decolonization, and nationalism through various media. May be repeated for credit when content changes. Prerequisite: FREN 3312 with a grade of C or better; or a knowledge of the language and consent of the instructor.

**4329. TOPICS: INTRODUCTION OF FRANCOPHONE LITERATURE AND CULTURE (3-0) 3 hours credit.** The content will vary, to include at times Francophone literature and culture from Africa, Canada, the Caribbean, and the United States. The aim is to help the student become familiar with the history, culture, and artistic achievements of French-speaking countries around the world. May be repeated for credit when topic changes. Prerequisite: FREN 3312 with a grade of C or better, or a knowledge of the language and consent of the instructor.

**4332. STUDIES IN MEDIEVAL AND RENAISSANCE CULTURE (3-0) 3 hours credit.** Readings in modern French of Medieval and Renaissance French literature. Works include the adventures of King Arthur and the Knights of the Round Table, Gargantua, reflections on the self, friendship, education, and the "Other" in Montaigne's *Essais*, and the love poems of Ronsard. Emphasis on the importance of religion, the evolution and the meaning of cathedrals and monasteries, and the effect of the discovery of the "New World" on perceptions of self and of community. Prerequisite: FREN 3311 with a grade of C or better, or a knowledge of the language and consent of the instructor.

**4334. THE CULTURE OF BUSINESS (3-0) 3 hours credit.** An introduction to social, political, and economic structures in France, with focus on current events relevant to business in the Francophone world. Video segments and interactive computer packages in French about international business are used extensively as an aid in the acquisition of basic vocabulary of business and economics. Prerequisites: two 3000-level courses or equivalent (FREN 3313, 3314 strongly recommended) with a grade of C or better, or a knowledge of the language and consent of the instructor.

**4335. BUSINESS FRENCH (3-0) 3 hours credit.** Students learn to function in French in business environments, with emphasis on writing business letters, conducting telephone conversations and business meetings, using terminology for transactions in places such as banks, post offices, airports, and hotels. Video segments and interactive computer packages are used extensively to reinforce vocabulary and knowledge acquired through lectures, translations, and readings. Prerequisites: two 3000-level courses or equivalent (FREN 3313, 3314, 4334 strongly recommended) with a grade of C or better; or a knowledge of the language and the consent of the instructor.

**4338. SELECTED TOPICS IN FRENCH LITERATURE OR CULTURE (3-0) 3 hours credit.** May be repeated for credit when topic changes.

**4339. ACQUISITION OF FRENCH (3-0) 3 hours credit.** Theory and practice of language acquisition. Techniques needed to understand and analyze the sounds, vocabulary, and grammar of the French language. Primarily for students seeking teacher certification.

**4391. CONFERENCE COURSE 3 hours credit.** Independent study in the preparation of a paper on a research topic and consultation with instructor on a regular basis. May be repeated for credit. Prerequisites: consent of the department and completion of or concurrent enrollment in a 3000 course.

**4394. HONORS THESIS/SENIOR PROJECT (3-0) 3 hours credit.** Required of all students in the University Honors Program. During the senior year, the student must complete a thesis or a project under the direction of a faculty member in the major department. May not be repeated for credit.

## German (GERM)

Required courses for the major are GERM 3313, 3314, 4321, 4322 and at least 12 additional advanced hours, three of which must be on the 4000 level.

Prefix and number in parentheses following the U.T. Arlington course number and title is the Common Course Number designation.

**1441. GERMAN I (3-2) 4 hours credit (GERM 1411).** Multi-media immersion in the culture and language of German-speaking countries. Designed to enable students to understand and communicate effectively in German.

**1442. GERMAN II (3-2) 4 hours credit (GERM 1412).** Continuation of GERM 1441. Prerequisite: GERM 1441 or equivalent.

**2313. GERMAN III (3-0) 3 hours credit (GERM 2311).** Highlights in German literature and culture as revealed and reviewed in the printed and electronic media. Application of strategies and technology in mastering listening, speaking, reading, and writing. Prerequisite: GERM 1442 with a grade of C or better.

**2314. GERMAN IV (3-0) 3 hours credit (GERM 2312).** Continuing study of the highlights in German literature and culture as revealed and reviewed in the printed and electronic media. Application of strategies and technology in mastering listening, speaking, reading, and writing. Prerequisite: GERM 2313 with a grade of C or better.

Levels I and II or III and IV may be elected as one intensive program which permits the completion of two levels in one semester. Students planning to enroll in this program must: (1) arrange a conference with the instructor prior to registration; and (2) register for section 082 of each level. The intensive program may not be offered every semester. Students are cautioned to take these courses prior to their senior year because of the possibility of enrollment limitations.

**2391. INDEPENDENT STUDY (3-0) 3 hours credit.** By consent of department only.

**3301. TOPICS IN GERMAN LITERATURE AND CULTURE IN TRANSLATION (3-0) 3 hours credit.** Intellectual and literary trends in life and literature of German-speaking countries as reflected in texts, films, and videos. Topics: 20th Century cinema, the Holocaust experience in literature and culture, women writers from the Enlightenment to the present, postwar in two Germanies, among others. No prerequisites. Cannot be counted toward fulfilling major or minor requirements in German. Can be counted toward fulfilling core curriculum requirement in literature.

**3313. ADVANCED CONVERSATION (3-0) 3 hours credit.** Practice in oral expression with an emphasis on vocabulary building; of special interest to students who wish to improve their skills in pronunciation, comprehension, and expression. Course may be structured around a particular topic or topics for the semester. Credit will not be given to native speakers of German. Prerequisite: GERM 2314 with a grade of C or better, or by permission of the instructor.

**3314. ADVANCED GRAMMAR AND COMPOSITION (3-0) 3 hours credit.** German grammar with practice in original composition, essay, theme, and creative writing. Of special interest to students who wish to improve their skill in written expression in German. Prerequisite: GERM 2314 with a grade of C or better, or by permission of the instructor.

**3317. THE GERMAN HERITAGE (3-0) 3 hours credit.** Origins and highlights of German culture and life as reflected in literary works, mythology, religion, and the arts. Contributions of German-speaking people to western literature and culture. May include the exploits of the Vikings, the Faust theme in literature and culture, German women in literature and art, the German idea of nature, German philosophical trends, among others. May be repeated for credit as topics change. Prerequisite: German 2314 or equivalent, or by permission of the instructor.

**3318. CONTEMPORARY GERMAN CULTURE AND LITERATURE (3-0) 3 hours credit.** German culture and life as reflected in literary works, mythology, religion, and the arts in contemporary German speaking Europe. Contributions of German-speaking people to Western literature and culture. May include 20th Century cinema, the Holocaust experience, German-speaking women writers, postwar in East and West Germany, Freud's influence, among other topics. May be repeated for credit as topics change. Prerequisite: GERM 2314 or equivalent; or permission of the instructor.

**4313. STUDIES IN THE GERMAN LANGUAGE AND CULTURE I (3-0) 3 hours credit.** Literary periods, genres, authors, and re-

search themes. May include literature and thought before Goethe; Goethe and the Classical period; Romanticism, Poetic Realism, Naturalism; the German Novelle and drama; German opera; Kafka and the 20th Century; German literature in the U.S. Continued practice in the four communication skills. May be repeated as topics and texts vary. Prerequisites: two 3000-level German courses with a grade of C or better.

**4314. STUDIES IN THE GERMAN LANGUAGE AND CULTURE II (3-0) 3 hours credit.** German-American language and culture, advanced grammar, German dialects. Topics in the history of the German language, discourse analysis, language and culture in German media. Continued practice in the four communication skills in German. May be repeated for credit as topics and texts vary. Prerequisites: two 3000-level German courses with a grade of C or better.

**4317. ADVANCED STRATEGIES AND PRACTICE IN COMMUNICATION IN GERMAN (3-0) 3 hours credit.** Application of listening, speaking, reading, and writing in German. May include current events appearing daily in the printed and electronic media, selected writings on language and literature, cultural orientation on life in German-speaking countries, performance of a German play or scenes from a play, and interviews with native Germans. May be repeated as topics and texts vary. Prerequisites: two 3000-level German courses with a grade of C or better. German used exclusively.

**4321. THE GERMAN TRADITION I (3-0) 3 hours credit.** German literature, art, and thought from Luther to the early 19th Century within the context of Central European political and social history. Prerequisites: two 3000-level German courses or their equivalents. Strongly recommended for German and international business majors.

**4322. THE GERMAN TRADITION II (3-0) 3 hours credit.** German literature, art, and thought of the 19th and 20th Centuries within the context of Central European political and social history. Prerequisites: two 3000-level German courses or their equivalents. Strongly recommended for German and international business majors.

**4334. THE CULTURE OF BUSINESS (3-0) 3 hours credit.** Social, political, and economic structures in Germany; current events affecting business in the German-speaking world. Media segments about international business in Germany are used as an aid in the acquisition of the basic vocabulary of business and economics. Prerequisite: two 3000-level courses or equivalent (GERM 3313, 3314 strongly recommended) with a grade of C or better; or a knowledge of the language and consent of the instructor.

**4335. BUSINESS GERMAN (3-0) 3 hours credit.** Students learn to function in business environments where German is used, with emphasis on the skills needed for writing business letters, conducting telephone conversations and business meetings, using terminology for transactions in places such as banks, post offices, airports, and hotels. Media segments are used to reinforce vocabulary and knowledge acquired through lectures, readings, conversations. Prerequisite: two 3000-level German courses or equivalent (GERM 3313, 3314 strongly recommended) with a grade of C or better; or a knowledge of the language and the consent of the instructor.

**4339. THE ACQUISITION OF GERMAN (3-0) 3 hours credit.** Theory and practice of acquisition of German. Techniques needed to understand and analyze the sounds, vocabulary, and grammar of the German language. Introduction to reading strategies, the development of oral communication skills, and writing strategies.

**4391. CONFERENCE COURSE 3 hours credit.** Independent study in the preparation of a paper on a research topic; consultation with instructor on a regular basis. May be repeated for credit. Prerequisite: consent of the department and completion of or concurrent enrollment in a 3000-level course.

**4394. HONORS THESIS/SENIOR PROJECT (3-0) 3 hours credit.** Required of all students in the University Honors Program. During the senior year, the student must complete a thesis or a project under the direction of a faculty member in the major department. May not be repeated for credit.

## Portuguese (PORT)

Portuguese may not be offered every semester.

**1441. LEVEL I (3-2) 4 hours credit.**

**1442. LEVEL II (3-2) 4 hours credit.** Prerequisite: PORT 1441 or equivalent.

**2313. LEVEL III (3-0) 3 hours credit.** Prerequisite: PORT 1442 or equivalent.

**2314. LEVEL IV (3-0) 3 hours credit.** Prerequisite: PORT 2313 or equivalent.

**4391. CONFERENCE COURSE (3-0) 3 hours credit.** Independent study in the preparation of a paper on a research topic; consultation with instructor on a regular basis. May be repeated for credit. Prerequisite: consent of the department.

## Russian (RUSS)

Prefix and number in parentheses following the U.T. Arlington course number and title is the Common Course Number designation.

**1441. LEVEL I (3-2) 4 hours credit (RUSS 1411).**

**1442. LEVEL II (3-2) 4 hours credit (RUSS 1412).** Prerequisite: RUSS 1441 or equivalent.

**1451. RUSSIAN TRANSLATION I (3-2) 4 hours credit.** Basic training in translating into English articles from contemporary Soviet journals and periodicals in the career fields of business, engineering, liberal arts, and the sciences.

**1452. RUSSIAN TRANSLATION II (3-2) 4 hours credit.** A continuation of RUSS 1451. Prerequisite: RUSS 1451 or consent of the instructor.

**2313. LEVEL III (3-0) 3 hours credit (RUSS 2311).** Prerequisite: RUSS 1442 or equivalent.

**2314. LEVEL IV (3-0) 3 hours credit (RUSS 2312).** Prerequisite: RUSS 2313 or equivalent.

Levels I, II, III, and IV may be elected as one intensive program which permits the completion of all four levels in one semester. Students planning to enroll in this program must (1) arrange a conference with the instructor prior to registration; and (2) enroll in no other courses during that semester except exercise and sport activities (EXSA). The intensive program is offered only in the summer. Students are cautioned to take these courses prior to their senior year because of the possibility of enrollment limitations.

**2391. INDEPENDENT STUDY (3-0) 3 hours credit.** By consent of the department only.

**3301. RUSSIAN LITERATURE IN TRANSLATION (3-0) 3 hours credit.** The works of major Russian authors during the period from the beginning of Russian literature until the 1917 Revolution. The interrelationship of various literary movements and philosophies. Students receiving Russian credit will be required to compare selected translations with the original works and must complete a research or translation project. Prerequisite: permission of the department. Also listed as ENGL 3301; credit will be granted only once.

**3306. SOVIET AND POST-SOVIET LITERATURE IN TRANSLATION (3-0) 3 hours credit.** The works of major Soviet and post-Soviet authors from 1917 to the present against the background of unfolding social and political development in the USSR and post-USSR. May be repeated for credit as topics and periods vary. Students receiving credit in Russian will complete a translation or research project using the Russian language. Also listed as ENGL 3306; credit will be given in only one department.

**3314. POLITICAL SYSTEMS OF EASTERN AND CENTRAL EUROPE (3-0) 3 hours credit.** Examination of the political institutions and processes of the former communist systems of Eastern Europe and the Baltics, as well as selected Central European states. Also listed as POLS 3314; credit will be given in only one department. Students receiving credit in Russian will complete projects using the Russian language.

**3322. INTERMEDIATE RUSSIAN LANGUAGE AND POLITICS I (3-0) 3 hours credit.** This is the first of four courses concentrating on Russian grammar, reading, speaking, listening, and writing, developed through the study of authentic texts taken from Russian media. Topics include contemporary national and international issues, with a focus on diplomacy. Prerequisite: RUSS 2314 with a grade of C or better or by permission of the instructor.

**3323. INTERMEDIATE RUSSIAN LANGUAGE AND POLITICS II (3-0) 3 hours credit.** This is the second of four courses concentrating on Russian grammar, reading, speaking, listening, and writing, developed through the study of authentic texts taken from Russian media. Topics include contemporary national and international issues, with a focus on diplomacy. Added emphasis on texts portraying historical and geographical concerns. Prerequisite: RUSS 3322.

**3333. CONVERSATION (3-0) 3 hours credit.** Practice in oral expression with seminar-type question-and-answer periods, and practical assignments in the student's major or minor field. Credit will not be granted to native speakers. Prerequisite: RUSS 2314 or consent of the department. Course may be repeated for credit as topics vary.

**4181. RUSSIAN TRANSLATION LABORATORY PRACTICE (0-2) 1 hour credit.** To increase translation proficiency through the use of the tape recorder and the computer. Emphasis on using the computer and in giving rapid sight translations from Russian into English. Prerequisite: permission of the instructor.

**4322. ADVANCED RUSSIAN LANGUAGE AND POLITICS I (3-0) 3 hours credit.** This is the third of four courses concentrating on Russian grammar, reading, speaking, listening, and writing, developed through the study of authentic texts. Translation skills, and active and passive vocabulary also are practiced through study of contemporary Russian media and government publications. Topics include contemporary national and international issues, with a focus on diplomacy. Prerequisites: RUSS 3322 and 3323.

**4323. ADVANCED RUSSIAN LANGUAGE AND POLITICS II (3-0) 3 hours credit.** This is the fourth of four courses concentrating on Russian grammar, reading, speaking, listening, and writing, developed through the study of authentic texts. Translation skills, and active and passive vocabulary also are practiced through study of linguistically advanced contemporary Russian print and non-print media and government publications. Topics include contemporary national and international issues, with a focus on diplomacy. Prerequisites: RUSS 4322.

**4334. THE CULTURE OF BUSINESS (3-0) 3 hours credit.** A preparatory course in business Russian, focusing on social, political, and economic structures in Russia and Russian-speaking areas. Special emphasis will be placed on current events affecting the Russian business world. Prerequisites: two 3000-level courses in Russian or consent of the instructor.

**4335. BUSINESS RUSSIAN (3-0) 3 hours credit.** An introduction to business terminology, skills needed for writing business letters, conducting telephone conversations, commercial transactions, and international procedures. Operational and strategic issues involved in interaction with Russian firms and markets; international trade; competitive, vendor-customer, and collaborative relations. Prerequisites: two 3000-level courses in Russian or consent of the instructor.

**4359. HISTORY OF RUSSIA TO 1885 (3-0) 3 hours credit.** A survey of Russian history from the origins of the first Russian state through the reign of Nicholas I. Special attention to such topics as the Kievan Rus, the Mongol impact and Muscovite state, the rise of Imperial Russia, and Russia's emergence as a global power. Also listed as HIST 4359. Permission of the department required. For Russian credit, research will be required in Russian.

**4360. HISTORY OF RUSSIA SINCE 1885 (3-0) 3 hours credit.** A survey of Russian history from the reign of Alexander II to the present. Special attention to such topics as the decline of Imperial Russia, the rise of the revolutionary spirit, and the emergence, consolidation, and development of the Soviet state. Also listed as HIST 4360. Permission of the department required. For Russian credit, research will be required in Russian.

**4361. THE POLITICAL ENVIRONMENT OF RUSSIA AND THE SUCCESSOR STATES (3-0) 3 hours credit.** The domestic political systems of Russia and the other former Soviet republics. The communist state in retrospect. Development of political actors, institutions, and parties. Also listed as POLS 4361; credit will be given in only one department. Taught in English; for Russian language credit, research will be done in Russian.

**4362. RUSSIA AND THE SUCCESSOR STATES TODAY (3-0) 3 hours credit.** The metamorphosis of the Communist Party and the current political philosophies of the post-Soviet states. Examination of attitudes and self-perceptions of citizens of these states in the

post-Soviet period. Emphasis is on area studies and culture. Also listed as HIST 4362 and POLS 4362; credit will be granted in only one department. The course will be taught in English, but for Russian language credit, research will be done in the Russian language. May be repeated for credit as topics change.

**4363. SPECIAL TOPICS IN RUSSIAN AND EURO-ASIAN STUDIES (3-0) 3 hours credit.** Russia and the successor states of the old Soviet Union examined in relation to selected issues concerning politics, social change, and historical events. Also listed as POLS and HIST 4363; credit will be given in only one department. Prerequisite: POLS or RUSS 4361, or POLS, RUSS, or HIST 4362. For Russian credit, research will be done in the Russian language. May be repeated for credit as topic changes.

**4364. THE SINO-RUSSIAN RELATIONSHIP (3-0) 3 hours credit.** The interaction of China and Russia. A broad cultural-intellectual perspective utilized to contrast history, philosophy, and unique cultures of the Chinese and Russian peoples. The political systems and varying applications of Marxist philosophy. Also listed as HIST 4364; credit will be granted in only one department. Prerequisite: permission of instructor. For Russian credit, research will be done in the Russian language.

**4365. FOREIGN POLICIES OF RUSSIA AND THE SUCCESSOR STATES (3-0) 3 hours credit.** The foreign policies of Russia and other former Soviet republics. Development of their policy-making structures and the major issues confronting them. Emphasis on Russia and the superpower relationship, European security and cooperation, relations with developing states, and the interaction of the former Soviet republics. Also listed as POLS 4365; credit will be given in only one department. Taught in English; for Russian Language credit, research will be done in Russian.

**4387. COMMUNISM AND POLITICAL DEVELOPMENT (3-0) 3 hours credit.** Marxism and the place of Marxism-Leninism in the post-Cold War world. Special emphasis on China, national liberation movements in the developing world, and post-Soviet Marxism in the European context. Also listed as HIST and POLS 4387; credit will be given in only one department. Prerequisite: permission of the department. The course will be taught in English; but for Russian language credit, research will be done in Russian.

**4391. CONFERENCE COURSE (3-0) 3 hours credit.** Independent study in the preparation of a paper or a translation on a research topic; consultation with instructor on a regular basis. May be repeated for credit. Prerequisite: consent of the department.

**4394. HONORS THESIS/SENIOR PROJECT (3-0) 3 hours credit.** Required of all students in the University Honors Program. During the senior year, the student must complete a thesis or a project under the direction of a faculty member in the major department. May not be repeated for credit.

## Spanish (SPAN)

Prefix and number in parentheses following the U.T. Arlington course number and title is the Common Course Number designation.

**1441. LEVEL I (3-2) 4 hours credit (SPAN 1411).**

**1442. LEVEL II (3-2) 4 hours credit (SPAN 1412).** Prerequisite: SPAN 1441 or equivalent.

**2313. LEVEL III (3-0) 3 hours credit (SPAN 2311).** Prerequisite: SPAN 1442 or equivalent.

**2314. LEVEL IV (3-0) 3 hours credit (SPAN 2312).** Prerequisite: SPAN 2313 or equivalent.

Levels I, II, III, and IV may be elected as one intensive program which permits the completion of all four levels in one semester. Students planning to enroll in this program must (1) arrange a conference with the instructor prior to registration; (2) register for section 084 of each level; and (3) enroll in no other courses during that semester except exercise and sport activities (EXSA). The intensive program is offered only in the summer. Students are cautioned to take these courses prior to their senior year because of the possibility of enrollment limitations. Levels I and II or III and IV are also offered as intensive courses that permit completion of two levels in one semester.

**2391. INDEPENDENT STUDY (3-0) 3 hours credit.** By consent of the department only.

**3302. HISPANIC LITERATURE IN TRANSLATION (3-0) 3 hours credit.** The works of major authors and intellectual trends of a given period. May be repeated for credit as topics or periods vary, but no more than three hours may be counted toward a degree in a foreign language. Prerequisites: SPAN 2314 and six hours of English.

**3303. ADVANCED SPANISH CONVERSATION (3-0) 3 hours credit.** Practice in oral expression with an introduction to practical phonetics and vocabulary building. Of special interest to students who wish to improve their skill in pronunciation, comprehension, and oral expression. Credit will not be granted to native speakers. Prerequisite: SPAN 2314 with a grade of C or better, or consent of the department. Generally offered in our summer programs in Spanish-speaking countries.

**3311. SPANISH CULTURE AND CIVILIZATION (3-0) 3 hours credit.** Spanish history with emphasis on cultural, intellectual, and artistic trends and existing social institutions and moral values. Prerequisite: SPAN 2314 with a grade of C or better, or a knowledge of the language and consent of the department.

**3312. SPANISH-AMERICAN CULTURE AND CIVILIZATION (3-0) 3 hours credit.** The evolution of Spanish-American society and culture as a background for its contemporary problems. Prerequisite: SPAN 2314 with a grade of C or better, or a knowledge of the language and consent of the department.

**3314. ADVANCED SPANISH GRAMMAR (3-0) 3 hours credit.** A detailed study of Spanish grammar. Prerequisite: SPAN 2314 with a grade of C or better, or consent of the department.

**3315. ADVANCED SPANISH COMPOSITION (3-0) 3 hours credit.** Practice in original composition. Of special interest to students who wish to improve their skill in written expression in Spanish. Prerequisite: SPAN 3314 or consent of the department.

**3318. SELECTED READINGS IN HISPANIC LITERATURE (3-0) 3 hours credit.** Introduction to literary theory and analysis through representative Hispanic texts: questions of how literary texts are structured, what they mean, and how they reflect and shape social and

cultural concepts. Strongly recommended prior to upper-division literature courses. Prerequisite: SPAN 2314 with a grade of C or better, or a knowledge of the language and consent of the department.

**3320. INTRODUCTION TO HISPANIC LITERATURE AND CULTURE I (3-0) 3 hours credit.** Representative literary texts and relevant cultural information and material. Provide an understanding of epochs and currents from the Middle Ages through the Age of Reason. Comparison and contrast of selected texts from Spain and Spanish America with the principal objective of developing students' understanding of historical change and cultural crosscurrents.

**3321. INTRODUCTION TO HISPANIC LITERATURE AND CULTURE II (3-0) 3 hours credit.** Representative literary texts and relevant cultural information and material. Provide an understanding of epochs and currents from Romanticism to the present day. Comparison and contrast of selected texts from Spain and Spanish America with the principal objective of developing students' understanding of historical change and cultural crosscurrents.

**3391. CONFERENCE COURSE (3-0) 3 hours credit.** Independent study; consultation with instructor on a regular basis. Offered primarily in the U.T. Arlington summer program in Mexico. May be repeated for credit. Prerequisite: permission of instructor.

**4301. INTRODUCTION TO SPANISH LINGUISTICS (3-0) 3 hours credit.** Introduction to Spanish phonology (including articulatory phonetics), morphology, syntax, semantics, and sociolinguistics. Prerequisite: SPAN 3314 or consent of instructor.

**4307. MODERN HISPANIC DRAMA (3-0) 3 hours credit.** Readings of 19th and 20th Century Hispanic dramatists; the nature of dramatic art.

**4308. MODERN SPANISH NARRATIVE (3-0) 3 hours credit.** In-depth studies of selected novels and short stories by major Spanish writers of the 19th and 20th Centuries. Speculations on such problems as reflexivity, the relation of fiction to life, the role of the reader in fiction, etc. Spanish narrative in the context of other European and American writings.

**4309. MODERN HISPANIC POETRY (3-0) 3 hours credit.** Close readings of major Spanish and Spanish-American poets of the 19th and 20th Centuries. Considerations of major theoretical and critical approaches to modern poetry. Continuity (or tradition) and innovation in this poetry.

**4313. TOPICS IN HISPANIC CULTURE (3-0) 3 hours credit.** Among the topics are Spanish music, television, radio, film, and literature as culture. May be repeated for credit.

**4317. CHICANO LITERATURE (3-0) 3 hours credit.** Mexican-American literature, with special attention to its social, cultural, and linguistic background.

**4318. MEXICAN LITERATURE (3-0) 3 hours credit.** Studies in Mexican fiction, poetry, drama, and literary essay. \$5 computer fee.

**4324. CONTEMPORARY SPANISH AMERICAN NOVEL AND SHORT STORY (3-0) 3 hours credit.** Studies of the works of such writers as Borges, Cortazar, Garcia Marquez, Onetti, Donoso, Rulfo, Fuentes, Arreola, Vargas Llosa. May be repeated for credit as the topics vary.

**4326. THE TWENTIETH-CENTURY HISPANIC ESSAY (3-0) 3 hours credit.** Major essayists and their contributions to the understanding of modern Hispanic problems. Includes the literary criticism of Ortega and Unamuno, and the Spanish-Americans Borges, Mallea, Paz, Alfonso Reyes, or others.

**4327. WOMEN IN HISPANIC LITERATURE (3-0) 3 hours credit.**

Considers women as characters in and writers of Hispanic literature. Includes the analysis of themes, language, and how the writings of women often give voice to lesser known aspects of culture. Also listed as WOMS 4327; credit will not be given for both.

**4334. THE CULTURE OF BUSINESS (3-0) 3 hours credit.** A preparatory course in business Spanish, focusing on social, political, and economic structures in Spain and Latin America. Special emphasis will be placed on current events affecting the Hispanic business world. Prerequisites: two 3000-level courses in Spanish.

**4335. BUSINESS SPANISH (3-0) 3 hours credit.** An introduction to business terminology, skills needed for writing business letters, conducting telephone conversations, commercial transactions, and international procedures. Operational and strategic issues involved in interaction with Hispanic firms and markets; international trade; competitive, vendor-customer, and collaborative relations. Prerequisites: two 3000-level courses in Spanish.

**4339. THE ACQUISITION OF SPANISH (3-0) 3 hours credit.**

Theory and practice of language acquisition. Techniques needed to

understand and analyze the sounds, vocabulary, and grammar of the Spanish language.

**4391. CONFERENCE COURSE (3-0) 3 hours credit.** Independent study in the preparation of a paper on a research topic; consultation with instructor on a regular basis. May be repeated for credit.

Prerequisites: consent of the department and completion of or concurrent enrollment in a 3000 course.

**4393. PRACTICUM (3-0) 3 hours credit.** Independent study course including the application of language acquisition techniques to supervised language practice sessions. A research paper will be required. Prerequisite: departmental permission.

**4394. HONORS THESIS/SENIOR PROJECT (3-0) 3 hours credit.**

Required of all students in the University Honors Program. During the senior year, the student must complete a thesis or a project under the direction of a faculty member in the major department. May not be repeated for credit.

# The Department of History

202 University Hall • Box 19529 • 817-272-2861

The study of history explores the basic forces that have shaped human affairs and is therefore a means for dealing with present concerns and future problems. An appreciation of our heritage develops a sense of our identity. Historical inquiry also provides the necessary background for the study of other disciplines such as economics, literature, art, language, and the social as well as natural sciences.

Students of history develop important critical skills that are the hallmark of educated people: the ability to reason and analyze; the capacity to investigate problems and synthesize diverse information; facility in expressing ideas or data clearly and precisely. The History Department encourages an open and questioning attitude toward the diversity of human experiences and ideas. An awareness of cultural differences between various groups of people will provide insights concerning the basic issues of world civilization. Students of history are encouraged to read analytically, speak cogently, and write coherently.

Both the curriculum and the methodology of the History Department are multifaceted. The History Department, therefore, requires that students take courses in both chronological and topical areas in United States and world history. The history faculty specializes in such diverse methodologies as quantitative analysis and the new social and political history, as well as the more traditional biographical and narrative approaches. Thus students are exposed to the many ways of studying the past and the present.

A degree in history prepares students for a variety of careers, including teaching, archival administration, business, journalism and communications, historical preservation, law, and public affairs. More importantly, by providing insight into the causes and effects of change in society, a knowledge of history prepares every individual for life in a complex world.

## Requirements for a Bachelor of Arts Degree in History

### English

Six hours of composition.

### Literature

Three hours of English or foreign language literature or other approved substitute.

### Liberal Arts Elective

Three hours above the freshman level of literature, or social and cultural studies designated as taught in the College of Liberal Arts, or fine arts or philosophy, or technical writing.

### Foreign Language

1441, 1442, 2313, and 2314 or equivalent.

### Political Science

2311, 2312.

### Mathematics

Six hours (level of college algebra or higher).

### Science

11 hours (eight hours in a single lab science). Must be natural or physical science.

### Fine Arts and Philosophy

Three hours from architecture, art, dance, music, philosophy, or theatre arts.

### Social/Cultural Studies

Three hours of designated courses in archaeology, classical studies, communication, economics, history, humanities, linguistics, political science, social or cultural anthropology, social/political/cultural geography, social psychology, sociology or women's studies.

### Electives

Sufficient to give the total number of hours required for a degree.

### Major

#### Core (Required)

1311, 1312. (Students with a satisfactory SAT achievement score in American history or other proof of a strong background in American history may wish to enroll in an honors section or opt to substitute six hours of advanced courses in American history.) 2301, 2302, (or 2313, 2314 for pre-law majors). Three hours from 3300, 4389, or 4394. (Students receiving certification for teaching at the secondary level must substitute 4389 for 3300.) 4394 restricted to honors students.

**It is strongly recommended that history majors complete the core requirement before enrolling in upper level history courses.**

#### Core (Advanced)

21 hours from the following groups, with at least six hours from each:

##### Group A: Advanced U.S. History

3308, 3310, 3311, 3312, 3313, 3314, 3315, 3316, 3317, 3318, 3321, 3322, 3323, 3324, 3325, 3326, 3327, 3328, 3330, 3334, 3342, 3343, 3344, 3345, 3346, 3347, 3348, 3349, 3350, 3351, 3352, 3353, 3355, 3356, 3357, 3358, 3360, 3361, 3362, 3363, 3364, 3365, 3366, 3367, 3368, 3370, 3372, 3373.

##### Group B: Advanced Non-U.S. History

3374, 3375, 3376, 3377, 3378, 3379, 3380, 3381, 3382, 3383, 3384, 3387, 3388, 4345, 4348, 4349, 4350, 4351, 4352, 4354, 4355, 4356, 4357, 4358, 4359, 4360, 4361, 4362, 4363, 4364, 4365, 4366, 4367, 4368, 4369, 4371, 4374, 4375, 4378, 4379, 4382, 4384, 4385, 4387.

(Note: 3309, 3319, 3320, 3350, 3385, 3386, 3389, 3390, 4301, 4388, 4391 may be used for credit in either U.S. or World history depending on the subject.)

### Minor

18 hours, at least six of which shall be 3000/4000 level.

### Total

128 hours, at least 36 of which must be 3000/4000 level, plus exercise and sport activities (EXSA) or ROTC or marching band as required.

**All history majors in consultation with their advisor will design an appropriate course of upper level study in history.**

## Teacher Certification

Students interested in Texas Teacher Certification should consult the Center for Professional Teacher Education section of this catalog for the most recent changes in requirements regarding admission to Teacher Education, completion of University programs in preparation for certification, and eligibility for certification after graduation.

### Bachelor of Arts Degree in History (Pre-Law Option)

#### English

Six hours of composition.

#### Literature

Three hours of English or foreign language literature or other approved substitute.

#### Liberal Arts Elective

Three hours above the freshman level of literature, or social and cultural studies designated as taught in the College of Liberal Arts, or fine arts or philosophy, or technical writing.

#### Political Science

2311, 2312; and six hours chosen from 3330, 3331, 3333, 3335, 3342, 4331, 4332.

#### Foreign Language

1441, 1442, 2313, and 2314 or equivalent.

#### Mathematics

Six hours, 1302 recommended.

#### Science

11 hours (eight hours in a single lab science).

#### Business Administration

BLAW 3311 or 3312 or 4310.

#### Economics

ECON 2305 or 2306 or 4335.

#### Sociology

SOCI 3313 or 3357.

#### Criminal Justice

Six hours from CRCJ 2334, 2340, 3300, 3337, 3390, 4331, 4380.

#### Philosophy

PHIL 1301 or 2311.

#### Major

33 hours, 21 hours 3000/4000 level, to include 1311, 1312, 2313, 2314, 3300.

12 hours from 3317, 3318, 3319, 3320, 3322, 4350, 4385.

Six additional hours of any 3000/4000-level history course.

#### Minor

18 hours, at least six 3000/4000 level.

It is strongly recommended that history majors complete the core requirement before enrolling in upper level history courses.

#### Total

124 hours, at least 39 of which must be 3000/4000 level, plus exercise and sport activities (EXSA) or marching band or ROTC as required.

## Bachelor of Arts Degree in History (Minority Studies Option)

Students selecting this option will be expected to work closely with the faculty advisor, appointed during their first year, in choosing a program. All requirements for the regular history degree must be fulfilled as well as the following additional requirements:

#### Major

HIST 1311, 1312, 2301, 2302, 3300, or 4389 (4394 Honors) and 12 hours from HIST 3320, 3362, 3365, 3366, 3367, 3368 and three hours of any 3000-4000 level U.S. history; 6 hours from 4366, 4367, 4369, 4374, 4375, 4376, 4377.

#### Minor

18 hours, at least six advanced.

#### Electives

12 hours from Minority Studies list from at least two departments other than major and minor (see advisor for list); 4 hours of EXSA, Band, MILS and others as needed to complete 128 academic hours.

## Bachelor of Arts Degree in History (Women's History Option)

Students selecting this option will be expected to work closely with the faculty advisor, appointed during their first year, in choosing a program. All requirements for the regular history degree must be fulfilled as well as the following additional requirements:

#### Major

HIST 1311, 1312, 2301, 2302, 3300 or 4389 (4394 Honors) and 12 hours from HIST 3308, 3309, 3310, 3311, 3312, 3313, 3314, 3381 and 3 hours of any 3000/4000 level U.S. history; 6 hours from 300-4000 non-U.S. history.

#### Minor

18 hours from Women's Studies Program (at least six 3000-4000 level and cannot include courses cross-listed with History).

#### Electives

Sufficient number to give total of 128 academic hours plus 4 hours EXSA or ROTC or marching band (if not exempt).

## Department of History Faculty

#### Chair

Professor Philp

#### Professors

Buisseret, Francaviglia, Green, Lackner,

Palmer, Richmond, Rodnitzky

#### Associate Professors

Anders, Cawthon, Fairbanks, Goldberg, Haynes, Kyle, Maizlish,

Morris, Narrett, Reinhardt, Reinhartz, Underwood

#### Assistant Professors

Cole, Eghigian, Jalloh, Parker, Prewitt

#### Adjunct Associate Professor

Saxon



## History (HIST)

Prefix and number in parentheses following the U.T. Arlington course number and title is the Common Course Number designation.

**1311. HISTORY OF THE UNITED STATES (3-0) 3 hours credit (HIST 1301).** An introduction to the political, social, economic, and cultural history of the United States prior to 1865. This course is designed to help students understand and evaluate their society, comprehend the historical experience, and further develop reading and writing competencies and critical skills. Formerly listed as 2311. Credit cannot be received for both 2311 and 1311.

**1312. HISTORY OF THE UNITED STATES (3-0) 3 hours credit (HIST 1302).** An introduction to the political, social, economic, and cultural history of the United States since 1865. This course is designed to help students understand and evaluate their society, comprehend the historical experience, and further develop reading and writing competencies and critical skills. Formerly listed as 2312. Credit cannot be received for both 2312 and 1312.

**2301. HISTORY OF CIVILIZATION (3-0) 3 hours credit (HIST 2311).** Significant developments from pre-historic times through the 16th Century. Achievements and experiences of great civilizations, emphasizing major historical figures and epochs, important ideas and religions, and factors of continuity and change. Provides a foundation for understanding our heritage and shared values, and introduces students to the historical forces that have shaped today's world.

**2302. HISTORY OF CIVILIZATION (3-0) 3 hours credit (HIST 2312).** Major modern trends such as industrialism, nationalism, imperialism, socialism, and the more complex problems and conflicts of the present century. Particular attention to the emergence of a global civilization. Provides a foundation for understanding our heritage and shared values, and introduces students to the historical forces that have shaped today's world.

**2311. AMERICAN STUDIES (3-0) 3 hours credit.** Main currents in American thought, colonial times to the Civil War. Intellectuals and the ideas, texts, music, machines, art, and architecture they produced. Taught in conjunction with designated sections of American literature and government as a course in the Honors Program. Prerequisite: participation in the Honors Program.

**2312. AMERICAN STUDIES (3-0) 3 hours credit.** Main currents in American thought, Civil War to the present. Intellectuals and the ideas, texts, music, machines, art, and architecture they produced. Taught in conjunction with designated sections of American literature and government as a course in the Honors Program. Prerequisite: participation in the Honors Program.

**2313. HISTORY OF ENGLAND (3-0) 3 hours credit.** The history of Britain from prehistoric times to 1688. The development of English laws and institutions. Required of all pre-law majors. Formerly listed as 1313. Credit cannot be received for both 2313 and 1313.

**2314. HISTORY OF ENGLAND (3-0) 3 hours credit.** British history from 1688 to the present. The growth of English laws and institutions. Required of all pre-law majors. HIST 2313 is not a prerequisite for this course. Formerly listed as 1314. Credit cannot be received for both 1314 and 2314.

There is no distinction between 3000/4000-level courses in history. The prerequisite for all of the following courses is six hours in social science. It is strongly recommended that history majors complete the core requirements before enrolling in upper level history courses.

**3300. APPROACHES TO THE STUDY OF HISTORY (3-0) 3 hours credit.** Introduction to the theories and history of the discipline, the varieties of specialties within the field, and methods and problems of historical research. Required for history majors. Formerly listed as 4390.

**3308. WOMEN IN THE WEST, 1500-1900 (3-0) 3 hours credit.** Examines women's experiences in the Trans-Mississippi West, focusing on issues of gender roles and socio-economic class within a multicultural perspective (Native American, Asian, African American, Hispanic and Euro-American). Also listed as WOMS 3308; credit will be granted only once.

**3309. WOMEN AND WORK, 1600 TO THE PRESENT (3-0) 3 hours credit.** Examines the history of women and work, both waged and nonwaged, in Europe and the Americas, including the United States. Highlights differences within women's work cultures as well as variation in women's employment opportunities and their efforts to achieve equality with men in the workplace, by ethnicity, region, and nation. Also listed as WOMS 3309; credit will be granted only once.

**3310. U.S. WOMEN'S HISTORY TO 1860 (3-0) 3 hours credit.** Women in politics, work and society from the colonial era to the Civil War. Women's efforts to reform society, including the abolition of slavery and acquisition of suffrage. Also listed as WOMS 3310; credit will be granted only once.

**3311. U.S. WOMEN'S HISTORY 1860 TO PRESENT (3-0) 3 hours credit.** American women in politics, work and society since 1860, focusing on race and class and women's struggles for rights and liberation. Also listed as WOMS 3311; credit will be granted only once.

**3312. FAMILY AND SOCIAL CHANGE IN EARLY AMERICA (3-0) 3 hours credit.** Family and childhood during Spanish, Mexican, French and English colonization and settlement in North America to 1820. Effects of political and social change on the family. Also listed as WOMS 3312; credit will be granted only once.

**3313. FAMILY AND SOCIAL CHANGE IN AMERICA, 1820 TO PRESENT (3-0) 3 hours credit.** Changes and challenges that families, including immigrant, Native American and African American, have faced since 1820. Deals with moral and ethical issues ranging from family violence to test tube babies. Also listed as WOMS 3313; credit will be granted only once.

**3314. GENDER AND RACE IN AMERICAN REGIONALISM (3-0) 3 hours credit.** Examines historical construction of gender and racial roles in different regions between colonization and 20th century. Topics include changes in women's and men's work, their images in art, literature, and film, and comparative ideals of masculinity and femininity across racial lines. Also listed as WOMS 3314; credit will be granted only once.

**3315. WORK, CULTURE, AND SOCIETY IN AMERICA TO 1870 (3-0) 3 hours credit.** Focuses on the changing ideas and practices of work, leisure, and worker-employer relations from pre-European contact to industrial age. Particular attention to how work and leisure rights developed according to gender, race, class, ethnicity and age.

**3316. WORK, CULTURE, AND SOCIETY IN AMERICA, 1870 TO PRESENT (3-0) 3 hours credit.** Examines changing ideas and practices of work, leisure and worker-employer relations from industrial age to today's post-industrial society. Focus on how changes in industrial and service economies, patterns of consumption, and labor rights have shaped modern American society.

**3317. AMERICAN LEGAL AND CONSTITUTIONAL HISTORY, COLONIAL TO 1860 (3-0) 3 hours credit.** Traces the development and nature of American law with emphasis on the interrelations of law, public opinion, Constitutions, the legal profession, and judiciary. Credit cannot be received for both 3317 and 3353.

**3318. AMERICAN LEGAL AND CONSTITUTIONAL HISTORY, 1860 TO PRESENT (3-0) 3 hours credit.** Traces the adaptation of laws to changing social and economic needs with emphasis on the interrelations of law, public opinion, the legal profession, judiciary, and the political process. Credit cannot be received for both 3318 and 3353.

**3319. GREAT ANGLO-AMERICAN TRIALS (3-0) 3 hours credit.** The historical development of criminal trial procedure in Britain and the United States: arrest and detention procedures; the roles of judge and jury; press coverage; political implications of celebrated and notorious cases.

**3320. ANGLO-AMERICAN CIVIL LIBERTIES (3-0) 3 hours credit.** The historical origins of individual liberties in Britain and the United States: constitutional and political watersheds concerning "bill of rights" freedoms, comparative histories of case law relating to speech, privacy, and religion.

**3321. COLONIAL AMERICA TO 1763 (3-0) 3 hours credit.** The beginnings of colonization in North America; the development of colonies and their political, social, economic, and cultural aspects; and the international ramifications culminating in the Great War for the Empire and the Treaty of Paris in 1763.

**3322. THE AMERICAN REVOLUTION AND THE CONSTITUTION, 1763-1789 (3-0) 3 hours credit.** The origins of the American Revolution, the transformation of American politics and society during the Revolutionary era, and the establishment of the new national government under the Constitution. Special topics include the development of law, civilian-military relations, slavery and race relations, and women's social experience.

**3323. THE NEW NATION, 1789-1844 (3-0) 3 hours credit.** The development of the national government, the party system, the market economy, and reform movements from Jefferson through Jackson. The birth of modern American society and personality, with special emphasis on changing views of man, community, and society.

**3324. ERA OF SECTIONAL CONFLICT, 1820-1860 (3-0) 3 hours credit.** Sectional conflict in the United States from the Missouri Compromise of 1820 to the election of Abraham Lincoln in 1860. Southern separatism, slavery as a political issue, the antislavery movement, the breakup of the national political system, and the failure of sectional compromise.

**3325. CIVIL WAR AND RECONSTRUCTION, 1850-1876 (3-0) 3 hours credit.** The background and causes of secession and the Civil War, the organization of the Confederate States of America, the progress of the war, and the attempts to solve the racial, social, political, and economic problems of the post-war period.

**3326. THE OLD SOUTH, 1607-1863 (3-0) 3 hours credit.** Colonial origins of plantation agriculture, slavery, economics, King Cotton, politics and secession. Other topics include slave cultures, religion, slave insurrections, plantation lifestyle, honor, dueling and southern belles.

**3327. THE NEW SOUTH, 1863-PRESENT (3-0) 3 hours credit.** From military defeat to Sun Belt growth. Topics include Reconstruction, segregation, migration of Southerners to the North and West, depressions, reforms, Civil Rights, Moral Majority, cultural expressions in literature and music.

**3328. HISTORY OF THE UNITED STATES, 1876-1900 (3-0) 3 hours credit.** The emergence of industrial America between the Reconstruction Era and 1900; the rise of business, organized labor, populism, and the emergence of the United States as a world power.

**3330. HISTORY OF THE UNITED STATES, 1900-1920 (3-0) 3 hours credit.** Local, state, and national programs of reform after 1900, continued growth and change of the economy, and America's increasing participation in world affairs, culminating in participation in World War I.

**3334. HISTORY OF THE UNITED STATES, 1920-1945 (3-0) 3 hours credit.** The technological revolution of the 1920s, the Great Depression, and World War II.

**3342. CONTEMPORARY AMERICA, 1945-PRESENT (3-0) 3 hours credit.** Special topics: the origins of the Cold War, the problem of loyalty in a democratic nation, the Vietnam conflict, the Fair Deal and Great Society, the Civil Rights Movement, student unrest and the growth of the New Left, and the impact of Richard Nixon and subsequent presidents on American politics.

**3343. HISTORY OF SCIENCE AND TECHNOLOGY TO 1900 (3-0) 3 hours credit.** The development of scientific theories and knowledge, with particular stress on the interplay between science, technology, and society.

**3344. HISTORY OF SCIENCE AND TECHNOLOGY SINCE 1900 (3-0) 3 hours credit.** The accelerating impact of science and technology in modern industrial society, with particular stress on social effects and intellectual controversy.

**3345. SOCIAL HISTORY OF AMERICAN FILM (3-0) 3 hours credit.** Analysis of the social, cultural, political, and economic history of American movies and the film industry. Films will be shown to explore the interaction between motion pictures and the broader society.

**3346. SOCIAL AND INTELLECTUAL HISTORY OF THE UNITED STATES TO THE CIVIL WAR (3-0) 3 hours credit.** Leading American thinkers and their influence on American thought and society, particularly Puritanism, the Enlightenment, and the rise of democracy.

**3347. SOCIAL AND INTELLECTUAL HISTORY OF THE UNITED STATES, 1860-PRESENT (3-0) 3 hours credit.** Major ideas and social movements in America since 1860, with particular emphasis on those aspects of American thought which continue to agitate contemporary society.

**3348. HISTORY OF AMERICAN FOREIGN RELATIONS, 1775-1913 (3-0) 3 hours credit.** American foreign relations from the Revolution to the outbreak of World War I. Four topics will be explored in depth: the problems of the young republic in conducting foreign policy; the acquisition of continental empire; the rise of the United States to Great Power status: the acquisition and rule of overseas empire.

**3349. HISTORY OF AMERICAN FOREIGN RELATIONS, 1913-PRESENT (3-0) 3 hours credit.** American diplomacy from the outbreak of World War I to the present. American entry into the two World Wars; the Vietnam quagmire; American relations with the Soviet Union, China, and the Middle East.

**3350. READING THE LANDSCAPE (3-0) 3 hours credit.** How historians and geographers identify and interpret clues in the landscape (such as place names, architecture, vegetation, transportation, field and street patterns) that reflect historical change and its social, economic, environmental and geographic consequences. Also listed as GEOG 3350; credit will be granted only once.

**3351. HISTORY OF THE DALLAS-FORT WORTH METROPLEX (3-0) 3 hours credit.** The growth and development of Dallas and Fort Worth from competitive 19th-Century trade centers in a rural setting to cooperative high-tech cities in a rapidly urbanizing metropolis. Political, economic, cultural, and spatial changes of this area are explored within a national urban context.

**3352. THE SOUTHWEST (3-0) 3 hours credit.** A multicultural history of the southwestern United States from pre-Columbian times to the present. Cultural adaptation to environment; cultural contact and conflict; political, social, and economic change.

**3353. CONTEMPORARY AMERICAN ISSUES (3-0) 3 hours credit.** Contemporary American social issues in areas such as race, gender, and economic enterprise are studied by tracing their origin and historical development.

**3355. ENVIRONMENTAL HISTORY OF THE UNITED STATES (3-0) 3 hours credit.** People and the natural environment from the colonial period to the present. Ecological change, conservation movements, and artistic and literary interpretations of landscape and nature. Also listed as GEOG 3355; credit will be granted only once.

**3356. MILITARY HISTORY OF THE UNITED STATES (3-0) 3 hours credit.** U.S. military history from the colonial period to the present. The role of the military establishment in the nation, the historical evolution of its organization, and the basic strategic and tactical concepts which it has employed.

**3357. THE EARLY FRONTIER (3-0) 3 hours credit.** The clash of empires and the patterns of exploration and settlement from the Atlantic Coast to the Mississippi River. Indian-white relations and the development of cultural, social, and political life on the early frontier.

**3358. THE LATER FRONTIER (3-0) 3 hours credit.** American settlement west of the Mississippi River through the close of the frontier. Exploration, the fur trade, mining, the cattle industry, Indian relations, and the role of the West in U.S. foreign affairs.

**3360. TWENTIETH CENTURY AMERICAN CULTURAL HISTORY (3-0) 3 hours credit.** The development of mass culture in 20th Century America. The rise and social effects of popular culture, especially radio, film, television, advertising, and popular music.

**3361. THE UNITED STATES IN VIETNAM, 1945-1975 (3-0) 3 hours credit.** American involvement in the Indochinese conflict; the causes, outcome, and consequences of the war.

**3362. UNITED STATES URBAN HISTORY (3-0) 3 hours credit.** The rise of the city from colonial times to the present focusing on the economic base of urban expansion, the human ingredients, the social and cultural scene, the pattern of urban politics, urban services, municipal administration, and the image of the city in popular thought.

**3363. TEXAS TO 1850 (3-0) 3 hours credit.** Multicultural heritage of Texas from pre-Columbian period to early statehood. Cultural contact; social, economic, and political change. Completion of either HIST 3363 or 3364 is recommended for those planning to teach in Texas schools.

**3364. TEXAS SINCE 1845 (3-0) 3 hours credit.** Texas in the Mexican-American and Civil Wars. Political events and ethnic relations

since annexation. Rise of cotton, cattle, and oil industries. Literature and music in the 20th century. Completion of either HIST 3363 or 3364 is recommended for those planning to teach history in Texas secondary schools.

**3365. AFRICAN-AMERICAN HISTORY TO 1865 (3-0) 3 hours credit.** History of blacks in America from their African origins to 1865. Emphasis on early African society, American slavery, and the development of black institutions and culture in the U.S.

**3366. AFRICAN-AMERICAN HISTORY, 1865-PRESENT (3-0) 3 hours credit.** Emphasis on the transition from slavery to freedom, the political, social, and economic status of blacks in the late 19th Century, 20th Century black institutions and culture, and the evolution of the civil rights movements.

**3367. AMERICAN INDIAN HISTORY (3-0) 3 hours credit.** Representative Indian tribes within the continental limits of the United States from pre-history to the contemporary period. Special topics: tribal cultures, the impact of European contact, and the colonial and United States Indian policies.

**3368. THE HISTORY OF THE MEXICAN AMERICAN (3-0) 3 hours credit.** The role of the Mexican American in the cultural and historical development of the United States with special emphasis on the Southwest.

**3370. THE IMAGE OF THE AMERICAN WEST (3-0) 3 hours credit.** The way the American West has been portrayed and the part the Western myth has played in a search for a national identity. First impressions of the new world; the West in colonial literature; fiction in the 19th and 20th Centuries; art, music and film; Western themes in politics; recent variations of the Western myth; the way such developments have reflected changes in popular values and a sense of national purpose.

**3371. IMAGES OF THE SOUTHWEST (3-0) 3 hours credit.** Examines the changing culture, architecture, and landscapes of the American Southwest as depicted in literature, art, film, television, and advertising, including the role of popular culture and commerce in creating and marketing a regional "Southwestern style." Also listed as GEOG 3371; credit will be granted only once.

**3372. U.S. BUSINESS AND ECONOMIC HISTORY, 1607-1865 (3-0) 3 hours credit.** The roots of American economic growth with an emphasis on the transition from a colonial economy dominated by merchant families to an agricultural republic. The market and transportation revolutions as well as the developing sectional conflict between the emerging Northern industrial economy and the Southern agricultural slave economy.

**3373. U.S. ECONOMIC HISTORY, 1860-PRESENT (3-0) 3 hours credit.** Rise of manufacturing, marketing, and electrification. Organized labor and rebellions against the corporate world. Government regulation of business and labor. Corporations and unions during depressions and wars. Auto, high tech, and other industries. The military-industrial complex. Franchising and other trends.

**3374. ANCIENT GREECE (3-0) 3 hours credit.** The origins, development and diversity, successes and failures of Ancient Greece from around 1500 to 31 B.C. Near Eastern and Bronze Age background; Archaic Age and the City State; Sparta and Athens; war and imperialism; democracy and culture; Alexander the Great and the Hellenistic Era.

**3375. ANCIENT ROME (3-0) 3 hours credit.** The origin, development, expansion, problems, and achievements of the Roman Republic and Empire. Roots and rise of Rome; Roman Imperialism; Republic and Revolution; Roman Empire, Emperors, and Peace; Paganism and Christianity; Late Empire.

**3376. MEDIEVAL EUROPE AND THE BYZANTINE EMPIRE (3-0) 3 hours credit.** The early medieval western world, the rise of the Byzantine Empire, the spread of Islam and eventual political ascendancy of Christendom from 400 to 1000.

**3377. THE HIGH MIDDLE AGES (3-0) 3 hours credit.** The decline of the Byzantine Empire, the emergence of western cities, the struggle with Mohammedanism, the Crusades and the preludes to the Renaissance and Modern Europe (1001 to 1450).

**3378. EUROPE: THE RENAISSANCE, 1250-1560 (3-0) 3 hours credit.** The political, social, and intellectual events of the Renaissance period. The rise of the modern state, the emergence of individualism, and the incipient secularization of politics, arts, and letters.

**3379. EUROPE: THE REFORMATION AND COUNTER-REFORMATION, 1450-1580 (3-0) 3 hours credit.** The religious reawakening and reform that swept Europe in the 16th Century with its consequent religious wars. The political effects of religious reform in the remaking of European attitudes in regard to politics, society, and religion.

**3380. HISTORY OF ANCIENT SPORT (3-0) 3 hours credit.** The nature, variety, and role of sports in ancient history. The origin and development of sport in Greece and Rome, the Olympic Games, religious and political implications, the nature of events and contests, intellectual and popular attitudes, sport in art and society.

**3381. THE FAMILY AND SOCIAL CHANGE IN EUROPE (3-0) 3 hours credit.** Changes in individual life patterns and in the family from pre-industrial times to the present. Specific attention will be given to the effects of social change on family composition. Also listed as WOMS 3381; credit will be granted only once.

**3382. REVOLUTIONS AND REVOLUTIONARIES IN HISTORY (3-0) 3 hours credit.** A historical examination of the world's major revolutions, from the 16th through the 20th Centuries.

**3383. EARLY MODERN EUROPE, 1580-1789 (3-0) 3 hours credit.** The major social, economic, cultural, and political developments that occurred in the major European countries from the end of the Counter-Reformation to the beginning of the French Revolution.

**3384. WAR AND SOCIAL CHANGE/MILITARY REVOLUTION (3-0) 3 hours credit.** Changes in European art of war from advent of gunpowder to American rebellion. Effects of these changes upon demography, political institutions, industrial production, social structure, and taxation patterns.

**3385. WESTERN MEDICAL TRADITIONS (3-0) 3 hours credit.** An intellectual, social, and cultural history of health, illness, and medicine from Hippocrates to AIDS.

**3386. HISTORY OF MENTAL HEALTH (3-0) 3 hours credit.** Traces the changing social perceptions, definitions, and treatments of mental health and persons deemed to be suffering from mental and emotional disorders in Europe and the United States. Includes discussions of medical, literary, legal, and popular representations of mental health, changes in public policy, institutional developments, and the emergence of mental health professionals.

**3387. NINETEENTH CENTURY EUROPE, 1789-1914 (3-0) 3 hours credit.** The major political, social, economic, and cultural developments in Europe from the outbreak of the French Revolution to the outbreak of World War I.

**3388. TWENTIETH CENTURY EUROPE (3-0) 3 hours credit.** Cultural, social, economic and political developments in Europe from pre-World War I society to the disintegration of the U.S.S.R.

**3389. THE WORLD AT WAR, 1939-1945 (3-0) 3 hours credit.**

Various aspects of the Second World War from American, European, and Asian perspectives. Reasons for the world conflict, public opinion during the war, the resistance and liberation movements, the impact of the war upon civilian life, and the social, economic, and political effects of the most destructive event in modern history.

**3390. HONORS COLLOQUIUM (3-0) 3 hours credit.** A multi-disciplinary course designed to meet the needs of advanced undergraduates in the Honors Program. Prerequisite: participation in the Honors Program and/or permission of instructor.

There is no distinction between 3000/4000-level courses in history. The prerequisite for all of the following courses is six hours in social science.

**4301. HISTORICAL GEOGRAPHY AND CARTOGRAPHY (3-0) 3 hours credit.** An introduction to cultural and historical geography with an emphasis on cartography and the use of maps in research and teaching. Also listed as GEOG 4301; credit will be granted only once.

**4345. TUDOR-STUART ENGLAND, 1485-1714 (3-0) 3 hours credit.** The legacy of the Wars of the Roses: the "new monarchy" of the Tudors; The Protestant Reformation in England; constitutional implications of the controversy between crown and Parliament; changes in family and social structures; the emergence of England as a world power. Credit cannot be received for both 4345 and 4346 or 4347.

**4348. THE MAKING OF MODERN BRITAIN, 1714-1848 (3-0) 3 hours credit.** Political, social, and economic developments from the consolidation of aristocratic power to the challenge of democracy. Special topics: the nature of parliamentary government; the rise of Empire; the Industrial Revolution; Methodism and religious change; the American and Irish questions; the French wars and Napoleon; the growth of working class radicalism; and the alternative of political reform or revolution.

**4349. MODERN BRITAIN, 1848-PRESENT (3-0) 3 hours credit.** Recent British history from Victorian grandeur to 20th Century decline. Special topics: the emergence of social stability and transition from aristocratic to democratic government; the rise to and fall from world supremacy in industry and empire; educational and intellectual change; the labor and women's movements; the problem of Ireland; World Wars I and II; and contemporary socialist Britain.

**4350. BRITISH CONSTITUTIONAL HISTORY (3-0) 3 hours credit.** The development of the British constitution from its earliest beginnings to the present day, with special emphasis on the Anglo-Saxon institutions, the Norman constitutional development, the evolution of the major offices of the government, the development of Parliament, constitutional developments of the Stuarts, the Hanoverian constitution, the growth of democracy in the 19th and 20th Centuries, and the imperial and commonwealth institutions.

**4351. BRITISH EMPIRE (3-0) 3 hours credit.** Examines the major parts of the empire—Ireland, Canada, West Indies, India, Australia/New Zealand, and South Africa—from 1600 to present. Also considers English attitudes and policies, and changing ideas of imperialism.

**4352. MODERN IRELAND (3-0) 3 hours credit.** The contemporary crisis in Ireland in the light of Irish history. Begins with a look at conditions and attitudes in Ulster today, then examines the history of Ireland: the English policies of subjugation in the 16th and 17th Centuries, the awakening of 18th-Century Ireland, the 19th-Century "Irish Question," the establishment of the Republic in the south, Ireland's position in World Wars I and II, and the rise of the I.R.A.

Concludes with a restatement and analysis of the current problems in Ireland.

**4354. FRANCE: OLD REGIME, REVOLUTION, AND NAPOLEON, 1610-1815 (3-0) 3 hours credit.** Society and politics from the assassination of Henry IV to the French defeat at Waterloo. The traditions of the French people and their kings, the splendor and misery of the Age of Louis XIV, the Enlightenment of Voltaire and Rousseau, the coming of the Revolution, the Reign of Terror, and the rise of Napoleon.

**4355. MODERN FRANCE, 1815-PRESENT (3-0) 3 hours credit.** The emergence of a modern democratic state through the perils of revolution and war. Social and cultural trends together with the politics of two monarchies, a Second Empire, five republics, and two German occupations. The acceleration of change in the last four decades contrasted with earlier social patterns.

**4356. IMPERIAL GERMANY, 1740-1914 (3-0) 3 hours credit.** Prussian, German, and Hapsburg empires. Feudal society, absolutism, German romanticism, democratization, industrialization. The challenges of nationalism, colonialism, and the collapse of the empires.

**4357. MODERN GERMANY, 1914-1990 (3-0) 3 hours credit.** Social, political, and cultural history of Germany through World War I and II, division of Germany into East and West and ultimate unification.

**4358. THE NAZIS AND THEIR LEGACY, 1918-PRESENT (3-0) 3 hours credit.** A look at the unique character of the Third Reich as a prelude to transnational themes; resistance and collaboration, medical ethics, genocide and war, war criminals, Holocaust in postwar literature and cinema, political radicalism in the 20th century.

**4359. HISTORY OF RUSSIA TO 1855 (3-0) 3 hours credit.** Russian history from the origins of the first Russian state through the reign of Nicholas I. The Kievan Rus, the Mongol impact and Muscovite state, the rise of Imperial Russia, and Russia's emergence as a global power. Also listed as RUSS 4359, but credit will be granted in only one area.

**4360. HISTORY OF RUSSIA SINCE 1855 (3-0) 3 hours credit.** Russian history from the reign of Alexander II to the present. The decline of Imperial Russia, the rise of the revolutionary spirit, and the emergence, consolidation, and development of the Soviet state. Also listed as RUSS 4360, but credit will be granted in only one area.

**4361. RUSSIA AND NORTHEASTERN EUROPE, 1225-1815 (3-0) 3 hours credit.** A topical, regional approach to the growth of the Russian position in northeastern Europe from the appearance of the Mongols through the Congress of Vienna. Although Russian development will be emphasized, other Baltic powers such as Sweden, Poland, and Germany will be given due consideration.

**4362. RUSSIA AND THE SUCCESSOR STATES TODAY (3-0) 3 hours credit.** The metamorphosis of the Communist Party and the current political philosophies of the post-Soviet states. Examination of attitudes and self-perceptions of citizens of these states in the post-Soviet period. Also listed as POLS and RUSS 4362; credit will be given in only one department.

**4363. SPECIAL TOPICS IN RUSSIAN AND EURO-ASIAN STUDIES (3-0) 3 hours credit.** Russia and the successor states of the old Soviet Union examined in relation to selected issues concerning politics, social change, and historical events. Also listed as RUSS and POLS 4363; credit will be given in only one department. Prerequisite: RUSS or POLS 4361, or POLS, RUSS, or HIST 4362.

**4364. THE SINO-RUSSIAN RELATIONSHIP (3-0) 3 hours credit.** The interaction of China and Russia. A broad cultural-intellectual perspective utilized to contrast history, philosophy, and unique cultures of the Chinese and Russian peoples. The political systems and varying applications of Marxist philosophy. Also listed as RUSS 4364; credit will be given in only one department. Prerequisite: permission of instructor.

**4365. HISTORY OF SPAIN AND PORTUGAL (3-0) 3 hours credit.** The cultural, political and economic history of the Iberian peninsula from ancient times. The medieval epoch; the Catholic Church; the overseas empires of Spain and Portugal, and their artistic achievements. The monarchist ideal, as well as political ideologies such as liberalism, Marxism, anarchism, and fascism.

**4366. LATIN AMERICAN HISTORY: ORIGINS THROUGH INDEPENDENCE (3-0) 3 hours credit.** Latin America during the colonial period of Spanish and Portuguese rule. Pre-European civilizations; Iberian backgrounds; conquest of indigenous peoples; development of colonial institutions, economic patterns, social structures, and race relations; independence from Europe.

**4367. LATIN AMERICAN HISTORY: POST-INDEPENDENCE TO THE PRESENT (3-0) 3 hours credit.** The evolution of six Latin American nations during the 19th and 20th Centuries. The social, economic, and political development of three social groups in three regions: the Europeanized southern cone area of Argentina, Chile, and Uruguay; the indigenous culture of the Andean mountains in Peru; the African background of Brazil and Cuba.

**4368. HISTORY OF MEXICO (3-0) 3 hours credit.** Mexican history from its pre-Colonial Indian heritage to the current scene. A social and economic analysis of the major events in Mexican history with emphasis on the Mexican Revolution for an understanding of the present situation in Mexico.

**4369 SLAVE SOCIETIES IN THE CARIBBEAN (3-0) 3 hours credit.** A comparative history of the different societies in the Caribbean (including Cuba, Jamaica, and Haiti) with emphasis on the coming of slavery and the consequences of emancipation. Will trace development of emerging new societies from intermingling of Amerindian, African and European elements.

**4371. THE MIDDLE EAST IN THE TWENTIETH CENTURY (3-0) 3 hours credit.** The history of great power rivalries, U.S. involvement, and modernizing trends. Topics include Ottoman disintegration, World Wars I and II, the Arab-Israeli Wars, oil, the Palestinian question, and Iran.

**4374. AFRICAN HISTORY I (3-0) 3 hours credit.** Examines African prehistory, ancient civilizations, religion, gender issues, slavery, and commerce in precolonial Africa.

**4375. AFRICAN HISTORY II (3-0) 3 hours credit.** Africa from the 'Scramble for Africa' through the establishment of the various colonial systems, through the beginnings of African nationalism, to the contemporary period. The African Revolution and the development of the independent African states.

**4376. AFRICAN DIASPORA I (3-0) 3 hours credit.** The major developments which have shaped the history of Africans and their descendants in the Atlantic, Mediterranean, and Indian Ocean areas from the earliest times to 1800. Emphasis on the comparative history of Black Diasporic communities; linkages between Africans and their descendants in the Diaspora.

**4377. AFRICAN DIASPORA II (3-0) 3 hours credit.** The major developments which have shaped the history of Africans and their descendants in Latin America, the Caribbean, and North America

since 1800. Emphasis on the comparative history of Black Diasporic communities; linkages between Africans and their descendants in the Atlantic Diaspora.

**4379. HISTORY OF MODERN CHINA (3-0) 3 hours credit.** The Ch'ing dynasty and China's response to the West. Revolution and republic, warlords, and the Japanese occupation during World War II. Civil War and the development of the People's Republic of China.

**4384. FASCISM, 1919-1945 (3-0) 3 hours credit.** The fascist regimes of Germany and Italy, the semi-fascist regimes in Spain and Portugal, and the unsuccessful fascist movements in France, Eastern Europe, and elsewhere. The causes, the nature, the leadership, and the effects of fascism, as well as anti-fascist resistance.

**4385. COMPARATIVE POLICE HISTORY (3-0) 3 hours credit.** Explores the growth of police institutions in the British Isles, the United States, France, Russia, and Japan. Emphasizes 18th- and 19th-Century developments, and studies police as an outgrowth of and interaction with societal needs and values.

**4387. COMMUNISM AND POLITICAL DEVELOPMENT (3-0) 3 hours credit.** Marxism and the place of Marxism-Leninism in the post-Cold War world. Special emphasis on China, national liberation movements in the developing world, and post-Soviet Marxism in the European context. Also listed as RUSS and POLS 4387; credit will be given in only one department.

**4388. SELECTED TOPICS IN HISTORY (3-0) 3 hours credit.** Subjects of immediate interest in the various fields of history. May be repeated for credit when the topic changes.

**4389. STUDIES IN HISTORY (3-0) 3 hours credit.** Essential elements and techniques in the study of history. Designed for students receiving teaching certification at the secondary level; History majors seeking certification must substitute this course for HIST 3300.

**4391, 4291, 4191. UNDERGRADUATE CONFERENCE COURSE (Variable credit as arranged).** Topics assigned on an individual basis covering personal research or study in designated areas. Prerequisite: permission of the instructor.

**4394. HONORS THESIS/SENIOR PROJECT (3-0) 3 hours credit.** Required of all students in the University Honors Program. During the senior year, the student must complete a thesis or a project under the direction of a faculty member in the major department.

## Geography (GEOG)

Geography is the study of humanity's interaction with the physical environment. Geographic conditions have had significant effects on history as interrelationships between place and human activities have changed over time. The study of geographic spatial relationships has a major role in general education because it offers both theoretical and practical foundations for understanding contemporary problems, particularly those related to environmentalism, modernization, and technological progress.

**1455. THE EARTH'S CLIMATE (3-3) 4 hours credit.** Past, present, future climatic patterns of the world with emphasis on processes that control climate locally and globally. Effect of human activity on present and future climate. Also listed as GEOL 1455; credit will not be given for both. \$5 lab fee.

**1465. THE EARTH'S LANDFORMS (3-3) 4 hours credit.** The Earth's surface processes and resulting landforms. Rock types, weathering processes, formation of soils, and the effects of human activity

on landscape evolution. Also listed as GEOL 1465; credit will be given for only one of GEOG 1465 and GEOL 1435, 1445, 1465. \$5 lab fee.

**3305. INTRODUCTION TO METEOROLOGY AND CLIMATOLOGY (3-0) 3 hours credit.** Dynamics of the atmosphere: examination of processes that control weather; long-term climatic cycles and geological record of global climate change; atmospheric pollution and its effects on climate. Prerequisites: six hours of science and junior standing, or permission of the instructor. Also listed as GEOL 3305; credit will be granted for only one of GEOG 3305, GEOL 3305, GEOL 4405.

**3309. LANDSCAPE EVOLUTION (3-0) 3 hours credit.** Geomorphology involving a study of the processes and products of landform and landscape evolution. Geologic evolution, rocks and weathering, soils and landscapes. Prerequisites: six hours science and junior standing. May not be used to satisfy any of the requirements for BS degree in geology but will count toward a BA degree. Also listed as GEOL 3309; credit will be granted only once.

**3343. ECOLOGICAL AND CULTURAL GEOGRAPHY (3-0) 3 hours credit.** The world's geographical regions. The ecological adaptations which populations of the world, nomadic or sedentary, have made to the circumstances of their geographical, topographical, economic, and climatic environments. Also listed as ANTH 3343; credit will be granted only once.

**3350. READING THE LANDSCAPE (3-0) 3 hours credit.** How historians and geographers identify and interpret clues in the landscape (such as place names, architecture, vegetation, transportation, field and street patterns) that reflect historical change and its social, economic, environmental and geographic consequences. Also listed as HIST 3350; credit will be granted only once.

**3355. ENVIRONMENTAL HISTORY OF THE UNITED STATES (3-0) 3 hours credit.** People and the natural environment from the colonial period to the present. Ecological change, conservation movements, and artistic and literary interpretations of landscape and nature. Also listed as HIST 3355; credit will be granted only once.

**3371. IMAGES OF THE SOUTHWEST (3-0) 3 hours credit.** Examines the changing culture, architecture, and landscapes of the American Southwest as depicted in literature, art, film, television, and advertising, including the role of popular culture and commerce in creating and marketing a regional "Southwestern style." Also listed as HIST 3371; credit will be granted only once.

**4301. HISTORICAL GEOGRAPHY AND CARTOGRAPHY (3-0) 3 hours credit.** Cultural and historical geography with an emphasis on cartography and the use of maps in research and teaching. Also listed as HIST 4301; credit will be granted only once.

**4310. GEOGRAPHY OF THE GREATER SOUTHWEST (3-0) 3 hours credit.** Geography of the Greater Southwest to include Texas, New Mexico, Arizona, California, and Mexico. How the natural environment, cultural environment, and space itself have affected the history and development of the Southwest.

**4350. SPECIAL TOPICS IN MODERN GEOGRAPHY (3-0) 3 hours credit.** Selected topics in an identified area of geography. The course may be repeated for credit. Prerequisite: approval of instructor.

**4391, 4291, 4191. UNDERGRADUATE CONFERENCE COURSE (Variable credit as arranged).** Topics assigned on an individual basis covering personal research or study in designated areas. Prerequisite: permission of the instructor.

# Interdisciplinary Studies

209 University Hall • Box 19419 • 817-272-2338

The undergraduate Bachelor of Arts in Interdisciplinary Studies is an individualized degree that allows students to develop themes or topics that fall outside the usual departmental boundaries. Students work closely with the Interdisciplinary Studies advisor to design a rigorous and coherent program that contributes to professional growth, career goals, or future academic endeavors. Application and information packets are available in Room 209, University Hall. The Interdisciplinary Studies application must clearly articulate goals that no previously established discipline on campus can accommodate. The advisor provides information concerning the courses available throughout the University, and together they examine each prospective course to determine its contribution to the component areas and the degree as a whole. The approved degree plan, the transcript, and the diploma will carry the designation Bachelor of Arts in Interdisciplinary Studies.

The program includes those requirements established for the Bachelor of Arts Degree, an area of concentration, and elective courses.

## Requirements for a Bachelor of Arts Degree in Interdisciplinary Studies

### English

1301 and 1302.

### Literature

Six hours of English or foreign language literature at the sophomore level or above.

### Foreign Language

1441, 1442, 2313, 2314 or equivalent.

### History

1311 and 1312.

### Mathematics

Six hours (level of college algebra or higher).

### Political Science

2311 and 2312.

### Fine Arts and Philosophy

Three hours from architecture, art, dance, music, philosophy, or theatre arts.

### Social/Cultural Studies

Three hours of designated courses in archaeology, classical studies, communication, economics, history, humanities, linguistics, political science, social or cultural anthropology, social/political/cultural geography, social psychology, sociology or women's studies.

### Science

Eleven hours from chemistry, biology, geology or physics. Eight hours must be in a single lab science.

### Electives

Sufficient to complete the total required for the degree. Students are encouraged to choose elective courses that will enhance and support their area of concentration.

### Area of Concentration

The area of concentration consists of courses selected by the student in consultation with the advisor that focus on the student's unique academic and vocational goals.

A minimum of 36 hours is required for the area of concentration; **no more than 18 hours**, in addition to the General Requirements, may be selected from any one discipline.

### Total

128 hours, at least 36 of which must be 3000/4000 level, plus four hours in exercise and sport activities (EXSA), ROTC, or marching band as required.

## Requirements for a Bachelor of Arts Degree in Interdisciplinary Studies (Elementary Teacher Certification)

Both the Bachelor of Arts and Bachelor of Science in Interdisciplinary Studies are available for students interested in teacher certification at the elementary level. Students seeking secondary certification must pursue a traditional major and minor and may not be certified through an Interdisciplinary Studies program at The University of Texas at Arlington.

Students should consult the Center for Professional Teacher Education for requirements regarding admission to Teacher Education and eligibility for certification.

### English

1301 and 1302.

### Literature

Six hours of English or foreign language literature at the sophomore level or above.

### Foreign Language

1441, 1442, 2313, 2314 or equivalent.

### History

1311 and 1312.

### Mathematics

Six hours (level of college algebra or higher).

### Political Science

2311 and 2312.

### Fine Arts and Philosophy

Three hours from architecture, art, dance, music, philosophy, or theatre arts.

### Social/Cultural Studies

Three hours of designated courses in archaeology, classical studies, communication, economics, history, humanities, linguistics, political science, social or cultural anthropology, social/political/cultural geography, social psychology, sociology or women's studies.

### Science

Eleven hours from chemistry, biology, geology, or physics. Eight hours must be in a single lab science.

**Electives**

Sufficient to complete the total required for the degree. Students are encouraged to choose elective courses that will enhance and support their area of concentration.

**Area of Concentration**

The area of concentration for Interdisciplinary Studies/Elementary Certification consists of courses selected by the student in consultation with both the Interdisciplinary Studies advisor and the academic advisor for the discipline in which the student will certify.

A minimum of 48 undergraduate semester credit hours with a minimum of 21 semester credit hours at the upper division level is required in the area of concentration. **No more than 18 hours**, in addition to the general requirements, may be selected from any one discipline.

\* Students may elect to include a Delivery System (special area of preparation) as part of the area of concentration. Undergraduate academic courses (but not teaching methodology or pedagogy) that

comprise Delivery Systems in reading, early childhood education, special education, bilingual education, and English as a second language may be included. However, no more than 18 of the 48 hours required for the area of concentration may be included from a Delivery System.

If a Delivery System is selected, then the remaining 30 additional semester credit hours must be taken in academic subject matter content courses from a combination of any three of the following: fine arts, mathematics, language arts, reading, science, or social science.

**Total**

128 academic hours (plus additional hours needed to meet certification requirements), at least 36 of which must be 3000/4000 level, plus four hours in exercise and sport activities (EXSA), ROTC, or marching band as required.

\* Pending legislation by the Texas Higher Education Coordinating Board and the Texas Education Agency.



# Linguistics

408 Hammond Hall • Box 19559 • 817-272-3133

Linguistics is the discipline that studies the structures, acquisition, and histories of human languages around the world. Linguists are not, then, principally people who know many languages, but rather people who investigate how a language is organized and what features all languages exhibit.

The program in linguistics at U.T. Arlington is especially concerned with the study of minority, often endangered, languages. The curriculum offers students enriching insight into the cultural diversity represented in the more than 6,000 living languages currently known on the planet. The program also presents current approaches to the teaching of English to speakers of other languages.

The study of linguistics prepares students for a variety of careers, among them teaching English to speakers of other languages, literacy work in the United States and abroad, translation, and speech pathology. Above all, students in the linguistics program are made especially aware of the complex world in which we live by studying a universal and most definitive human experience: language.

The faculty of linguistics offers a minor in linguistics with a major program pending leading to the Bachelor of Arts.

Interested students should initiate a request for the preparation of their program through the Linguistics undergraduate advisor.

## Linguistics Faculty

### Professor

Edmondson

### Associate Professors

Burquest, Feigenbaum, Herring

### Assistant Professors

Paolillo, Silva

### Adjunct Professors

Franklin, T. Headland, G. Huttar, Merrifield,

Pike, Rensch, Robbins

### Adjunct Associate Professors

Bennett, Gregerson, Hwang, Milliken, Reed, Ross, Walter

### Adjunct Assistant Professors

del Aguila, Boothe, Bowling, Bruce, Diehl, Gallman,

P. Headland, Hohulin, Huddleston, M. Huttar, Lander, Larson,

Leaders, McElhanon, C. McKinney, N. McKinney, Morren,

Myers, Simons, Turnbull, Walker, Walton, Watson, Wheatly

## Linguistics (LING)

**2301. INTRODUCTION TO THE STUDY OF HUMAN LANGUAGES (3-0) 3 hours credit.** A variety of languages presented as a basis for discussion of topics such as: how languages are alike, and how different; how new languages arise; how human languages are reflections of human beings; how infants and adults acquire languages; how computers relate to human languages.

**3311. INTRODUCTION TO LINGUISTIC SCIENCE: DESCRIPTIVE LINGUISTICS (3-0) 3 hours credit.** The nature of natural language analysis, the diversity of language features, variation in speech, and

related topics, including historical and comparative linguistics. Prerequisite: LING 2301, or a grade of B or better in a 2000-level foreign language course.

**3324. PHONETICS (3-0) 3 hours credit.** The principles of the production of the various sounds of which the human vocal apparatus is capable. Extensive drill in producing and recognizing those sounds and recording them with phonetic symbols.

**3325. PHONOLOGY (3-0) 3 hours credit.** Principles in the analysis of sound systems with practice in phonological analysis of material from a variety of languages. Prerequisite: LING 3324, or concurrent enrollment.

**3330. PHONETICS AND PHONOLOGY (3-0) 3 hours credit.** Human speech sounds from both physiological and cognitive perspectives; the range of speech sounds in language and the patterning of such sounds within particular language systems. Prerequisite: LING 3311 or permission of instructor.

**3335. GRAMMATICAL ANALYSIS (3-0) 3 hours credit.** Principles and techniques for describing and analyzing the grammatical form and function of sentences and their parts in linguistic and social context. Prerequisite: concurrent enrollment in LING 3336.

**3336. PROBLEMS IN GRAMMATICAL ANALYSIS (3-0) 3 hours credit.** Application of the principles and techniques of LING 3335 to language data. Prerequisite: concurrent enrollment in LING 3335.

**3340. GRAMMAR AND MORPHOLOGY (3-0) 3 hours credit.** Grammatical patterns found in languages of the world, including the structure and distribution of words, phrases, clauses, sentences, and larger units. Prerequisite: LING 3311 or permission of instructor.

**4301. PHONOLOGICAL THEORY I (3-0) 3 hours credit** (Also taught as LING 5301). Principles governing sound systems in human languages. Prerequisite: LING 3325 or LING 3330.

**4303. GRAMMATICAL THEORY I (3-0) 3 hours credit** (Also taught as LING 5303). Grammatical systems in human languages. May be repeated for credit when the topic changes. Prerequisite: LING 3336 or LING 3340.

**4317. SOCIOLINGUISTICS (3-0) 3 hours credit** (Also taught as LING 5317). Language in its social context, including linguistic variation, address and reference, speech levels, bilingualism, code switching, speech acts, conversation analysis, and language and gender. Prerequisite: LING 3311 or permission of instructor.

**4318. LANGUAGE AND GENDER (3-0) 3 hours credit.** The role of language in the expression and creation of gender identities. Gender differences in language structure and use, women's and men's language in other cultures, the acquisition of gendered ways of speaking, and sexism in language. Also listed as WOMS 4318; formerly offered as LING 4392/WOMS 4392; credit will be granted only once.

**4320. HISTORICAL AND COMPARATIVE LINGUISTICS (3-0) 3 hours credit** (Also taught as LING 5320). Language development and change; the comparative method and its use in linguistic reconstruction; laws of language change. Prerequisites: LING 3311 and either LING 3325 or LING 3330.

**4327. LANGUAGE ACQUISITION (3-0) 3 hours credit** (Also taught as LING 5327). Processes of first and second language acquisition.

sition, their similarities and differences, language disorders, language perception and production, and implications of language acquisition research for linguistic theory and language teaching. Prerequisite: LING 3311.

**4330. THE COMPUTER AND NATURAL LANGUAGE (3-0) 3 hours credit** (Also taught as LING 5330). Applications of computers to linguistic analysis, and applications of linguistic analysis to computing. Natural language processing, speech recognition and synthesis, language prostheses, statistical analysis, text processing, and corpus analysis.

**4336. PRINCIPLES OF LITERACY (3-0) 3 hours credit** (Also taught as LING 5336). Principles involved in the introduction of literacy to pre-literate societies. Motivational factors, stimulation of indigenous authorship, orthography design, elements of reading methodology, and alternative strategies for literacy programs. Prerequisites: LING 3311 and either LING 3325 or LING 3330.

**4353. TEACHING ENGLISH AS A SECOND OR FOREIGN LANGUAGE (3-0) 3 hours credit** (Also taught as LING 5353). Presentation and critique of methodologies of teaching English to speakers of other languages, with emphasis on teaching techniques of aural comprehension; speaking, reading, and writing skills; testing, language laboratory, and linguistic-cultural differences. Prerequisite: LING 3311 or permission of instructor.

**4354. METHODS AND MATERIALS TO TEACH ENGLISH AS A SECOND OR FOREIGN LANGUAGE (3-0) 3 hours credit** (Also taught as LING 5354). Application of linguistic theory and findings; emphasis on pedagogical strategies, materials, and tests; attention to current and past research and practices. Prerequisite: LING 4353.

**4389. TOPICS IN LINGUISTICS (3-0) 3 hours credit.** Current topics in linguistics research. May be repeated if topic changes.

**4391. CONFERENCE COURSE IN LINGUISTICS (3-0) 3 hours credit.** Independent study in the preparation of a paper on a research topic; consultation with instructor on a regular basis. May be repeated for credit. Prerequisites: consent of the department and completion of or concurrent enrollment in a 3000-level linguistics course.

## English for Speakers of Other Languages (ESOL)

Prefix and number in parentheses following the U.T. Arlington course number and title is the Common Course Number designation.

**1341. ENGLISH FOR SPEAKERS OF OTHER LANGUAGES (3-0) 3 hours credit (ENGL 1306).** For students who do not have a native speaker's command of the English language. Composition and grammar (sentence and paragraph structure). May be substituted for ENGL 1301 only with approval of major department chair.

**1342. ENGLISH FOR SPEAKERS OF OTHER LANGUAGES (3-0) 3 hours credit (ENGL 1307).** Continuation of ESOL 1341. May be substituted for ENGL 1302 only with approval of major department chair. Prerequisite: ESOL 1341 or ENGL 1301.

Students interested in Texas Teacher Endorsement in English as a Second Language must include in their programs of work: LING 3311, 4327, 4353, 4354. For further information the student should consult the Center for Professional Teacher Education.

## English Language Institute

The English Language Institute (ELI) is a center for instruction of English for Speakers of Other Languages.

The ELI offers an intensive English program to international students desiring to prepare themselves for university study. The intensive English program also serves as an ESOL research and teaching laboratory for faculty and students. As an extension of its concerns with ESOL instruction, the ELI provides developmental instruction in English for Speakers of Other Languages to international students enrolled at U.T. Arlington and to area businesses that employ internationals in their work force. Director: Steve Lewis, Room 405, Hammond Hall, 817-272-2730.

## The International Linguistics Center (The Summer Institute of Linguistics)

The International Linguistic Center in Dallas (near Duncanville) and The University of Texas at Arlington offer cooperatively a program in linguistic training and research. This program leads to the MA and the Ph.D. degree at U.T. Arlington. Participants must apply for admission to U.T. Arlington.

Persons who wish to pursue the program at ILC but who are not eligible for admission to U.T. Arlington may make arrangements with ILC.

Registration is administered by U.T. Arlington on campus. Students may take the courses on either or both campuses. Refer to the semester Schedule of Classes for location of courses.

# The Department of Military Science

College Hall • Box 19005 • 817-272-3281

## Purpose

The ROTC program at The University of Texas at Arlington offers a unique opportunity for quality students to assess and develop their leadership skills. A wide variety of settings are provided to expose students to the styles, techniques, and tools of leadership. It also develops college-educated officers for the active Army and the reserve components. This affords the student the opportunity to pursue either a civilian or a military career after completing college.

## Programs Available

### General Information

**Classroom:** Examine theory, principles and techniques. Review leadership from a historical perspective through case studies and presentations. Communications skills emphasized.

**Lab:** Practical application of theory and opportunity for each student to be assessed. Immediate feedback provided enabling students to build on the experience gained. Individual skills and team-building emphasized.

**Corps of Cadets:** Leadership positions assigned according to demonstrated individual progress. Provides a forum for individual growth by working within a structured organization. Emphasis on counseling, coaching, mentorship, and coordination.

**Field Training:** A unique opportunity to gain experience under stressful and challenging situations. Students are placed in environments to test their abilities and reactions in leading small groups. Emphasis on decision-making, endurance, and reaction under stress to build self-confidence.

**Simultaneous Membership Program:** An opportunity to serve in a National Guard or Reserve unit as an officer trainee while participating in ROTC and attending U.T. ARLINGTON. Emphasis on planning and organizing. Programs tailored to meet individual needs.

**Army Schools:** Develop skills through exposure to other students and soldiers from around the country by attending Airborne, Air Assault, or other schools. Emphasis on increased experience.

**Advanced Camp:** Six weeks of high-intensity training with students from across the nation, designed to evaluate individual leadership potential. Emphasis placed on evaluation of the individual. Student receives pay. Travel, lodging and most meal costs are defrayed by the Army.

**Camp Challenge:** A six-week summer camp conducted at an Army post. The environment is rigorous and is similar to Army basic training. No military obligation incurred. The student receives pay. Travel, lodging and most meal costs are defrayed by the Army.

**Four-Year Program:** The traditional program of Army ROTC is a program of instruction which extends over four years of college. The four-year program is divided into two phases—a two-year basic course and a two-year advanced course. The basic course is normally taken by students during their freshman and sophomore years. The purpose of the basic course is to introduce students to general military

subjects and leadership principles. There is no military obligation incurred for attending the basic course.

The student who wishes to enter the advanced course, normally taken during the junior and senior years, must apply for it; must pass a written and physical examination; and must sign an agreement to complete the last two years of Army ROTC and attend a six-week advanced ROTC Summer Camp.

**Two-Year Program:** This program is offered for students who have had two years of college and no prior ROTC or military training. Students attend a basic six-week summer training period at a military installation after the sophomore year. This camp replaces the basic course required of students in the four-year program. After the successful completion of this basic camp, students will start the advanced course with all the pay and entitlements of the four-year program cadets. Students with prior military experience may enter the advanced course without basic course or basic camp.

## Minor in Military Science

Military science may be used as a minor course of study in many degree programs at The University of Texas at Arlington. To be eligible, the student must be enrolled in the ROTC program, must receive acceptance of military science as a minor from his/her major degree department, and must complete 18 hours of military science, 10 of which are advanced.

## Scholarships

The U.S. Army Scholarship Program provides an excellent way for young men and young women to obtain assistance in financing a college education. Every scholarship provides for payment of all expenses incurred for fees and tuition, an allowance for books and supplies, and \$150 a month for up to 10 months per year. There are scholarships offered in all four years with payments ranging from one to four years. Initial application may be made during the student's senior year in high school or freshman year in college. Each year more scholarships are added to the program. All students are encouraged to make application through the Military Science Department.

## Course Substitution

ROTC credits may be used in the completion of a college degree by applying them to elective hours. Military science may be taken along with or in lieu of exercise and sport activities (EXSA) or marching band.

## Department of Military Science Faculty

### Chair

Professor Martin

### Assistant Professors

Alfaro, Jean, Thurman

## Military Science (MILS)

**0180. LEADERSHIP LABORATORY (0-3) 1 hour credit.** A practical laboratory of applied leadership and skills. Student-planned, -organized and -conducted training, oriented toward leadership development. Laboratory topics include marksmanship, small unit tactics, multi-tiered programs focused on individual skill levels. Uniform and equipment provided, no fee. May be repeated for credit.

**1141. INTRODUCTION TO ROTC AND THE UNIVERSITY (1-0) 1 hour credit.** Fundamental concepts of leadership in a profession in both classroom and outdoor laboratory environments, and study and time management skills. Basic drill, physical fitness, rappelling, leadership reaction course, first aid, making presentations and basic marksmanship. Concurrent enrollment in MILS 0180 leadership lab mandatory, plus optional participation in physical fitness and a week-end exercise.

**1142. INTRODUCTION TO LEADERSHIP (1-0) 1 hour credit.** Application of principles of leadership through participation in physically and mentally challenging exercises with upper division ROTC students. Course focuses on communication skills, organizational ethics, and study and time management techniques. Concurrent enrollment in leadership lab, MILS 0180, mandatory plus optional participation in a one-hour session for physical fitness and a week-end exercise.

**2248. EVOLUTION OF CONTEMPORARY MILITARY STRATEGY (2-0) 2 hours credit.** A review of contemporary military conflicts. Selected battles from World War II, Korea, Vietnam, and the Yom Kippur War are examined for impact upon current U.S. military doctrine, strategy, and weapons systems. All military science students must enroll or participate in MILS 0180 concurrently with this course unless exception is given by the PMS.

**2251. SELF/TEAM DEVELOPMENT (2-0) 2 hours credit.** Application of ethics-based leadership skills and fundamentals of ROTC's Leadership Assessment Program. Develop skills in oral presentations, concise writing, event planning, coordination of group efforts, advanced first aid, land navigation, and basic military tactics. Concurrent enrollment in MILS 0180 mandatory, plus optional participation in physical fitness and a weekend exercise.

**2252. INDIVIDUAL/TEAM MILITARY TACTICS (2-0) 2 hours credit.** Introduction to individual and team aspects of military tactics in small unit operations. Includes use of radio communications, making safety assessments, movement techniques, planning for team safety/security, and pre-execution checks. Concurrent enrollment in MILS 0180 mandatory, plus optional participation in physical fitness and a weekend exercise.

**2291. CONFERENCE COURSE (2-0) 2 hours credit.** Independent study. Designed to supplement the military science curricula by a student's concentrated study in a narrower field of military skill or subject matter. May be repeated for credit. Does not count for PE credit. Prerequisite: permission of the PMS.

**2343. CAMP CHALLENGE (3-0) 3 hours credit.** A rigorous six-week summer camp conducted at an Army post, similar to Army basic training. No military obligation incurred. Completion of MILS 2343 qualifies a student for entry into the Advanced Course. Three different cycles offered during the summer, but spaces are limited by the Army. Candidates can apply for a space any time during the school year prior to the summer. Open only to students who have not taken all four of MILS 1141, 1142, 2241/2251, and 2242/2252, and who pass an ROTC physical examination. P/F grade only.

**3341. LEADERSHIP I (3-0) 3 hours credit.** Development of ability to evaluate situations, plan and organize training, learn military tactics, review case studies in leadership management and develop teaching and briefing skills. Concurrent enrollment in MILS 0180 mandatory. Prerequisite: permission of PMS.

**3342. LEADERSHIP II (3-0) 3 hours credit.** Practical application of squad and platoon leadership in tactical situations; operation of small unit communications systems. Development of the leaders' ability to express themselves, analyze military problems, and prepare and deliver logical solutions. Demanding physical fitness training and performance-oriented instruction, in preparation for Summer Field Training. Concurrent enrollment in MILS 0180 mandatory. Prerequisite: permission of PMS.

**3443. SUMMER FIELD TRAINING 4 hours credit.** Six-week off-campus field training course stressing the practical application of leadership management, with emphasis on tactical and technical military field skills.

**3495. NURSING ADVANCED SUMMER TRAINING (4-0) 4 hours credit.** Seven-week off-campus internship at a major U.S. Army hospital for ROTC nursing students. A nursing practicum with the focus on providing the student with hands-on experience which integrates clinical, interpersonal, and leadership knowledge and skills. Practical experience and familiarization with Army nursing in a variety of clinical tasks in the areas of medical-surgical nursing, pediatrics, obstetrics, and, in some cases, intensive care in ICUs. May be used for partial credit for NURS 3647 or NURS 3347 with prior arrangement and approval of the Dean of Nursing. Prerequisites: completion of the junior year of a baccalaureate nursing program and permission of the PMS.

**4341. ADVANCED LEADERSHIP I (3-0) 3 hours credit.** Stresses leadership qualities necessary for Command and Staff functions and operations. Plan and conduct meetings, briefings and conferences. Introduction to the Army Logistical System and the Personnel Management System. Preparation of after-action reports. Plan and conduct physical training programs. Concurrent enrollment in MILS 0180 mandatory. Prerequisite: permission of PMS.

**4342. ADVANCED LEADERSHIP II (3-0) 3 hours credit.** Provides students with a basic working knowledge of the Military Justice System with emphasis on company-level actions and requirements, including Law of Land Warfare. Examines the ethical standards, professional roles, responsibilities, and uniqueness of the profession of officership. Concurrent enrollment in MILS 0180 mandatory. Prerequisite: permission of PMS.

**4391. CONFERENCE COURSE (3-0) 3 hours credit.** Independent study on an individual basis on current topics in military science. Performance will be assessed by oral examination, written test, or research paper as arranged. May be repeated for credit. Prerequisite: permission of the PMS.

# The Department of Music

101 Fine Arts Bldg. • Box 19105 • 817-272-3471

The University of Texas at Arlington is a member of the National Association of Schools of Music.

The Department of Music offers the Bachelor of Music degree (1) with teacher certification (All-Level, Secondary); (2) in Performance (Brass, Keyboard, Percussion, Strings, Voice, Woodwinds); (3) in Theory/Composition; (4) in Jazz Studies; (5) with emphasis in Music/Business; (6) with emphasis in Music/Theatre; and (7) with emphasis in Music/Media. Music students must meet all the requirements of one of these specializations to receive the Bachelor of Music degree. All degree plans leading to a Bachelor of Music degree include offerings which provide a solid foundation in music theory, history, and literature and require a concentration in a specific instrument/voice.

The art of music holds a prominent place in the historical quest to enrich and improve life through the creative arts. The desire for music is basic and universal—to experience it and to express oneself through it. The mission of the Music Department is to further the quest for enrichment and to nurture beauty, knowledge, and excellence through studying and experiencing the science and art of music.

The Music Department's goals and objectives for academic and aesthetic enrichment of the university and the extended community include: (1) offering curricula leading to a baccalaureate degree that provide each student with the opportunity to realize his/her inherent musical potential, (2) offering career options within the baccalaureate degree that recognize and tap students' special abilities and talents to make contributions of excellence in the fields of music, and (3) preparing students for graduate study and/or professional careers in music by meeting curricula criteria, performance standards, and academic expectations.

All prospective music majors must audition for proper placement in their respective performance areas and take a music theory placement test. Information concerning auditions and placement tests is available in the Music Office.

All music majors complete an extended evaluation in applied music at the end of their fourth semester of performance studies. Students pursuing the Performance option must receive permission from the applied jury before enrolling in the junior- and senior-level performance courses. Students on music scholarships must maintain a minimum 2.5 GPA for scholarship renewal.

All students are strongly urged to refer to the sections on Academic Regulations and Degree Programs in the current UTA Undergraduate Catalog. Students seeking teacher certification are strongly advised to read the Professional Teacher Education section concerning admission to teacher education programs, student teaching, and state requirements for certification.

In addition to fulfilling University and the College of Liberal Arts requirements for admission, students planning to be music majors must also fulfill the following Music Department requirements.

Passing grades are required in the following courses:

**MUSI 1180, MUSI 1181.** Functional Piano I and II

**MUSI 1185, MUSI 1186.** Sightsinging and Ear Training I and II

**MUSI 1325, MUSI 1326.** Theory and Harmony I and II

**MUSI 12XX, MUSI 12XX.** Two semesters of private lessons in the student's performance concentration

**MUSI 01XX, MUSI 01XX.** Two semesters of the student's major ensemble

## Requirements for a Bachelor of Music Degree

### (in Performance or Theory/Composition)

#### English

Six hours of composition.

#### Literature

Three hours of English or foreign language literature or other approved substitute.

#### Liberal Arts Elective

Three hours above the freshman level of literature, or social and cultural studies designated as taught in the College of Liberal Arts, or fine arts or philosophy, or technical writing (MUSI 2300 recommended).

#### History

1311, 1312.

#### Political Science

2311, 2312.

#### Mathematics

Six hours (level of college algebra or higher).

#### Science

11 hours—eight hours in a single lab science (biology, chemistry, geology, or physics) and three hours in science or social science.

#### Foreign Language

1441, 1442, 2313, and 2314 or equivalent.

#### Fine Arts and Philosophy

Three hours from architecture, art, dance, music, philosophy, or theatre arts.

#### Social/Cultural Studies

Three hours of designated courses in archaeology, classical studies, communication, economics, history, humanities, linguistics, political science, social or cultural anthropology, social/political/cultural geography, social psychology, sociology or women's studies.

#### Major

1185, 1186, 1325, 1326, 2185, 2186, 2325, 2326, 3208 or 3209, 3300, 3301; eight hours performance concentration (in one instrument or voice); 1180, 1181, 2180, 2181 (keyboard concentrates must substitute four hours keyboard ensemble).

#### In addition

**Voice Performance Option** requires 3101, 3302, 3303, 3394, 4101; seven hours a cappella choir, three hours musical theatre/opera laboratory. **Plus:** 14 hours additional performance major; three hours 0174; 3103; 4191 (vocal literature); 4301 or 4302; plus a junior and a senior recital. [Students electing studies in pedagogy substitute the following: eight additional hours of performance concentration; four hours 3294 (vocal pedagogy I, II); four hours 4291 (vocal literature I, II); two hours 0174; 1242; 4205; plus a senior recital.]

**Keyboard Performance Option** requires 3294, 3295, 3302, 3303, 3394, 4301 or 4302, four hours 4291 (keyboard literature I, II); one hour accompanying, one hour any ensemble. *Plus:* 14 hours additional performance major; four hours 0174, three hours music elective, plus a junior and a senior recital. [Students electing studies in pedagogy substitute the following: eight additional hours of performance concentration; 1257, 1258, 2257, 2258; 3312; 4291 (group piano methods); plus a senior recital.]

**Wind, String, or Percussion Performance Option** requires 3302, 3303, 3394, 4301 or 4302, 4291 (wind or string instrument literature); 14 additional hours performance major; 12 hours ensemble (orchestra emphasis take eight hours orchestra, four hours any ensemble; band emphasis take eight hours wind ensemble or concert band, two hours any ensemble, and two hours orchestra); three hours music elective; plus a junior and a senior recital.

**Theory/Composition Option** requires 3302, 3303, 3391, 3392, 3394, 4205, 4301 or 4302, 4491, 4492; three hours selected from 1103, 1104, 2103, 2104, 4208 or 4209, 4301 or 4302; four additional hours performance concentration; two hours 0174 (keyboard concentrates must substitute 4242); six hours any ensemble; plus prepare and present a program of original works.

**Total**

137 hours including a minimum of 36 hours at 3000/4000 level, at least 24 of which must be in music; plus seven semesters MUSI 0040; and exercise and sport activities (EXSA) or marching band or ROTC as required.

## Requirements for a Bachelor of Music Degree

(with Emphases in Music/Business, Music/Theatre, or Music/Media Options)

**English**

Six hours of composition.

**Literature**

Three hours of English or foreign language literature or other approved substitute.

**Liberal Arts Elective**

Three hours above the freshman level of literature, or social and cultural studies designated as taught in the College of Liberal Arts, or fine arts or philosophy, or technical writing (MUSI 2300 recommended).

**Political Science**

2311, 2312.

**History**

1311, 1312.

**Mathematics**

Six hours (level of college algebra or higher).

**Science**

11 hours—eight hours in a single lab science (biology, chemistry, geology, or physics) and three hours in science or social science.

**Fine Arts and Philosophy**

Three hours from architecture, art, dance, music, philosophy, or theatre arts.

**Social/Cultural Studies**

Three hours of designated courses in archaeology, classical studies, communication, economics, history, humanities, linguistics, politi-

cal science, social or cultural anthropology, social/political/cultural geography, social psychology, sociology or women's studies.

**Electives**

Eight hours (foreign language recommended).

**Major**

1185, 1186, 1325, 1326, 2325, 2326, 3208 or 3209, 3300, 3301, 3394, 4390, 4391; eight hours performance concentration (in one instrument or voice); 1180, 1181 (keyboard concentrates substitute two hours keyboard ensemble).

**In addition**

**Music/Business Option** requires two additional hours performance concentration; 4323; six hours any ensemble.

**Plus**

10 hours selected from 1103, 1104, 2103, 2104, 3125, 3212, 3294, 3295, 3302, 3312, 3313 or 3314, 3391, 4300, 4301 or 4302, 4291 (instrumental, vocal or keyboard literature).

**Plus**

18 hours (six of which must be 3000/4000 level) selected from Business Administration, Art, or Communication as recommended by the major advisor.

**Music/Theatre Option** requires four additional hours performance concentration; 2180, 2181, 4205 or two hours 0174 (keyboard concentrates substitute four hours 0175); 4324; six hours any ensemble (may include THEA 0181); four additional hours choral ensembles or musical theatre/opera laboratory.

**Plus**

18 hours (nine of which must be 3000/4000 level) selected from Theatre Arts and/or Broadcast Communication as recommended by the major advisor.

**Music/Media Option** requires 2180, 2181, or 4205; 3125, 3391, 4301 or 4302, 4323, 4325; six hours any ensemble.

**Plus**

18 hours (nine of which must be 3000/4000 level) selected from Business Administration, Communication, Broadcast Communication, Art, and/or Advertising as recommended by the major advisor.

**Total**

132 hours including a minimum of 36 hours at 3000/4000 level, at least 24 of which must be in music; plus seven semesters MUSI 0040; and exercise and sport activities (EXSA) or marching band or ROTC as required.

## Requirements for a Bachelor of Music Degree

(with Jazz Studies Option)

**English**

Six hours of composition.

**Literature**

Three hours of English or foreign language literature or other approved substitute.

**Liberal Arts Elective**

Three hours above the freshman level of literature, or social and cultural studies designated as taught in the College of Liberal Arts, or fine arts or philosophy, or technical writing (MUSI 2300 recommended).

**Political Science**

2311, 2312.

**History**

1311, 1312.

**Mathematics**

Six hours (level of college algebra or higher).

**Science**

11 hours—eight hours in a single lab science (biology, chemistry, geology, or physics) and three hours in science or social science.

**Fine Arts and Philosophy**

Three hours from architecture, art, dance, music, philosophy, or theatre arts.

**Social/Cultural Studies**

Three hours of designated courses in archaeology, classical studies, communication, economics, history, humanities, linguistics, political science, social or cultural anthropology, social/political/cultural geography, social psychology, sociology or women's studies.

**Electives**

Eight hours (foreign language recommended).

**Major**

1185, 1186, 1325, 1326, 2185, 2186, 2325, 2326, 3125, 3208 or 3209, 3212, 3225, 3300, 3301, 3391, 3394, 4300, 4302, 4323, 4390, 4391; fourteen hours performance concentration; 1180, 1181, 2180, 2181 (keyboard concentrates substitute two hours keyboard ensemble and two hours small jazz ensemble); seven hours large jazz ensemble, two hours small jazz ensemble; three hours music elective.

**Total**

132 hours including a minimum of 36 hours at 3000/4000 level, at least 24 of which must be in music; plus seven semesters MUSI 0040; and exercise and sport activities (EXSA) or marching band or ROTC as required.

## Requirements for a Bachelor of Music Degree

### (in preparation for Teacher Certification)

**English**

Six hours of composition.

**Literature**

Six hours of English or foreign language literature or other approved substitute.

**History**

1311, 1312.

**Political Science**

2311, 2312.

**Mathematics**

Six hours (level of college algebra or higher).

**Science**

11 hours—eight hours in a single lab science (biology, chemistry, geology, or physics) and three hours in science or social science.

**Fine Arts and Philosophy**

Three hours from architecture, art, dance, music, philosophy, or theatre arts.

**Social/Cultural Studies**

Three hours of designated courses in archaeology, classical studies, communication, economics, history, humanities, linguistics, political science, social or cultural anthropology, social/political/cultural geography, social psychology, sociology or women's studies.

**Major**

1185, 1186, 1325, 1326, 2185, 2186, 2325, 2326, 3208 or 3209, 3300, 3301; eight hours performance concentration (in one instrument or voice); 1180, 1181, 2180, and 2181 (keyboard concentrates refer to appropriate options below for substitute hours).

**In addition****All-Level Instrumental Option** requires two hours 0172 (concurrent with 3208 and 4208); 1103, 1104, 2103, 2104, 2112, 3312, 3313, 4192, 4208, 4301 or 4302, 4312, 4313; one course selected from 3200, 3212, or 4291 (orchestra techniques); keyboard concentrates take four hours 0109 (see Major); ensembles (band emphasis: three hours marching band, three hours wind ensemble or concert band, one hour orchestra; orchestra emphasis: seven hours orchestra); six additional hours performance concentration.**All-Level Choral Option** requires 1103, 1104, 2103, 2104, 2112, 3101, 3312, 3314, 4101, 4193, 4209, 4301, 4312, 4314; six hours a cappella choir, one hour musical theatre/opera laboratory; six additional hours performance concentration. In addition, voice concentrates take two hours 0174; keyboard concentrates take two hours 0109 and four hours 0175 (see Major).**Secondary Instrumental Option** requires two hours 0172 (concurrent with 3208 and 4208); 1103, 1104, 2103, 2104, 2112, 3313, 4192, 4208, 4301 or 4302, 4313; two courses selected from 3200, 3212 or 4291 (orchestra techniques); keyboard concentrates take four hours 0109 (see Major); ensembles (band emphasis: three hours marching band, three hours wind ensemble or concert band, one hour orchestra; orchestra emphasis: seven hours orchestra); six additional hours performance concentration; two hours selected from any ensemble or 0171 secondary instruments; two hours music elective.**Secondary Choral Option** requires 1103, 1104, 2103, 2104, 2112, 3101, 3314, 4101, 4193, 4209, 4301, 4314; seven hours a cappella choir, two hours musical theatre/opera laboratory; six additional hours performance concentration, three hours music elective. Voice concentrates take three hours 0174; keyboard concentrates take two hours 0109 and five hours 0175 (see Major).**Total**

120 hours including a minimum of 36 hours at 3000/4000 level, at least 24 of which must be in music; plus seven semesters MUSI 0040; and exercise and sport activities (EXSA) or marching band or ROTC as required.

## Teacher Certification

Students interested in Texas Teacher Certification should consult the Center for Professional Teacher Education section of this catalog for the most recent changes in requirements regarding admission to Teacher Education, completion of University programs in preparation for certification, and eligibility for certification after graduation.

## Requirements for a Minor in Music

Eighteen hours of music, six hours of which must be 3000/4000 level.

## Department of Music Faculty

### Chair

Professor Ebensberger

### Professors

Lichtenwalter, Powell

### Associate Professors

Jessup, McKinney, Moorer, Morrow, Postlewait, Russell, Snodgrass, Tam, Varner, Wiley

### Assistant Professors

Baker, Bogle, Chave, Clements, Lanz, Phillips

## Music (MUSI)

Those music courses and music organizations available to non-music majors are indicated in the course description.

Prefix and number in parentheses following the U.T. Arlington course number and title is the Common Course Number designation.

**0101-0129. ENSEMBLES 1 hour credit.** The music major must receive credit for the ensembles required in his/her option. The schedule of classes indicates which ensembles are offered each semester. Prerequisite: approval of the ensemble director. \$2 lab fee.

**0172. INSTRUMENTAL LAB ENSEMBLE (0-1) 1 hour credit (MUSI 1121).** A rehearsal lab to provide additional exposure to the band/orchestral instrument and conducting experience. \$2 lab fee.

**0174. SECONDARY KEYBOARD (0-1) 1 hour credit.** For music majors whose degree option requires secondary piano, organ, or harpsichord. A jury is required to receive credit. May be repeated for credit. Prerequisite: MUSI 2181 or equivalent proficiency. \$60 special fee each course.

**0175. SECONDARY VOICE (0-1) 1 hour credit.** For music majors whose degree option requires secondary voice. A jury is required to receive credit. May be repeated for credit. \$60 special fee each course.

**1103. BRASS CLASS (0-2) 1 hour credit (MUSI 1168).** Open to music majors only. The brass instruments of the band and orchestra with emphasis on embouchure development, articulation techniques, performance of scales, and limited repertoire. \$5 lab fee.

**1104. WOODWIND CLASS (0-2) 1 hour credit (MUSI 1166).** Open to music majors only. The woodwind instruments of the band and orchestra with emphasis on embouchure development, articulation techniques, performance of scales, and limited repertoire. \$5 lab fee.

**1180. FUNCTIONAL PIANO I (0-2) 1 hour credit (MUSI 1181).** Required of and limited to music majors who are not piano majors or concentrators. The aim is to develop keyboard skills necessary to use the piano as a tool in teaching, composition, and performance. \$2 lab fee.

**1181. FUNCTIONAL PIANO II (0-2) 1 hour credit (MUSI 1182).** A continuation of MUSI 1180. Prerequisite: MUSI 1180. \$2 lab fee.

**1185. SIGHTSINGING AND EAR TRAINING I (0-2) 1 hour credit (MUSI 1216).** Techniques of melodic and rhythmic sightsinging and procedures of dictation.

**1186. SIGHTSINGING AND EAR TRAINING II (0-2) 1 hour credit (MUSI 1217).** A continuation of MUSI 1185 using more difficult materials. Prerequisite: MUSI 1185.

**1300. MUSIC APPRECIATION (3-0) 3 hours credit (MUSI 1306).** Open to all students as fine arts elective, designed to develop intelligent listening and enjoyment of music. Provides an opportunity to increase the student's cultural experience and vocabulary.

**1301. ELEMENTS OF MUSIC (3-0) 3 hours credit (MUSI 1301).** Basic musical notation, harmony, and theory for non-music majors as a fine arts elective.

**1302. HISTORY OF JAZZ (3-0) 3 hours credit.** The development of American jazz from its African and European roots to the present. Open to all students of the University as a fine arts elective.

**1325. THEORY AND HARMONY I (3-0) 3 hours credit (MUSI 1311).** Scales, intervals, triads, and part writing with primary triads.

**1326. THEORY AND HARMONY II (3-0) 3 hours credit (MUSI 1312).** Part writing including all diatonic triads, seventh chords, and traditional non-chord tones. Prerequisite: MUSI 1325.

**2103. STRING CLASS (0-2) 1 hour credit (MUSI 1189).** Open to music majors only. A practical study of the string instruments of the orchestra with emphasis on bowing techniques, articulation, performance of scales, and limited repertoire.

**2104. PERCUSSION CLASS (0-2) 1 hour credit (MUSI 1188).** Open to music majors only. A practical study of the percussion instruments of the band and orchestra with emphasis on rudimental techniques and performance of limited repertoire.

**2112. PERSPECTIVES IN MUSIC (1-1) 1 hour credit.** Introduction to instrumental, choral, and general music through lecture and discussion of professional responsibilities and career opportunities.

**2180. FUNCTIONAL PIANO III (0-2) 1 hour credit (MUSI 2181).** A continuation of MUSI 1181. Prerequisite: MUSI 1181. \$2 lab fee.

**2181. FUNCTIONAL PIANO IV (0-2) 1 hour credit (MUSI 2182).** A continuation of MUSI 2180. Prerequisite: MUSI 2180. \$2 lab fee.

**2185. SIGHTSINGING AND EAR TRAINING III (0-2) 1 hour credit (MUSI 2116).** A continuation of MUSI 1186 using moderately complex melodies and rhythms in more than one part. Prerequisite: MUSI 1186.

**2186. SIGHTSINGING AND EAR TRAINING IV (0-2) 1 hour credit (MUSI 2118).** A continuation of MUSI 2185 using complex melodies and dictation in four parts. Prerequisite: MUSI 2185.

**2300. MUSICAL TRADITIONS OF THE WORLD (3-0) 3 hours credit.** The music of Asia, Africa, and Oceania and the native traditions of the Americas; the role of music in the world's societies and non-Western music systems. Open to all students as a fine arts or liberal arts elective.

**2325. THEORY AND HARMONY III (3-0) 3 hours credit (MUSI 2311).** Modulation, chromatic part writing, and harmonic analysis. Prerequisite: MUSI 1326.

**2326. THEORY AND HARMONY IV (3-0) 3 hours credit (MUSI 2312).** Harmonic, linear, and formal analysis of 19th- and 20th-Century compositional techniques. Prerequisite: MUSI 2325.

**3101. ENGLISH AND FRENCH DICTION (0-2) 1 hour credit.** A guide to correct pronunciation of English and French in vocal music. \$2 lab fee.

**3103. VOCAL PEDAGOGY (1-1) 1 hour credit.** A basic survey of the skills and knowledge needed to teach correct, effective vocal production in school and/or private studio.

**3125. JAZZ THEORY (1-0) 1 hour credit.** Basic musical concepts relating to the jazz idiom such as scales, harmonies, styles, etc. Prerequisite: MUSI 1325 or faculty approval.



- 3200. MARCHING BAND TECHNIQUES (2-0) 2 hours credit.** Open to music majors only. A detailed study of the theory and history of marching band presentations.
- 3208. INSTRUMENTAL CONDUCTING I (2-0) 2 hours credit.** Open to music majors only. A practical study of basic instrumental conducting and score reading techniques.
- 3209. CHORAL CONDUCTING I (2-0) 2 hours credit.** Open to music majors only. A practical study of fundamental choral conducting techniques and basic score reading.
- 3212. JAZZ TECHNIQUES (2-0) 2 hours credit.** A study of jazz techniques as they apply to solo and ensemble performance.
- 3225. JAZZ IMPROVISATION (2-0) 2 hours credit.** The melodic and harmonic foundations of contemporary jazz solo performance. Prerequisite: MUSI 3125 or faculty approval.
- 3294. APPLIED PEDAGOGY (2-0) 2 hours credit.** A study of teaching techniques as they apply to studio or class instruction in applied music. Specific areas of study will change from semester to semester. May be repeated for credit. Prerequisite: faculty approval.
- 3295. PIANO PEDAGOGY (2-1) 2 hours credit.** Open to music majors only. Teaching methods of beginning level private and class instruction. Prerequisite: faculty approval.
- 3300. MUSIC HISTORY I (3-0) 3 hours credit.** The music of western civilization from ancient times to 1750.
- 3301. MUSIC HISTORY II (3-0) 3 hours credit.** The music of western civilization from 1750 to the present.
- 3302. FORM AND ANALYSIS (3-0) 3 hours credit.** Structure and analysis of the major forms of music literature. Prerequisites: MUSI 2325 and 2326.
- 3303. COUNTERPOINT (3-0) 3 hours credit.** Overview of modal counterpoint; detailed study of harmonic counterpoint including canon, invention, and fugue. Prerequisite: MUSI 2326 or approval of the instructor.
- 3305. MUSIC FOR CHILDREN (3-0) 3 hours credit.** A study of musical activities and the role of music in childhood. Includes music fundamentals, folk song literature, and musical characteristics of children. Cannot be counted toward a Bachelor of Music Degree.
- 3312. ESSENTIAL ELEMENTS OF MUSIC I (3-0) 3 hours credit.** Musical characteristics of children, folksong and composed literature, performance activities, song analysis, and techniques for reading and writing music. Open to music majors and minors only.
- 3313. INSTRUMENTAL ENSEMBLE LITERATURE AND PERFORMANCE I (3-0) 3 hours credit.** A study of literature, music selection, rehearsal planning, sound production, and performance practices for beginning and intermediate instrumental ensembles.
- 3314. CHORAL ENSEMBLE LITERATURE AND PERFORMANCE I (3-0) 3 hours credit.** A study of literature, music selection, rehearsal planning, vocal production, and performance practices for beginning and intermediate choral ensembles.
- 3391. COMPOSITION I 3 hours credit.** Individual instruction designed to meet the needs of students desiring to become composers or teachers of composition. Prerequisite: grades of B or better in MUSI 2326 and 2186. \$2 lab fee.
- 3392. COMPOSITION II 3 hours credit.** A continuation of MUSI 3391. Prerequisite: MUSI 3391. \$2 lab fee.
- 3394. COMPUTERS IN MUSIC (3-0) 3 hours credit.** An introduction to the computer and to its use in the field of music. Topics include basic computer operation, information-management software, computer-assisted instruction in music, and music notation and sequencing software (MIDI).
- 4101. GERMAN AND ITALIAN DICTION (0-2) 1 hour credit.** A guide to correct pronunciation of German and Italian in vocal music. \$2 lab fee.
- 4192. INSTRUMENTAL APPLIED CONDUCTING (0-1) 1 hour credit.** A practical application of conducting and rehearsal techniques in a lab situation. May not be taken concurrently with MUSI 0172. Prerequisite: MUSI 4208.
- 4193. CHORAL APPLIED CONDUCTING (0-1) 1 hour credit.** A practical application of conducting and rehearsal techniques in a lab situation. Prerequisite: MUSI 4209. \$2 lab fee.
- 4205. ADVANCED FUNCTIONAL PIANO (2-0) 2 hours credit.** Concentrated study of keyboard skills which include: sightreading, transposition, harmonization, and open score reading. Prerequisite: MUSI 2181 or equivalent proficiency.
- 4208. INSTRUMENTAL CONDUCTING II (2-0) 2 hours credit.** Open to music majors only. A study of advanced conducting techniques, including score reading, rehearsal techniques, ensemble concepts, articulations and musical style. Must be taken concurrently with 0172. Prerequisite: MUSI 3208.
- 4209. CHORAL CONDUCTING II (2-0) 2 hours credit.** Open to music majors only. A study of advanced conducting techniques, including materials for rehearsing a choral ensemble, concepts of voice production, choral blend, and musical styles. Prerequisite: MUSI 3209.
- 4300. JAZZ PERSPECTIVES (3-0) 3 hours credit.** Open to music majors only. An in-depth study of the history, literature, and styles of the jazz idiom.
- 4301. ORCHESTRATION (3-0) 3 hours credit.** Required of music majors. Scoring for strings, woodwinds, brass, percussion and voice as related to orchestra, band, and choir. Prerequisite: MUSI 2326.
- 4302. JAZZ ARRANGING (3-0) 3 hours credit.** Arranging in the jazz and commercial idioms with emphasis on the large jazz ensemble. Prerequisite: MUSI 3225 and 3125 or consent of the instructor.
- 4312. ESSENTIAL ELEMENTS OF MUSIC II (3-0) 3 hours credit.** Focus on perception as it relates to children's development and participation in music through singing and playing instruments. Prerequisite: MUSI 3312.
- 4313. INSTRUMENTAL ENSEMBLE LITERATURE AND PERFORMANCE II (3-0) 3 hours credit.** A study of literature, music selection, rehearsal planning, sound production, and performance practices for intermediate and advanced instrumental ensembles. Prerequisite: MUSI 3313 or faculty approval.
- 4314. CHORAL ENSEMBLE LITERATURE AND PERFORMANCE II (3-0) 3 hours credit.** A study of literature, music selection, rehearsal planning, vocal production, and performance practices for intermediate and advanced choral ensembles. Prerequisite: MUSI 3314 or faculty approval.
- 4323. BUSINESS OF MUSIC (3-0) 3 hours credit.** A study of the structure of the music business and relationships among occupations in the industry. Topics include publishing, copyright licensing, artist management, the record industry, music in film and broadcasting, and career development and planning.
- 4324. HISTORY OF MUSICAL THEATRE (3-0) 3 hours credit.** A historical survey of American theatre music from the colonial period to the present. Open to all students as a fine arts elective.
- 4325. MUSIC IN MEDIA (3-0) 3 hours credit.** An in-depth survey and production class which presents the ways in which music is used in radio, television, motion pictures, live musical productions,

and the recording industry. The class focuses on various functions and styles of music in those media.

**4180, 4280, 4380. SPECIAL TOPICS IN MUSIC (variable credit).** Special studies in music. Topics will vary from semester to semester. May be repeated for credit when topics vary.

**4390. RECORDING TECHNIQUES (2-3) 3 hours credit.** Live performance and studio recording techniques. Topics include microphone selection and placement, equalization techniques, overdubbing, console-mixing, sound synchronization, and related recording techniques.

**4191, 4291, 4391. CONFERENCE COURSE (Variable credit from 1 to 3 semester hours as arranged).** Special problems in music. Topic may change from semester to semester. May be repeated for credit. Prerequisite: consent of the instructor or chair of department.

**4394. HONORS THESIS/SENIOR PROJECT (3-0) 3 hours credit.** Required of all students in the University Honors Program. During the senior year, the student must complete a thesis or a project under the direction of a faculty member in the major department.

**4491. COMPOSITION III 4 hours credit.** A continuation of MUSI 3392. Prerequisite: MUSI 3392. \$2 lab fee.

**4492. COMPOSITION IV 4 hours credit.** A continuation of MUSI 4491. Prerequisite: MUSI 4491. \$2 lab fee.

## Performance

All music majors must schedule MUSI 0040 and receive a grade of P for seven semesters.

Individual instruction courses are open in limited numbers to all University students.

Students should expect, in addition to attending weekly private lessons, a minimum preparation (individual practice) of five hours per week in courses granting two hours credit, 10 hours per week in courses granting three hours credit, and 12 hours per week in courses granting four hours credit.

All private instruction, except 0171, requires a jury.

**0040. RECITAL LAB.** A performance laboratory for students studying applied music. Music majors are required to attend no fewer than 16 labs and/or department-sponsored performances in a given semester for recital attendance credit.

**0171. ELECTIVE PERFORMANCE 1 hour credit.** For students who desire elective private instruction in strings, woodwinds, brass, keyboard, voice, or percussion. May be repeated eight times for credit. Prerequisite: faculty approval. May not be substituted for MUSI 0174 or 0175. \$60 special fee for each course.

**1240, 1241, 2240, 2241, 3240, 3241, 4240, 4241. PRIVATE LESSONS IN VOICE 2 hours credit.** This sequence of courses is required of music majors whose concentration is voice. These courses are open to non-music majors only with written approval of the Music Department chair. Prerequisite: The preceding course. \$100 special fee each course.

**3350, 3351. PRIVATE LESSONS IN VOICE 3 hours credit.** Courses meet the requirements of performance majors in voice. Performance of a junior (half) recital is the minimum requirement for completion of MUSI 3351. Prerequisite: MUSI 2241 and permission of the applied jury. \$100 special fee each course.

**4450, 4451. PRIVATE LESSONS IN VOICE 4 hours credit.** These courses meet the requirements of performance majors in voice. Performance of a senior (full) recital is required for completion of MUSI 4451. Prerequisite: MUSI 3351. \$100 special fee each course.

**1242, 1243, 2242, 2243, 3242, 3243, 4242, 4243. PRIVATE LESSONS IN PIANO 2 hours credit.** This sequence of courses is required of music majors whose concentration is piano. These courses are open to non-music majors only with the written approval of the Music Department chair. Prerequisite: The preceding course. \$100 special fee each course.

**3352, 3353. PRIVATE LESSONS IN PIANO 3 hours credit.** Courses meet the requirements of performance majors in piano. Performance of a junior (half) recital is the minimum requirement for completion of MUSI 3353. Prerequisite: MUSI 2243 and permission of the applied jury. \$100 special fee each course.

**4452, 4453. PRIVATE LESSONS IN PIANO 4 hours credit.** These courses meet the requirements of performance majors in piano. Performance of a senior (full) recital is required for completion of MUSI 4453. Prerequisite: MUSI 3353. \$100 special fee each course.

**1244, 1245, 2244, 2245, 3244, 3245, 4244, 4245. PRIVATE LESSONS IN STRINGS 2 hours credit.** This sequence of courses meets the requirements of music majors whose concentration is strings. These courses are open to non-music majors only with written approval of the Music Department chair. Prerequisite: The preceding course. \$100 special fee each course.

**3354, 3355. PRIVATE LESSONS IN STRINGS 3 hours credit.** These courses meet the requirements of performance majors in strings. Performance of a junior (half) recital is the minimum requirement for completion of MUSI 3355. Prerequisite: MUSI 2245 and permission of the applied jury. \$100 special fee each course.

**4454, 4455. PRIVATE LESSONS IN STRINGS 4 hours credit.** These courses meet the requirements of performance majors in strings. Performance of a senior (full) recital is required for completion of MUSI 4455. Prerequisite: MUSI 3355. \$100 special fee each course.

**1246, 1247, 2246, 2247, 3246, 3247, 4246, 4247. PRIVATE LESSONS IN WOODWINDS 2 hours credit.** This sequence of courses is required of music majors whose concentration is woodwinds. These courses are open to non-music majors only with written approval of the Music Department chair. Prerequisite: The preceding course. \$100 special fee each course.

**3356, 3357. PRIVATE LESSONS IN WOODWINDS 3 hours credit.** These courses meet the requirements of performance majors in woodwinds. Performance of a junior (half) recital is the minimum requirement for completion of MUSI 3357. Prerequisite: MUSI 2247 and permission of the applied jury. \$100 special fee each course.

**4456, 4457. PRIVATE LESSONS IN WOODWINDS 4 hours credit.** These courses meet the requirements of performance majors in woodwinds. Performance of a senior (full) recital is required for completion of MUSI 4457. Prerequisite: MUSI 3357. \$100 special fee each course.

**1248, 1249, 2248, 2249, 3248, 3249, 4248, 4249. PRIVATE LESSONS IN BRASS 2 hours credit.** This sequence of courses is required of music majors whose concentration is brass. These courses are open to non-music majors only with written approval of the Music Department chair. Prerequisite: the preceding course. \$100 special fee each course.

**3358, 3359. PRIVATE LESSONS IN BRASS 3 hours credit.** These courses meet the requirements of performance majors in brass. Performance of a junior (half) recital is the minimum requirement for completion of MUSI 3359. Prerequisite: MUSI 2249 and permission of the applied jury. \$100 special fee each course.

**4458, 4459. PRIVATE LESSONS IN BRASS 4 hours credit.** These courses meet the requirements of performance majors in brass. Performance of a senior (full) recital is required for completion of MUSI 4459. Prerequisite: MUSI 3359. \$100 special fee each course.

**1250, 1251, 2250, 2251, 3250, 3251, 4250, 4251. PRIVATE LESSONS IN PERCUSSION 2 hours credit.** This sequence of courses is required of music majors whose concentration is percussion. These courses are open to non-music majors only with written approval of the Music Department chair. Prerequisite: The preceding course. \$100 special fee each course.

**3360, 3361. PRIVATE LESSONS IN PERCUSSION 3 hours credit.** These courses meet the requirements of performance majors in percussion. Performance of a junior (half) recital is the minimum requirement for completion of MUSI 3361. Prerequisite: MUSI 2251 and permission of the applied jury. \$100 special fee each course.

**4460, 4461. PRIVATE LESSONS IN PERCUSSION 4 hours credit.** These courses meet the requirements of performance majors in percussion. Performance of a senior (full) recital is required for completion of MUSI 4461. Prerequisite: MUSI 3361. \$100 special fee each course.

**1257, 1258, 2257, 2258, 3257, 3258, 4257, 4258. PRIVATE LESSONS IN ORGAN 2 hours credit.** This sequence of courses is required of music majors whose concentration is organ. These courses are open to non-music majors only with written approval of the Music Department chair. Prerequisite: the preceding course. \$100 special fee each course.

**3367, 3368. PRIVATE LESSONS IN ORGAN 3 hours credit.** These courses meet the requirements of performance majors in organ. Performance of a junior (half) recital is the minimum requirement for completion of MUSI 3368. Prerequisite: MUSI 2258 and permission of the applied jury. \$100 special fee each course.

**4467, 4468. PRIVATE LESSONS IN ORGAN 4 hours credit.** These courses meet the requirements of performance majors in organ. Performance of a senior (full) recital is required for completion of MUSI 4468. Prerequisite: MUSI 3368. \$100 special fee each course.

**1267, 1268, 2267, 2268, 3267, 3268, 4267, 4268. PRIVATE LESSONS IN HARPSICHORD 2 hours credit.** This sequence is required of music majors whose concentration is harpsichord. These courses are open to non-music majors only with written approval of the music department chair. Prerequisite: the preceding course. \$100 special fee each course.

**3377, 3378. PRIVATE LESSONS IN HARPSICHORD 3 hours credit.** These courses meet the requirements of performance majors in harpsichord. Performance of a junior (half) recital is the minimum requirement for completion of MUSI 3378. Prerequisite: MUSI 2268 and permission of the applied jury. \$100 special fee each course.

**4477, 4478. PRIVATE LESSONS IN HARPSICHORD 4 hours credit.** These courses meet the requirements of performance majors in harpsichord. Performance of a senior (full) recital is required for completion of MUSI 4478. Prerequisite: MUSI 3378. \$100 special fee each course.

# The Department of Philosophy and Humanities

305 Carlisle Hall • Box 19527 • 817-272-2764

A major in philosophy is built around the central texts in the history of Western thought. Philosophy focuses on the perennial problems raised by the encounter of human beings with their history, culture, and the world. It emphasizes methods of analysis and clarity of argumentation. Students who major in philosophy have the broadest possible preparation in the liberal arts.

Students who complete a major in philosophy are prepared to enter either graduate programs or the world of work. In addition to providing vocational skills and a solid foundation for graduate work in the discipline, a major in philosophy constitutes appropriate and strong preparation for graduate work in other academic disciplines as well as in professional programs in a broad variety of fields. The Department of Philosophy and Humanities is prepared to work with students who are interested in postgraduate professional education to assure that their preparation meets disciplinary and/or professional criteria and expectations in areas including law, business administration, and theology. The faculty of the Department of Philosophy and Humanities also work with advisors in the Health Professions Advising Office of the College of Science to ensure that philosophy majors pursuing a pre-medical curriculum are kept abreast of required and recommended courses outside the major.

## Requirements for Admission to a Major in Philosophy

Students may be admitted to the major in philosophy upon satisfaction of the following requirements:

- An overall 2.0 GPA, including at least 6 hours of the math and science requirement taken in residence or 12 hours or math and science overall.
- A minimum GPA of 2.5 for all philosophy courses at the time of admission to the major.
- A minimum of 6 hours of philosophy taken at UTA.
- A writing sample approved by the Philosophy Department. (See the Undergraduate Advisor for specific conditions on the writing sample and its grading.)

The undergraduate advisor must certify that these requirements have been satisfied. Admission to the philosophy major may take place at any time that the requirements have been satisfied consistent with the requirements of the Academic Foundations Program.

## Requirements for a Bachelor of Arts Degree in Philosophy

### English

Six hours of composition.

### Literature

Three hours of English or foreign language literature or other approved substitute.

### Liberal Arts Elective

Three hours above the freshman level of literature, or social and cultural studies designated as taught in the College of Liberal Arts, or fine arts or philosophy, or technical writing.

### History

1311, 1312, 2301, 2302.

### Political Science

2311, 2312.

### Foreign Language

1441, 1442, 2313, and 2314, or equivalent.

### Mathematics

Six hours (level of college algebra or higher).

### Science

11 hours (eight hours in a single lab science).

### Fine Arts and Philosophy

Three hours from architecture, art, dance, music, philosophy, or theatre arts.

### Social/Cultural Studies

Three hours of designated courses in archaeology, classical studies, communication, economics, history, humanities, linguistics, political science, social or cultural anthropology, social/political/cultural geography, social psychology, sociology or women's studies.

### Electives

Sufficient to give the total number of hours required for a degree.

### Major

30 hours of philosophy including 2311 and six additional hours at the freshman or sophomore level (to include no more than one freshman-level course); 3301, 3302, 3303, 3304; and nine other advanced hours with at least six hours at the 4000 level.

### Minor

18 hours, at least six of which must be 3000/4000 level.

### Total

128 hours, at least 36 of which must be 3000/4000 level, plus exercise and sport activities (EXSA) or ROTC or marching band as required.

## Undergraduate Advising

All philosophy majors are directed in their program by a designated undergraduate advisor. In addition, the following special advisors are available:

**Graduate Work in Philosophy:** Majors who are interested in graduate work in philosophy should consult the departmental graduate advisor during their junior year.

**Pre-Law:** Majors who intend to apply to law school will find courses in logic, philosophy of law, political philosophy, and ethics particularly useful. Interested students should consult the Philosophy/Pre-law faculty advisor for assistance in course selection and application procedures.

**Philosophy/Business Administration Minor:** It is possible to combine the philosophy major with a business administration minor in preparation for admission to the U.T. Arlington MBA program. (See Liberal Arts Major/Business Administration Minor section in the introduction of the College of Liberal Arts.) The Philosophy/Business Administration faculty advisor will assist students in coordinating their program and meeting admissions requirements either at U.T. Arlington or other schools.

**Pre-Theological:** Majors who plan to enter a school of theology should consider a minor in classics and foreign language preparation in Greek and/or Latin. Electives in ethics and philosophy of religion are particularly recommended. Interested students should consult the Philosophy/Pre-ministerial faculty advisor for additional assistance.

**Pre-Medical:** A departmental faculty advisor is available to assist majors who intend to apply to medical school. The major program will be coordinated with the Health Professions Advising Office of the College of Science.

## Department of Philosophy and Humanities Faculty

### Chair

Professor Townsend

### Associate Professors

Baker, Burgess-Jackson, Chiasson, Nussbaum, Reeder

### Assistant Professors

Bradshaw, Dyson, Mahoney

## Philosophy (PHIL)

Prefix and number in parentheses following the U.T. Arlington course number and title is the Common Course Number designation.

**I. INTRODUCTIONS TO PHILOSOPHY:** Any of the following courses may be taken as an Introduction to Philosophy. No sequence or difference in difficulty is implied by the numbers. Any of the courses will satisfy degree requirements in philosophy, art, or music set by many departments for their majors.

**1300. INTRODUCTION TO PHILOSOPHY (3-0) 3 hours credit (PHIL 1301).** The examination of one or more basic problems of lasting interest to philosophers. Typical problems may include human nature and limits of knowledge. Students intending to satisfy the philosophy/fine arts core requirement should consider PHIL 1310 as an alternative. Credit may not be received for both 1300 and either 1302 or 1303 (no longer offered).

**1301. CRITICAL THINKING (3-0) 3 hours credit (PHIL 2303).** The analysis of arguments and rhetorical forms. Deals with common forms of valid and fallacious reasoning and includes exercises and drill in practical reasoning.

**1304. CONTEMPORARY MORAL PROBLEMS (3-0) 3 hours credit (PHIL 2306).** Examination of ethical problems and theories which have a bearing on contemporary life. Texts may include both classical and contemporary ethical writings and deal with problems such as the conditions under which life may be taken (abortion, capital punishment, medical ethics), business ethics, social justice, and individual rights.

**PHIL 1310. PHILOSOPHICAL PERSPECTIVES (3-0) 3 hours credit.** Approaches philosophy through a broad application of philosophical perspectives to humanistic disciplines, including history, literature, and the arts. Recommended for students satisfying the philosophy/fine arts core requirement.

**HUMA 2301. HUMANITIES I (3-0) 3 hours credit.** An interdisciplinary study of the basic cultural patterns and traditions that inform our thinking. Provides a cross-cultural and cross-disciplinary introduction to the humanities, including literature, history, and philosophy. Credit may not be received for both PHIL 2301 (the predecessor course) and HUMA 2301.

**II. INTERMEDIATE AND ADVANCED COURSES IN PHILOSOPHY:** These courses are designed for students with specific interests in some philosophical area or with a background in philosophy or a related discipline. Unless specified, the courses do not have explicit prerequisites.

**2311. LOGIC (3-0) 3 hours credit.** The development of formal and symbolic systems for the analysis of arguments. The scope of the course will be basically modern logic: truth-functional analysis, propositional calculus, and some predicate calculus.

**2312. ETHICS (3-0) 3 hours credit.** An inquiry into the basic principles of the moral life through a critical examination of traditional and current theories of value, right and wrong, good and evil, happiness, duty, and freedom.

**2313. PHILOSOPHY OF THE ARTS (3-0) 3 hours credit.** Problems in the philosophy of art and art criticism; the history of aesthetic theory.

**3301. HISTORY OF PHILOSOPHY: ANCIENT PHILOSOPHY (3-0) 3 hours credit.** The beginning and the early developments of the western philosophic tradition. Ancient Greek philosophy, basically the Pre-Socratics, Socrates, Plato and Aristotle.

**3302. HISTORY OF PHILOSOPHY: ROMAN AND MEDIEVAL PHILOSOPHY (3-0) 3 hours credit.** Post-Aristotelians (e.g., the later Stoics, the Epicureans, Neo-Platonists); philosophy of the early Church Fathers through Aquinas and later Scholastics.

**3303. HISTORY OF PHILOSOPHY: RENAISSANCE AND EARLY MODERN EUROPEAN PHILOSOPHY (3-0) 3 hours credit.** The philosophical views of Galileo, Newton, Bacon, and Hobbes, the Continental Rationalists and British Empiricists, and a brief introduction to the philosophy of Immanuel Kant.

**3304. HISTORY OF PHILOSOPHY: NINETEENTH AND EARLY TWENTIETH CENTURY PHILOSOPHY (3-0) 3 hours credit.** Major philosophers from Kant to the early 20th Century.

**3315. ORIENTAL PHILOSOPHY AND RELIGION (3-0) 3 hours credit.** Some of the major Eastern traditions including Confucianism, Taoism, Buddhism, and Hinduism. The ancient roots and developments of these traditions and some of their modern and contemporary manifestations.

**3316. PHILOSOPHY OF RELIGION (3-0) 3 hours credit.** Problems that engage philosophy of religion (e.g., the existence of God, theodicy, religious language) and the way these problems have been treated by some outstanding Western thinkers.

**3317. INTERMEDIATE LOGIC (3-0) 3 hours credit.** Begins with predicate calculus and includes such topics as soundness and completeness theorems, definite descriptions, identity, modal logic, and others. Prerequisite: PHIL 2311 or equivalent.

**3318. THE PHILOSOPHY OF SCIENCE AND TECHNOLOGY (3-0) 3 hours credit.** The method and goals of scientific scholars and inquiry. The distinction between formal and empirical sciences, laws and theories, measurement, the role of observation and experiment, and probability. Formerly listed as 4315. Credit cannot be received for both 4315 and 3318.

**3319. BIOMEDICAL ETHICS (3-0) 3 hours credit.** Major ethical problems which arise in modern medicine and in medical/biological research (euthanasia, abortion, patient-physician relations, allocations of medical resources, genetic research, etc.).

**3320. PHILOSOPHY OF LAW (3-0) 3 hours credit.** Issues in the philosophy of law: the difference between morality and law; the difference between moral and legal rights; the ethics of punishment; possible philosophical bases for law; theories about how to reconcile personal liberty with the promotion of the common good; and, the duty to help others.

**3321. PHILOSOPHY OF LANGUAGE (3-0) 3 hours credit.** Topics to be investigated include the nature of language and communication; the distinction between natural and artificial language; the traditional division of the field into syntax, semantics, and pragmatics; and such specialized subtopics as meaning, reference, truth, and speech acts. Completion of PHIL 2311 is recommended, but not required.

**3390. HONORS COLLOQUIUM (3-0) 3 hours credit.** An interdisciplinary course designed to meet the needs of advanced undergraduates in the Honors Program. Prerequisite: participation in the Honors Program and/or permission of instructor.

**4318. PHILOSOPHY AND LITERATURE (3-0) 3 hours credit.** The role of ideas in literature and an analysis of the actual contacts between philosophy and the dominant world views of the great writers of literature.

**4385. THEORY OF KNOWLEDGE (3-0) 3 hours credit.** Problems which arise from attempts to give an account of human knowledge. Skepticism, perception, induction, or the nature of truth.

**4386. METAPHYSICS (3-0) 3 hours credit.** Problems which arise from attempts to give an account of reality and its manifestations. Possibility and necessity, causality, the nature of events, mind-body, and universals.

**4388. TOPICS IN THE HISTORY OF PHILOSOPHY (3-0) 3 hours credit.** In-depth treatment of a single important philosophical writer, a related group of writers, or an extended tradition. May be repeated for credit with permission of the department.

**4389. TOPICS IN PHILOSOPHY AND THE SOCIAL SCIENCES (3-0) 3 hours credit.** In-depth treatment of one or more of the social sciences from a philosophical perspective: may include the philosophy of history, social philosophy, political philosophy, philosophy of the social sciences, or any specific subject therein. Credit may not be granted for 4311 or 4317 (no longer offered) and 4389. May be repeated for credit with permission of the department.

**4391. UNDERGRADUATE CONFERENCE COURSE (3-0) 3 hours credit.** Topics assigned on an individual basis covering research of individual students or study in designated areas. May be repeated for credit.

**4394. HONORS THESIS/SENIOR PROJECT (3-0) 3 hours credit.** Required of all students in the University Honors Program. During the senior year, the student must complete a thesis or a project under the direction of a faculty member in the major department.

## Humanities (HUMA)

**2301. HUMANITIES I (3-0) 3 hours credit.** An interdisciplinary study of the basic cultural patterns and traditions that inform our thinking. Provides a cross-cultural and cross-disciplinary introduction to the humanities, including literature, history, and philosophy. Credit may not be received for both PHIL 2301 (the predecessor course) and HUMA 2301.

**3301. INTERDISCIPLINARY RESEARCH METHODS (3-0) 3 hours credit.** Research methods required for reading and writing across disciplinary lines in the humanities. Background information and reading in authors (for example, A.O. Lovejoy, Josiah Royce, LeRoy Ladurie, and Kenneth Burke) who have taken a wide cultural perspective; bibliographical and research methods; and techniques for writing major term papers and undergraduate theses involving more than one discipline.

**4301. CULTURE AND IDEAS (3-0) 3 hours credit.** The way basic ideas of culture have been analyzed and applied in the humanities, recognizing that cultural analysis is not limited to a single discipline or perspective. Authors from the Classical and Renaissance periods who have sought to understand the interrelation of cultural development, the production of cultural artifacts (the fine arts, literary and dramatic arts, history), and philosophy. The work of major cultural analysts in a critical and historical context.

# The Department of Political Science

206 University Hall • Box 19539 • 817-272-2991

The goal of the political science undergraduate curriculum is to maximize students' capacities to analyze and interpret political events and governmental processes. In addition to acquiring general knowledge about government and political behavior, students also learn the analytical skills relevant to particular political systems (their own and others'), and to problems of most immediate consequence and concern to them.

The four major objectives of the department's curriculum are:

- To provide an orientation to national, state, and local government and to stimulate interest in participation in the public sector;
- To illustrate the linkage between private or individual values and public policy;
- To provide descriptive generalizations as well as to stimulate critical evaluations of various political systems, ideologies, and policy processes; and
- To develop in students a cosmopolitan perspective (with respect to both cross-cultural and comparative United States studies) of political phenomena. This is accomplished by exposing students to diverse methodologies, theories, and approaches to political phenomena; providing basic analytical skills and knowledge for conducting political research; and conveying an ability to recognize the value basis for public sector policies.

The major courses are designed to present a coherent portrait of the discipline. Students begin with a general introduction to national, state, and local politics followed by required courses in political methodology and political theory. Finally, students are exposed to at least four major areas of the discipline. The department also offers options for students who desire a concentration in pre-law, public policy/administration, or international studies.

The political science student is exposed to a multifaceted and highly regarded faculty, many of whom have received regional and national honors for teaching, service, and research. Upon graduation, U.T. Arlington political science majors are prepared to compete for a wide variety of jobs in both the private and public sectors.

## Admission to Department of Political Science Degree Programs

Students should have completed 30 hours of core with 30 hours at UTA, or 40 hours of core with 12 hours at UTA with an overall GPA greater than 2.0. Students may be accepted as pre-political science majors if the above standards are not met.

## Requirements for a Bachelor of Arts Degree in Political Science

### English

Six hours (1301 and 1302 or suitable substitutes).

### Literature

Six hours of English or foreign language literature at the sophomore level or above.

### History

1311, 1312.

### Foreign Language

1441, 1442, 2313, and 2314 or equivalent.

### Political Science

2311, 2312.

### Mathematics

Six hours (level of college algebra or higher; 1302 and 1308 are recommended).

### Science

11 hours (eight hours in a single lab science).

### Fine Arts and Philosophy

Three hours from architecture, art, dance, music, philosophy, or theatre arts.

### Social/Cultural Studies

Nine hours of designated courses from archaeology, classical studies, communication, economics, history, humanities, linguistics, political science, social or cultural anthropology, social/political/cultural geography, social psychology, sociology or women's studies.

### Electives

Sufficient to give the total number of hours required for the degree.

### Major

36 hours to include 2311 and 2312; three hours in methodology (3310 or equivalent); three hours in political thought (3313, 4322, 4323, 4325, 4327, or 4328 or equivalent); and at least one course from any four of the five areas listed.

**Area I Political Behavior and Processes:** 3306, 3311, 3327, 4317, 4318, 4319, 4320, 4324, 4326, 4330, 4392, 4395.

**Area II Comparative Politics:** 3304, 3314, 3316, 3317, 3318, 4313, 4315, 4361, 4362, 4363, 4387, 4392, 4395.

**Area III International Politics:** 3329, 4310, 4311, 4312, 4336, 4355, 4360, 4365, 4392, 4395.

**Area IV Public Law:** 3330, 3331, 3333, 3335, 4331, 4332, 4392, 4395.

**Area V Public Administration and Policy Studies:** 3303, 3305, 3307, 3308, 3312, 4303, 4304, 4351, 4353, 4354, 4392, 4395.

### Minor

18 hours, at least six of which must be 3000/4000 level.

### Total

127 hours, at least 36 of which must be 3000/4000 level, plus exercise and sport activities (EXSA) or ROTC or marching band as required.

## Requirements for a Bachelor of Arts Degree in Political Science

### (PreLaw Option)

#### English

Six hours (1301 and 1302 or suitable substitutes).

#### Literature

Six hours of English or foreign language literature at the sophomore level or above.

#### History

1311, 1312.

#### Foreign Language

1441, 1442, 2313, and 2314 or equivalent.

#### Political Science

2311, 2312.

#### Mathematics

Six hours (level of college algebra or higher; 1302 and 1308 are recommended).

#### Science

11 hours (eight hours in a single lab science).

#### Fine Arts and Philosophy

Three hours from architecture, art, dance, music, philosophy, or theatre arts.

#### Social/Cultural Studies

Nine hours of designated courses from archaeology, classical studies, communication, economics, history, humanities, linguistics, political science, social or cultural anthropology, social/political/cultural geography, social psychology, sociology or women's studies.

#### Electives

Sufficient to give the total number of hours required for the degree.

#### Major

36 hours to include: 2311 and 2312; three hours in methodology (as listed under the Requirements for a Bachelor of Arts Degree in Political Science); three hours in political thought (as listed under the Requirements for a Bachelor of Arts Degree in Political Science); nine hours in public law (3330, 3331, 3333, 3335, 4331, and/or 4332); 15 additional hours from three separate areas (as listed under the Requirements for a Bachelor of Arts Degree in Political Science) other than the public law area.

#### Minor

18 hours, including six hours of 3000/4000-level courses in history, English, business, philosophy, or other minor as approved by the departmental advisor.

#### Related Required Courses

Seven to nine hours from the following: SPCH 0185, 1301, or 3305; PHIL 1301 or 2311; HIST 2313 or 2314.

Nine additional hours from the following: HIST 4350; SOCI 3313; BLAW 3311, 3312, 3313.

#### Total

127 hours, at least 36 of which must be 3000/4000 level, plus exercise and sport activities (EXSA) or ROTC or marching band as required.

## Requirements for a Bachelor of Arts Degree in Political Science

### (Policy/Public Administration Option)

#### English

Six hours (1301 and 1302 or suitable substitutes).

#### Literature

Six hours of English or foreign language literature at the sophomore level or above.

#### History

1311, 1312.

#### Foreign Language

1441, 1442, 2313, and 2314 or equivalent.

#### Political Science

2311, 2312.

#### Mathematics

Six hours (level of college algebra or higher; 1302 and 1308 are recommended).

#### Science

11 hours (eight hours in a single lab science).

#### Fine Arts and Philosophy

Three hours from architecture, art, dance, music, philosophy, or theatre arts.

#### Social/Cultural Studies

Nine hours of designated courses from archaeology, classical studies, communication, economics, history, humanities, linguistics, political science, social or cultural anthropology, social/political/cultural geography, social psychology, sociology or women's studies.

#### Electives

Sufficient to give the total number of hours required for the degree.

#### Major

36 hours to include: 2311 and 2312; three hours in methodology (as listed under the Requirements for a Bachelor of Arts Degree in Political Science); three hours in political thought (as listed under the Requirements for a Bachelor of Arts Degree in Political Science); 15 hours in policy/public administration (3303 or 3312; three or six hours from 3305, 3307, 4303 and 4330; three or six hours from 4304, 4351, 4353, and 4354; and 4393); nine additional advanced hours from three separate areas (as listed under the Requirements for a Bachelor of Arts Degree in Political Science) other than the public administration and policy studies area.

#### Minor

18 hours, at least six of which must be 3000/4000 level.

#### Total

127 hours, at least 36 of which must be 3000/4000 level, plus exercise and sport activities (EXSA) or ROTC or marching band as required.



## Requirements for a Bachelor of Arts Degree in Political Science

### (International Studies Option)

#### English

Six hours (1301 and 1302 or suitable substitutes).

#### Literature

Six hours of English or foreign language literature at the sophomore level or above.

#### History

1311, 1312.

#### Foreign Language

1441, 1442, 2313, and 2314 or equivalent.

#### Political Science

2311, 2312.

#### Mathematics

Six hours (level of college algebra or higher; 1302 and 1308 are recommended).

#### Science

11 hours (eight hours in a single lab science).

#### Fine Arts and Philosophy

Three hours from architecture, art, dance, music, philosophy, or theatre arts.

#### Social/Cultural Studies

Nine hours of designated courses from archaeology, classical studies, communication, economics, history, humanities, linguistics, political science, social or cultural anthropology, social/political/cultural geography, social psychology, sociology or women's studies.

#### Electives

Sufficient to give the total number of hours required for the degree.

#### Major

36 hours to include 2311 and 2312; three hours in methodology (as listed under the Requirements for a Bachelor of Arts Degree in Political Science); three hours in political thought (as listed under the Requirements for a Bachelor of Arts Degree in Political Science); 18 hours in core courses: three hours in introductory comparative politics (3304 or 4313); three hours in introductory international politics (4311 or 4360); six additional hours in comparative politics from: (3304, 3314, 3316, 3317, 3318, 4313, 4315, 4361, 4362, 4363, 4387); six additional hours in international politics from: (3317, 3329, 4310, 4311, 4312, 4336, 4355, 4360, 4365); six hours from two separate areas (I, IV, V, or political thought as listed under the Requirements for a Bachelor of Arts Degree in Political Science).

#### Minor

18 hours, at least six of which must be 3000/4000 level.

#### Total

127 hours, at least 36 of which must be 3000/4000 level, plus exercise and sport activities (EXSA) or ROTC or marching band as required.

## Teacher Certification

Students interested in Texas Teacher Certification should consult the Center for Professional Teacher Education section of this catalog for the most recent changes in requirements regarding admission to Teacher Education, completion of University programs in preparation for certification, and eligibility for certification after graduation.

## Department of Political Science Faculty

#### Chair

Professor Story

#### Professors

Hagard, Hekman, Marshall

#### Associate Professors

Cichock, Clark, Gutierrez, Ignagni, Knerr, Moon, Saxe, Simowitz

#### Assistant Professors

Little, Moore, Schmidt, *Deen, F-M*

## Political Science (POLS)

Prefix and number in parentheses following the U.T. Arlington course number and title is the Common Course Number designation.

**2311. GOVERNMENT OF THE UNITED STATES (3-0) 3 hours credit (GOVT 2305).** The constitution and government of the United States. The organization, procedures, and duties of the branches of the government, together with their accomplishments and defects.

**2312. STATE AND LOCAL GOVERNMENT (3-0) 3 hours credit (GOVT 2306).** The principles and organization of American state, county, and municipal government, together with current problems and the constitution and government of Texas.

**PREREQUISITES FOR ADVANCED COURSES:** POLS 2311 and 2312 or equivalent are prerequisites for all advanced courses in political science (3000/4000 level). Exceptions must be approved by the Department of Political Science. There is no distinction between 3000/4000 level courses in political science.

The department strongly recommends that majors complete all core requirements before enrolling in upper-level political science courses.

**3303. INTRODUCTION TO PUBLIC ADMINISTRATION (3-0) 3 hours credit.** The scope and development of public administrative organizations; both the traditional and behavioral approaches to the treatment of administrative principles, decision making, and organizational environment.

**3304. INTRODUCTION TO COMPARATIVE POLITICS (3-0) 3 hours credit.** Cross-national and cross-cultural comparisons of political systems. Institutional structure, political process, dynamics of change, and ideology.

**3305. GOVERNMENT IN URBAN AMERICA (3-0) 3 hours credit.** Governmental problems associated with the growth of urban areas and proposed solutions for Texas and elsewhere.

**3306. LEGISLATIVE ORGANIZATION AND PROCEDURE (3-0) 3 hours credit.** Internal and external influences on the U.S. Congress: rules, norms, committees, seniority, political parties, presidents, media, constituents and interest groups.

**3307. COMPARATIVE STATE AND LOCAL POLITICS (3-0) 3 hours credit.** Comparison of state and local political systems. State and local political components, philosophies, leaders and issues. Prerequisites: POLS 2311 and 2312.

**3310. RESEARCH METHODS AND DESIGNS IN POLITICAL SCIENCE (3-0) 3 hours credit.** Quantitative methods and research designs used in the study of politics. Previously POLS 4329; credit will not be given for both. \$15 computer fee.

**3311. PUBLIC OPINION (3-0) 3 hours credit.** Measurement of attitudes, public opinion and ideology, the learning and influencing of public

opinion, and expression of public opinion in elections and mass political movements. The logic and practice of survey research.

**3312. INTRODUCTION TO PUBLIC POLICY ANALYSIS (3-0) 3 hours credit.** Concepts of public policy and problems of policy formation, measurement and prediction of outcomes.

**3313. MODERN CRITICS OF SOCIETY AND POLITICS (3-0) 3 hours credit.** Designed for both political science and other majors. Focus on writers like Banfield, Galbraith, Marcuse, Reich, Revel, Skinner, and Toffler.

**3314. POLITICAL SYSTEMS OF EASTERN AND CENTRAL EUROPE (3-0) 3 hours credit.** The political institutions and processes of the former communist systems of Eastern Europe and the Baltic, as well as selected Central European states. Also listed as RUSS 3314; credit will be given in only one department.

**3316. LATIN AMERICAN POLITICS (3-0) 3 hours credit.** The political development of Latin American nations and various explanations for trends and differences in Latin American politics. Strategies of development; Latin America's relationship with the United States; and contemporary events in Latin America. \$10 computer fee.

**3317. MEXICAN POLITICS AND U.S.-MEXICO RELATIONS (3-0) 3 hours credit.** Current economic and political systems of Mexico and relevant issues in U.S.-Mexico relations. Trade, immigration, economic dependency, energy, contraband, and other topics. \$10 computer fee.

**3318. POLITICAL SYSTEMS OF EAST ASIA (3-0) 3 hours credit.** The political institutions and dynamics in the political systems of East Asia including China and Japan.

**3327. AMERICAN POLITICAL PARTIES (3-0) 3 hours credit.** The development and characteristics of the American political party system, including systematic goals, formal organizations, membership recruitment, ideological and issue orientations, electoral and participatory functions, and linkages in the political system.

**3329. THE POLITICS OF INTERNATIONAL CONFLICT (3-0) 3 hours credit.** The impact of factors such as national security and political ideologies on international conflict and the role of international organizations in maintaining world peace.

**3330. JUDICIAL BEHAVIOR AND THE JUDICIAL PROCESS (3-0) 3 hours credit.** Decision making, role perception, recruitment and socialization of judges, and the relationship between attitudes and values of justices and their decisions. Role orientations of lawyers, litigants, and interest groups and their relationship to the judicial process.

**3331. CONTEMPORARY ISSUES IN CIVIL LIBERTIES (3-0) 3 hours credit.** The status and function of civil liberties in modern America emphasizing problem areas of Equal Employment Opportunity, invasion of privacy by government, obscenity and pornography, and corporate and industrial assaults on civil liberties.

**3333. JURISPRUDENCE (3-0) 3 hours credit.** An empirical and normative examination of the nature of law in modern legal systems, particularly in the U.S. Other topics: the origins of American legal concepts as they have evolved from earlier legal systems in the Western world and a comparative treatment of legal systems in the world today. Especially recommended for pre-law majors.

**3335. CRIMINAL LAW (3-0) 3 hours credit.** The substantive legal provisions of criminal justice; major crimes prohibited by our legal system with stress upon social values. Texas and Anglo-American criminal laws treated and contrasted.

**3390. HONORS COLLOQUIUM (3-0) 3 hours credit.** An interdisciplinary course designed to meet the needs of advanced undergraduates in the Honors Program. Prerequisite: participation in the Honors Program and/or permission of the instructor.

**4300. POLITICS IN FILM (3-0) 3 hours credit.** Use of film and video in the presentation of political ideas, opinions, and facts. Techniques,

subject matter, and alternative forms of presentation. This course does not satisfy area distribution requirement.

**4303. PUBLIC ADMINISTRATION AND THE POLITICAL PROCESS (3-0) 3 hours credit.** The relationships of public administration at all levels with democratic institutions, including its interactions in the formulation and execution of public policies with the chief executive, the legislative and judicial branches, political parties, clientele groups, and the public at large.

**4304. PUBLIC PERSONNEL ADMINISTRATION (3-0) 3 hours credit.** The development of personnel systems in the United States, particularly the merit system. Analysis will focus on affirmative action, public sector labor relations, pay equity, position classification, and employee rights and responsibilities.

**4310. THE MIDDLE EAST REGIONAL SUBSYSTEM (3-0) 3 hours credit.** Trends and patterns in the Middle East. The decision-making processes and foreign policies of the Middle Eastern nations and the linkage between foreign and domestic variables.

**4311. POLITICAL ECONOMY IN THE THIRD WORLD (3-0) 3 hours credit.** The international political economy and the interactions between the West, the East, and the Third World. Issues of dependency, conflict resolution, and global politics.

**4312. THE AFRICAN REGIONAL SUBSYSTEM (3-0) 3 hours credit.** Trends and patterns in Africa. The decision-making processes and foreign policies of the African nations and the linkages between foreign and domestic variables.

**4313. POLITICAL DEVELOPMENT (3-0) 3 hours credit.** The concept of political development, political values, structures, issues, and patterns of political processes in the pre-industrial, industrial, and post-industrial political communities.

**4315. CONSTITUTIONAL AND DEMOCRATIC POLITICAL SYSTEMS (3-0) 3 hours credit.** Ideological foundations and institutional characteristics of constitutional and democratic political systems, with emphasis on Western Europe.

**4317. ETHNIC GROUP POLITICS IN THE UNITED STATES (3-0) 3 hours credit.** The influence of selected major ethnic groups with special attention given to organizational development, participation in political parties, leadership, ideology, immigration policy, current issues, and relations with the dominant culture and other ethnic groups.

**4318. POLITICS OF AFRICAN AMERICANS (3-0) 3 hours credit.** The influence of African-American politics on United States government and policies with special attention given to organizational development, participation in political parties, leadership, ideology, the Civil Rights movement, current issues, and relations with other ethnic groups.

**4319. POLITICS OF MEXICAN AMERICANS (3-0) 3 hours credit.** The influence of Mexican-American politics on United States government and policies with special attention given to organizational development, participation in political parties, leadership, ideology, the Chicano Movement, current issues, and relations with other ethnic groups.

**4320. GROUP POLITICS AND PARTICIPATION (3-0) 3 hours credit.** The importance of groups in the political process. Attitudes, behavior, organization and influence of groups such as women, gun owners, and energy companies.

**4322. ISSUES IN POLITICAL THEORY (3-0) 3 hours credit.** Each time this course is offered it will focus on one particular issue central to the study of political theory—for example, authority, justice, citizenship, methodology of the social sciences. May be repeated for credit when content varies.

**4323. FEMINIST POLITICAL THOUGHT (3-0) 3 hours credit.** Issues raised by the feminist critique of political theory; the exclusion of women from the political sphere until the 20th Century; Marxist, liberal, and radical feminist political thought; alternative feminist concep-

tions of the political. Also listed as WOMS 4323; credit will be given in only one department.

**4324. ELECTORAL BEHAVIOR (3-0) 3 hours credit.** Major theories of candidate strategy and voter choice, including rational behavior and empirical democratic theory. Introduction to voting behavior analysis in contemporary elections.

**4325. AMERICAN POLITICAL THOUGHT (3-0) 3 hours credit.** American political ideas from the colonial period to the present, as reflected in institutions and the work of political writers and statesmen.

**4326. ELECTION STRATEGY AND CAMPAIGN MANAGEMENT (3-0) 3 hours credit.** Strategies relating to elections and various aspects of managing campaigns, including the techniques of demographic survey, voting behavior analysis, opinion survey, issue research, and candidate research.

**4327. POLITICAL IDEAS, ANCIENT AND MEDIEVAL (3-0) 3 hours credit.** Principal theorists and schools of political thought prior to 1500, with emphasis upon those making significant contributions to the political heritage of Western Europe.

**4328. POLITICAL IDEAS SINCE 1500 (3-0) 3 hours credit.** The development of political thought from Machiavelli to the present. The Reformation, Age of Reason, 19th Century idealists, and modern "isms."

**4330. THE U.S. PRESIDENCY (3-0) 3 hours credit.** The presidency, its Constitutional basis, structure, powers, functions, and responsibilities in policy-making. The interaction between the individual and the office.

**4331. THE UNITED STATES CONSTITUTION: STRUCTURE (3-0) 3 hours credit.** The structure of government in the United States—the principles of separation of powers, the federal system, and the relation of the judicial process to these topics.

**4332. THE UNITED STATES CONSTITUTION: FUNCTIONS (3-0) 3 hours credit.** The judicial process in relation to the powers and functions of government—national and state—and the safeguard of fundamental rights of citizens.

**4336. CONTEMPORARY UNITED STATES FOREIGN POLICY (3-0) 3 hours credit.** The judicial process in United States foreign policy. Historical background and possible solution for current foreign political problems.

**4351. ENERGY POLICY AND ADMINISTRATION (3-0) 3 hours credit.** Basic issues underlying the politics, economics, and administration of energy policy within the United States. Emerging energy sources, such as solar and geothermal. Prerequisites: POLS 2311 and 2312.

**4353. PUBLIC BUDGETING AND TAXATION (3-0) 3 hours credit.** The concepts, processes, and policy impacts of taxation and public budgeting. Individual, group, and institutional roles in taxes and budgeting are emphasized. Introduction to current research techniques in political economy.

**4354. THE POLITICS OF REFORM POLICY (3-0) 3 hours credit.** Current and past efforts to change the way American government functions. Sources of reform, consequences of reform, and case studies of current reforms.

**4355. INTERNATIONAL POLITICS (3-0) 3 hours credit.** The background, principles, practices, risks, and problems of international relations and politics in the world composed of nation-states; international conflicts, their bases, and mechanisms for their solution.

**4360. THEORIES OF THE INTERNATIONAL SYSTEM (3-0) 3 hours credit.** Major theories and approaches to the international system. Traditionalist, behavioralist, and post-behavioralist theories rather than institutional, legal, or topical considerations.

**4361. THE POLITICAL ENVIRONMENT OF RUSSIA AND THE SUCCESSOR STATES (3-0) 3 hours credit.** The domestic political systems of Russia and the other former Soviet republics. The communist state in retrospect. Development of political actors, institutions, and parties. Also listed as RUSS 4361; credit will be given in only one department.

**4362. RUSSIA AND THE SUCCESSOR STATES TODAY (3-0) 3 hours credit.** The metamorphosis of the Communist party and the current political philosophies of the post-Soviet states. Examination of attitudes and self-perceptions of citizens of these states in the post-Soviet period. Also listed as HIST and RUSS 4362; credit will be given in only one department.

**4363. SPECIAL TOPICS IN RUSSIAN AND EURO-ASIAN STUDIES (3-0) 3 hours credit.** Russia and the successor states of the former Soviet Union examined in relation to selected issues concerning politics, social change, and historical events. Also listed as RUSS and HIST 4363; credit will be given in only one department. Prerequisite: POLS or RUSS 4361, or POLS, RUSS, or HIST 4362.

**4365. FOREIGN POLICIES OF RUSSIA AND THE SUCCESSOR STATES (3-0) 3 hours credit.** The foreign policies of Russia and other former Soviet republics. Development of their policy-making structures and the major issues confronting them. Emphasis on Russia and the superpower relationship, European security and cooperation, relations with developing states, and the interactions of the former Soviet republics. Also listed as RUSS 4365; credit will be given in only one department.

**4387. COMMUNISM AND POLITICAL DEVELOPMENT (3-0) 3 hours credit.** Marxism and the place of Marxism-Leninism in the post-Cold War world. Special emphasis on China, national liberation movements in the developing world, and post-Soviet Marxism in the European context. Also listed as RUSS and HIST 4387; credit will be given in only one department.

**4392. SPECIAL TOPICS IN POLITICAL SCIENCE (3-0) 3 hours credit.** May be repeated for credit as topics change.

**4393. POLITICAL SCIENCE INTERNSHIP (3-0) 3 hours credit.** Supervised employment in a government or government-related organization with the student performing duties related to the academic curricula of political science. Students are required to submit a term paper, case study, or an approved academic project related to the work performed. A maximum of six semester hours of credit in Political Science Internship may be used to satisfy a political science elective requirement for graduation. Graded P/F.

**4394. HONORS THESIS/SENIOR PROJECT (3-0) 3 hours credit.** Required of all students in the University Honors Program. During the senior year, the student must complete a thesis or a project under the direction of a faculty member in the major department.

**4395. CONFERENCE COURSE—READINGS IN POLITICAL SCIENCE (3-0) 3 hours credit.** Designed for the advanced undergraduate student who is capable of independent study. An in-depth examination of one area of political science not necessarily covered in regular coursework. May be repeated for credit when the subject matter varies, but only with permission of the chair of the department. May be taken only once in any one area. Prerequisite: written consent of the instructor. Graded P/F.

# The Department of Sociology and Anthropology

430 University Hall • Box 19599 • 817-272-2661

The principal common educational objective in the Department of Sociology and Anthropology is to develop a systematic understanding of social behavior, human culture, and social institutions. Knowledge of human social and cultural relationships is vital to a meaningful perspective on and understanding of the society in which we live. Contemporary societies are characterized by diversity, rapid change, complex organization, and extensive specialization. Programs of study in the Department of Sociology and Anthropology pursue the challenge of (1) creating and disseminating general knowledge that will render this world more understandable and (2) providing an educational base for more effective and humane planning and social intervention in society. Each of the programs of study relates to this general objective in a somewhat different manner. Students are encouraged to visit with the faculty and learn more about the programs offered in the department.

## Sociology

A program of study in sociology has three principal objectives: (1) to foster the ability to analyze human relationships from a sociological perspective, (2) to develop the theoretical, methodological, and statistical skills necessary for asking and answering sociological questions, and (3) to enhance individuals' awareness of the relationship between events in their own lives and the structure of the society in which they live. The program is designed to prepare students both to pursue graduate work in sociology and to seek a career in a variety of private and public settings where knowledge of human relationships and/or social research skills is particularly useful. Students seeking certification to teach in the public schools can use sociology as a teaching area.

## Anthropology

A program of study in anthropology has the objective of grounding students in three main subfields of anthropology: cultural anthropology (the comparative analysis of human lifeways around the world), archaeology (the systematic analysis of the material remains of past cultures), and physical anthropology (the study of humans as a biological species). The program prepares students both for graduate work in anthropology and for many careers in which anthropological perspectives and training are useful.

## Requirements for a Bachelor of Arts Degree in Sociology

### English

Six hours of composition.

### Literature

Three hours of English or foreign language literature or other approved substitute.

### Liberal Arts Elective

Three hours above the freshman level of literature, or social and cultural studies designated as taught in the College of Liberal Arts, or

fine arts or philosophy, or technical writing.

### Foreign Language

1441, 1442, and six hours at the 2000 level or above.

### Political Science

2311 and 2312.

### History

1311 and 1312.

### Mathematics

Six hours (level of college algebra or higher).

### Science

11 hours—eight hours in a single lab science (biology, chemistry, geology, or physics) and three hours in science or social science.

### Fine Arts and Philosophy

Three hours from architecture, art, dance, music, philosophy, or theatre arts.

### Social/Cultural Studies

Three hours of designated courses in archaeology, classical studies, communication, economics, history, humanities, linguistics, political science, social or cultural anthropology, social/political/cultural geography, social psychology, sociology or women's studies.

### Electives

Sufficient to give the total number of hours required for the degree.

### Major

39 hours including 1311, 3305, 3352 and 4311; and one course (three hours) in anthropology.

### Total

125 hours, at least 36 of which must be 3000/4000 level, plus exercise and sport activities (EXSA) or ROTC or marching band as required.

### Optional Minor

Students majoring in sociology may pursue a minor in another field of study by filing a statement of intent with the Program Director. Requires 18 hours, of which at least six must be at 3000/4000 level.

## Optional Specializations in Sociology

Students majoring in sociology may pursue a general course of study in the discipline or declare a specific area of concentration by filing a statement of intent with the Sociology Department. The purpose of specialization is to provide the student with a focused, systematic, and in-depth educational experience in the context of a broad liberal arts education. Each area requires a minimum of 12 semester hours.

The areas of specialization are:

- **Deviance and Social Control:** 3312, 3313, 3317, 3320, 3321, 3357, 4315.
- **Family and Gender Studies:** 3322, 3328, 3331, 3334, 3356, 4303, ANTH 3338.
- **Research and Evaluation:** 3305, 3352, 3354, 3355, 4306, 4362.
- **Social Psychology:** 3317, 3319, 3320, 3321, 3323, 3326, 4309, 4331, 4332, ANTH 3331.
- **Social Diversity:** 3336, 3340, 3343, 3345, 3350, 3351, 3353, 4302, 4310, 4318.

## Computer Literacy

Computer literacy is strongly advised for all students majoring in sociology. Those not already familiar with word processing and statistical analyses using computers are encouraged to enroll in SOCI 3355 or SOCI 4362 or an equivalent course approved by the student's faculty advisor.

## Requirement for a Minor in Sociology

A minor in sociology requires 18 semester hours, at least six of which must be 3000/4000 level.

## Teacher Certification

Students interested in Texas Teacher Certification should consult the Center for Professional Teacher Education section of this catalog for the most recent changes in requirements regarding admission to Teacher Education, completion of University programs in preparation for certification, and eligibility for certification after graduation.

## Requirements for a Bachelor of Arts Degree in Anthropology

### English

Six hours of composition.

### Literature

Three hours of English or foreign language literature or other approved substitute.

### Liberal Arts Elective

Three hours above the freshman level of literature, or social and cultural studies designated as taught in the College of Liberal Arts, or fine arts or philosophy, or technical writing.

### Foreign Language

1441, 1442, and six hours at the 2000 level or above.

### Political Science

2311, 2312.

### History

1311, 1312.

### Mathematics

Six hours (level of college algebra or higher).

### Science

11 hours—eight hours in a single lab science (biology, chemistry, geology, or physics) and three hours in science or social science.

### Linguistics

Three hours.

### Fine Arts and Philosophy

Three hours from architecture, art, dance, music, philosophy, or theatre arts.

### Social/Cultural Studies

Three hours of designated courses in archaeology, classical studies, communication, economics, history, humanities, linguistics, political science, social or cultural anthropology, social/political/cultural geography, social psychology, sociology or women's studies.

### Electives

Sufficient to give the total number of hours required for the degree.

### Major

36 hours, including 2307, 2322, and 2339, and three hours in sociology.

### Minor

18 hours, of which six must be 3000/4000 level.

### Total

125 hours, at least 36 of which must be 3000/4000 level, plus exercise and sport activities (EXSA) or ROTC or marching band as required.

## Requirements for a Minor in Anthropology

Eighteen hours of anthropology, six of which must be advanced hours.

## Department of Sociology and Anthropology Faculty

### Chair

Professor Harrold

### Professors

Agger, Bastien, Eve, Shelton, Weed

### Associate Professors

Almore, Anderson, Dunn, Hanson, Petruso, Rouse, Smith, Stacey, Young

### Assistant Professors

Reed-Danahay, Waller

## Sociology (SOCI)

Prefix and number in parentheses following the U.T. Arlington course number and title is the Common Course Number designation.

**1311. INTRODUCTION TO SOCIOLOGY (3-0) 3 hours credit (SOCI 1301).** A scientific approach to the analysis and explanation of culture, personality, and social organization. The social processes and mechanisms of interaction involved in the natural process of cultural development, dissemination, assimilation, and the institutions of the group.

**2312. TOPICS IN SOCIAL PROBLEMS (3-0) 3 hours credit (SOCI 1306).** Selected topics in contemporary social issues. May be repeated once for credit with departmental permission. Formerly listed as SOCI 1312.

**3305. INTRODUCTION TO SOCIAL RESEARCH (2-3) 3 hours credit.** Required of all sociology majors. Methods of setting up a research project will be covered, including the collection and analysis of data. Prerequisite: junior standing or permission of the instructor.

**3312. JUVENILE DELINQUENCY (3-0) 3 hours credit.** The delinquent as a person and delinquency as a social problem, theories of delinquency, and methods of correctional treatment and preventive programs. Prerequisite: junior standing or permission of the instructor.

**3313. CRIMINOLOGY (3-0) 3 hours credit.** Crime-related social issues. Defining and measuring crime, surveying major theoretical explanations of criminal behavior, and society's formal responses to crime and criminals. Prerequisite: junior standing or permission of the instructor.

**3317. INDIVIDUAL AND SOCIETY (3-0) 3 hours credit.** How society influences individual thought, feeling, and behavior. Includes interpersonal perception, attitudes, norms, roles, conformity, and such social issues as aggression, helping behavior, prejudice, and interpersonal attraction. Prerequisite: junior standing or permission of the instructor.

**3319. SMALL GROUPS (3-0) 3 hours credit.** The process and structures of small-scale interaction systems, including an analysis of the process of leadership, the exercise of influence, the effect of groups on individuals and of individuals on groups, the relation and function of the small group as a part of a larger whole, and the process of group formation, development, and disintegration. Prerequisite: junior standing or permission of the instructor.

**3320. DEVIANCE: SOCIAL AND PERSONAL (3-0) 3 hours credit.** Theoretical perspectives on societal definitions of behavior as deviant or disorganized. Selected studies, representative of current problems, examined critically in terms of the structural-cultural conditions of contemporary society. Prerequisite: junior standing or permission of the instructor.

**3321. SOCIALIZATION AND SOCIAL CONTROL (3-0) 3 hours credit.** The relationship between social structure and the individual. The influence of social factors on cognitive development, personality formation, and the behavior of individuals throughout the life-cycle. The effect of socialization on conformity and deviance. Prerequisite: junior standing or permission of the instructor.

**3322. FAMILY VIOLENCE (3-0) 3 hours credit.** Examines domestic and intimate violence in the context of sociological/anthropological theories and research. Incidence, causes, and social responses to family violence are reviewed, as are cross-cultural aspects of sex roles and domestic violence. Prerequisite: junior standing or permission of the instructor.

**3323. RIOTS, FADS, CULTS, AND SOCIAL MOVEMENTS (3-0) 3 hours credit.** The social origins, leadership, ideology, and organizational patterns of collective behavior and social movements with attention to their role in effecting social change.

**3326. SOCIOLOGY OF LANGUAGE (3-0) 3 hours credit.** Language behavior as a social variable. The role of language in international relations and cross-cultural contact, as well as the social position of language minorities including the deaf.

**3327. INTERCULTURAL INTERACTION (3-0) 3 hours credit.** Patterns and variations in interactions involving people from different cultures and subcultures. Intercultural interaction, both within multicultural societies and between persons from different societies.

**3328. MARITAL AND SEXUAL LIFESTYLES (3-0) 3 hours credit.** Contemporary American lifestyles selected from: singles, traditional marriage, homosexuals, single-parent families, open marriage, non-marital sexuality, cohabitation, dual-career marriage, childless couples, egalitarian marriage, families in later life. Also listed as WOMS 3328; credit will not be given for both.

**3331. SOCIOLOGY OF THE FAMILY (3-0) 3 hours credit.** The family's role in American society and in other cultures past, present, and future. Family research methods, comparative family systems, child development/parenting, culture and personality, minority families, social class variation in families, work and family. Prerequisite: junior standing or permission of the instructor. Also listed as WOMS 3331; credit will not be given for both.

**3334. GENDER ROLES (3-0) 3 hours credit.** Theories of gender role socialization and change in female and male roles. Impact of biology, psychology, and socialization on gender role development.

How we learn gender in various social contexts including the family, education, and the peer group. Also listed as WOMS 3334; credit will not be given for both.

**3336. SOCIAL INEQUALITY (3-0) 3 hours credit.** Processes and criteria by which class, caste, status, and power develop and operate in a society.

**3340. SOCIOLOGY OF EDUCATION (3-0) 3 hours credit.** Social relations between the school and society, teachers and parents, teachers and school management, and other relevant relationships. Studying cooperation and conflict, values, complex organizational structure, and social change. Prerequisite: junior standing or permission of the instructor.

**3343. POVERTY AND HOMELESSNESS IN AMERICA (3-0) 3 hours credit.** Major substantive issues related to poverty and homelessness; understanding the structural causes and the stigma of poverty. Problems of the working poor and homeless; community responses to these problems.

**3345. AMERICA AT CENTURY'S END: PROBLEMS, PROSPECTS, AND DILEMMAS (3-0) 3 hours credit.** Issues confronting America in the late 20th Century based on contemporary perspectives in sociology. Gender relations, "cultural wars", inequality, and the U.S. as a global actor.

**3350. POWER AND BUREAUCRACY (3-0) 3 hours credit.** The development, structure, and operation of formal organizations in society, with emphasis on internal processes, the effects of technology, and variations in the institutional setting. Prerequisite: junior standing or permission of instructor.

**3351. SOCIOLOGY OF WORK (3-0) 3 hours credit.** The changing patterns of work in modern society. The impact of technology, changing characteristics of the work force, and developments in organizational and occupational structure are examined. Prerequisite: junior standing or permission of the instructor.

**3352. SOCIAL STATISTICS (2-2) 3 hours credit.** Descriptive statistics including measures of central tendency, measures of dispersion, and measures of association. Emphasis is on probability theory and testing hypotheses. Specific models include T-Test, chi-square, gamma, lambda, theta, analysis of variance and covariance, regression and correlation analysis. Prerequisite: junior standing or permission of instructor.

**3353. URBAN SOCIOLOGY (2-2) 3 hours credit.** A comparative examination of metropolitan and other urban communities. Origins of urbanization, urbanization in America, urban lifestyles, and the problems of urban areas.

**3354. POPULATION AND SOCIETY (2-2) 3 hours credit.** The factors and processes determining population size, composition, and distribution. The relationship of population to social organizations and human welfare, recent population trends, policies, and programs.

**3355. COMPUTER APPLICATIONS IN THE SOCIAL SCIENCES (3-0) 3 hours credit.** Use of mainframe and microcomputer systems with emphasis on social science applications. Techniques of statistical analysis, database creation and maintenance, word processing, presentation graphics, telecommunications, spreadsheet use. Prerequisite: SOCI 3352 or equivalent.

**3356. WOMEN, WORK AND SOCIAL CHANGE (3-0) 3 hours credit.** Women's work experiences, how these experiences are changing, and relationship between paid employment and non-wage household labor. Paid and unpaid work experiences are empirically examined in terms of a variety of theoretical perspectives. Also listed as WOMS 3356; credit will be granted only once.

**3357. LAW AND SOCIETY (3-0) 3 hours credit.** Law as a social institution. The processes of defining criminal conduct and the social functions of law and of legal processes and systems. Prerequisite: junior standing or permission of the instructor.

**3360. SCIENCE AND SOCIETY (3-0) 3 hours credit.** The influences of sociological forces on the development of scientific thought, investigations, and applications. Related economic and political influences, and the dynamics of reciprocal scientific and socio-cultural developments. Prerequisite: junior standing or permission of the instructor.

**3390. HONORS COLLOQUIUM (3-0) 3 hours credit.** An interdisciplinary course designed to meet the needs of advanced undergraduates in the Honors Program. Prerequisite: participation in the Honors Program and/or permission of instructor.

**4191, 4291, 4391. CONFERENCE COURSE (Variable credit from 1 to 3 semester hours as arranged).** Topics assigned on an individual basis covering personal research or study in the designated areas. Prerequisite: permission of the instructor.

**4303. WOMEN IN SOCIETY (3-0) 3 hours credit.** Women's status in contemporary American society, including the family, workplace, and politics. Women's status will also be examined in historical and crosscultural perspectives. Also listed as WOMS 4303; credit will not be given for both.

**4306. QUALITATIVE RESEARCH METHODS (3-0) 3 hours credit.** Conceptual frameworks and techniques for planning, conducting, analyzing, reporting and evaluating qualitative research. Topics include interviewing, participant observation, coding, case studies and focus groups. Prerequisite: junior standing or permission of the instructor.

**4309. SOCIAL POLICY AND HEALTH CARE DELIVERY (3-0) 3 hours credit.** Factors influencing social policy in contemporary and future health care delivery. Topics examined include bioethics, managed care, patients' rights, comparative health systems, and the role of social processes in decision-making. Prerequisite: junior standing or permission of the instructor.

**4310. MINORITIES (3-0) 3 hours credit.** The role of racial and minority categories in the social order. The role, and the associated problems, of groups within the American culture and the impact of these persons on the total cultural milieu. Prerequisite: junior standing or permission of the instructor.

**4311. SOCIOLOGICAL THEORY (3-0) 3 hours credit.** The nature and function of sociological theory and the systematic organization of concepts and principles for the explanation of social phenomena as a guide for social research. Prerequisite: junior standing or permission of the instructor.

**4314. SOCIOLOGY OF AGING (3-0) 3 hours credit.** The social impact of extended life expectancy on individual and group interaction patterns, particularly in the areas of employment, retirement, health, family relations, housing, finances, and community participation. The major sociological theories of aging in light of current research. Prerequisite: junior standing or permission of the instructor.

**4315. VIOLENCE IN SOCIETY (3-0) 3 hours credit.** Violence as a group process directed toward social change. Historical perspectives, current events, preventive and control techniques, public reaction, and individual behavior. Prerequisite: junior standing or permission of the instructor.

**4318. SOCIAL CHANGE AND CONFLICT (3-0) 3 hours credit.** The sources of conflict and social change as an outgrowth of in-

equality. Movements arising out of such conflicts which attempt to bring about fundamental social change. Prerequisite: junior standing or permission of the instructor.

**4320. MEDICAL SOCIOLOGY (3-0) 3 hours credit.** The relationships between different societies and social groups and their incidence of disease and mortality. Also examines culture-related causes of disease and treatment approaches, medicine as an occupation, healer-patient relationships, and the modern hospital as a bureaucratic organization.

**4331. PERSONALITY AND SOCIAL CONTEXT (3-0) 3 hours credit.** The development of personality and behavior in context of the reciprocal influence and expression of selected aspects of social structure, social process, and individual characteristics. Prerequisite: junior standing or permission of the instructor.

**4332. SOCIOLOGY OF MENTAL AND BEHAVIORAL DISORDERS (3-0) 3 hours credit.** Mental and behavioral disorders in the human environment, including social reactions to, and implications of, these disorders and the interaction of personal and social factors in them. Prerequisite: junior standing or permission of the instructor.

**4362. RESEARCH PRACTICUM (2-2) 3 hours credit.** Provides students an opportunity to gain practical experience in applying acquired methodological and statistical analyses skills through in-depth participation in a selected research project. Prerequisite: SOCI 3305 and SOCI 3352 or permission of the instructor.

**4365. TOPICS IN SOCIOLOGY (3-0) 3 hours credit.** Selected topics in social issues, policy, processes and/or structure. Prerequisite: junior standing or permission of the instructor. May be repeated for credit with departmental permission.

**4394. HONORS THESIS/SENIOR PROJECT (3-0) 3 hours credit.** Required of all students in the University Honors Program. During the senior year, the student must complete a thesis or project of equivalent difficulty under the direction of a faculty member in the major department.

## Anthropology (ANTH)

Prefix and number in parentheses following the U.T. Arlington course number and title is the Common Course Number designation.

**1306. INTRODUCTION TO ANTHROPOLOGY (3-0) 3 hours credit (ANTH 2346).** The major fields of anthropology: ethnology, archaeology, physical anthropology, and linguistics.

**2307. BIOLOGICAL ANTHROPOLOGY (2-3) 3 hours credit.** Human variation and human evolution. Genetics, living and fossil nonhuman primates, the human skeleton, the fossil record of human evolution, modern human variation and biological adaptation. Formerly ANTH 3307; credit will not be granted for both ANTH 2307 and 3307. \$5 lab fee.

**2322. CULTURAL ANTHROPOLOGY (3-0) 3 hours credit (ANTH 2351).** The comparative study of human cultural behavior, including subsistence, economy, social and political organization, and religion. Formerly ANTH 3322; credit will not be granted for both ANTH 2322 and 3322.

**2339. PRINCIPLES OF ARCHAEOLOGY (3-0) 3 hours credit.** The methods and theories of prehistoric archaeology. The techniques and approaches employed in recovering, dating, and interpreting prehistoric cultural materials. Formerly ANTH 3339; credit will not be granted for both ANTH 2339 and 3339.

**2350. CULTURAL DIVERSITY AND IDENTITY (3-0) 3 hours credit.** The ways identity is constructed in contemporary societies in an increasingly complex and multi-cultural world. Ethnic, racial, gender, and class identities. How and when identity is asserted and assigned, and how it can both draw boundaries and forge ties between peoples.

**3309. HUMAN EVOLUTION (2-3) 3 hours credit.** Paleoanthropology; an exploration of the fossil evidence for the evolution of our taxonomic family, the Hominidae, from over four million years ago to historic times. Prerequisite: ANTH 1306 or 2307 or permission of the instructor. \$10 lab fee.

**3311. HUMAN ADAPTATION AND THE CONCEPT OF RACE (3-0) 3 hours credit.** The study of modern human biological variation from an anthropological perspective emphasizing adaptation combined with an examination of the concept of race. Prerequisite: ANTH 1306 or 2307 and junior standing or permission of instructor. Formerly listed as 4308. Credit cannot be given for both 3311 and 4308.

**3313. PRIMATE EVOLUTION AND BEHAVIOR (3-0) 3 hours credit.** An overview of the primate order. Primate evolution, ecology, adaptation, and behavior. Prerequisite: ANTH 1306 or 2307 or permission of the instructor.

**3323. FOLK AND PEASANT SOCIETIES (3-0) 3 hours credit.** The development and patterning of folk and peasant societies in various parts of the world. Archaeological and historical records as well as contemporary ethnographic studies. May be repeated for credit whenever the content varies. Prerequisite: ANTH 1306 or 2322 or permission of instructor. Formerly listed as ANTH 4323. Credit cannot be given for both ANTH 3323 and 4323.

**3325. ETHNOGRAPHY OF SOUTH AMERICA (3-0) 3 hours credit.** The indigenous groups of South America, with emphasis on the Aymara and Quechua of the Andes. Topics include culture change, environmental destruction, and preservation of cultural heritage. Prerequisite: ANTH 1306 or 2322 or permission of the instructor.

**3328. CIVILIZATIONS OF SOUTH AMERICA (3-0) 3 hours credit.** Complex agrarian civilizations in South America, concentrating on political, social, and cultural developments of the Chavin, Nazca, Moche, Tiahuanaco, Wari-Tiahuanaco, Inca, and Conquest periods. Prerequisite: ANTH 1306 or 2322 or permission of instructor. Formerly listed as ANTH 4328. Credit cannot be given for both ANTH 3328 and 4328.

**3331. CULTURE AND PERSONALITY (3-0) 3 hours credit.** The interplay of culture and personality in various Western and non-Western societies. The relationship of specific practices to the development of personality and the psychological effects of colonization, modernization, and economic development of traditional societies. Prerequisite: ANTH 1306 or 2322 or permission of instructor.

**3333. NORTH AMERICAN INDIANS (3-0) 3 hours credit.** North American Indian cultures and their development both before and after European contact. Prerequisite: ANTH 1306 or 2322 or permission of instructor.

**3336. ANTHROPOLOGY OF RELIGION (3-0) 3 hours of credit.** A cross-cultural study of magic and religion. Theories of the origin and function of magic and religion in pre-industrial societies. Prerequisite: ANTH 1306 or 2322 or permission of instructor.

**3338. COMPARATIVE KINSHIP AND FAMILY SYSTEMS (3-0) 3 hours credit.** Variation in kinship and family systems from cross-cultural and evolutionary perspectives. Structure, function, and dynamics of kinship and family systems as adaptations to diverse eco-

logical, social, and historical circumstances. Implications of this approach for understanding kinship and family in American society also addressed. Prerequisite: ANTH 1306 or 2322 or permission of instructor. Formerly listed as ANTH 4338. Credit cannot be given for both ANTH 3338 and 4338.

**3340. ETHNOGRAPHIC METHODS (3-0) 3 hours credit.** Research methods in cultural anthropology. Includes basic approaches to research design and hypothesis testing; qualitative and quantitative techniques in data collection; and approaches to ethnographic and ethnological studies. Prerequisite: ANTH 1306 or 2322 or permission of the instructor.

**3343. ECOLOGICAL AND CULTURAL GEOGRAPHY (3-0) 3 hours credit.** The world's geographical regions. The ecological adaptations which populations of the world, nomadic, or sedentary, have made to the circumstances of their geographical, topographical, economic, and climatic environments. Prerequisite: ANTH 1306 or 2322 or permission of instructor.

**3346. CULTURES OF THE AMERICAN SOUTHWEST (3-0) 3 hours credit.** The ethnography, prehistory, and culture contacts of Native Americans of Arizona, New Mexico, Southwestern Colorado, Southeastern Utah, and West Texas. Prerequisite: ANTH 1306 or 2322 or permission of the instructor.

**3350. NORTH AMERICAN ARCHAEOLOGY (3-0) 3 hours credit.** Prehistoric cultural adaptations in North America from human arrival to European contact. The question of when and how humans entered the New World; the domestication of native plants and animals; and the evolution of complex civilizations in Mexico and Central America. Prerequisite: ANTH 1306 or 2339 or permission of the instructor.

**3353. STONE AGE HUNTERS AND FARMERS (3-0) 3 hours credit.** Human adaptations and cultural evolution in the Old World from the earliest African sites over two million years ago to the domestication of plants and animals about ten thousand years ago. Prerequisite: ANTH 1306 or 2339 or permission of the instructor.

**3355. THE RISE OF COMPLEX SOCIETIES IN THE OLD WORLD (3-0) 3 hours credit.** Old World evidence for the beginnings of village agriculture and the rise, development, and collapse of selected early civilizations. Prerequisite: ANTH 1306 or 2339 or permission of the instructor.

**3358. TOPICS IN ARCHAEOLOGY (3-0) 3 hours credit.** Selected topics, to include examination of specific archaeological cultures of the Old World, archaeological theory, and archaeology and pseudoscience. Prerequisite: ANTH 1306 or 2339 or permission of instructor. May be repeated for credit with departmental permission. Formerly listed as ANTH 4358.

**3366. SEX, GENDER, AND CULTURE (3-0) 3 hours credit.** The ways gender and sexuality are culturally constructed. Readings include ethnographies, life histories, and fiction. Debates within anthropology and within specific cultures over maleness and femaleness. Also listed as WOMS 3366; credit will not be given for both.

**3369. MEDICAL ANTHROPOLOGY (3-0) 3 hours credit.** Medical systems studied cross-culturally to understand how environmental, biological, social, and cultural factors affect disease and health. The cultural dynamics of traditional practitioners and rituals within the health care system. Methods of articulating modern medicine with traditional medicine are discussed. Prerequisite: ANTH 1306 or 2322 or permission of the instructor.

**4191, 4291, 4391. CONFERENCE COURSE (Variable credit from 1 to 3 semester hours as arranged).** Topics assigned on an



individual basis covering personal research or study in the designated area. Prerequisite: permission of the instructor.

**4303. GEOARCHAEOLOGY (3-0) 3 hours credit.** Geological, geochemical and geophysical techniques employed in the study of archaeological sites and materials. Also listed as GEOL 4303; credit will be granted only once. Prerequisites: GEOL 1435 or ANTH 2339 or permission of the instructor.

**4305. METHODS IN BIOLOGICAL ANTHROPOLOGY (3-0) 3 hours credit.** Topical areas relevant to practicing biological anthropologists: osteology, skeletal maturation, growth and development; forensics, dating methods, primate behavior; physiology and nutrition; genetics and anthropometry. Involves off-campus trips. Prerequisite: ANTH 1306 or 2307 and junior standing or permission of the instructor. \$10 lab fee.

**4322. PROBLEMS IN ANTHROPOLOGY (3-0) 3 hours credit.** Intensive examination of an important problem in anthropological research selected by the instructor. May be repeated for credit whenever the topic varies. Prerequisite: ANTH 1306 or 2322 or permission of instructor.

**4330. CULTURE CHANGE (3-0) 3 hours credit.** Cultural change, internally generated, or resulting from culture contact. The processes of innovation, integration, diffusion, and acculturation. Prerequisite: ANTH 1306 or 2322 or permission of instructor.

**4342. TOPICS IN CULTURAL ANTHROPOLOGY (3-0) 3 hours credit.** Selected topics, to include anthropological theory, population and cultural ecology, evolution of political society, semiotics, and humanistic anthropology. Prerequisite: ANTH 1306 or 2322 or permission of instructor. May be repeated for credit with departmental permission.

**4348. POLITICAL ANTHROPOLOGY (3-0) 3 hours credit.** Relationships among power, identity, and culture in cross-cultural perspective. Traditional political systems, political symbols and rituals, gender and power, and the relationship between domination and resistance. How culture influences the ways in which men and women get power, use power, and resist power.

**4394. HONORS THESIS/SENIOR PROJECT (3-0) 3 hours credit.** Required of all students in the University Honors Program. During the senior year, the student must complete a thesis or project of equivalent difficulty under the direction of a faculty member in the major department.

**4398, 4698. SUMMER FIELD SCHOOL IN ANTHROPOLOGY (3 or 6 hours credit).** Offered only during the summer session. Experience in methods of field research in ethnography or archaeology. May be repeated for credit if research topic changes. \$100 equipment fee.

# Southwestern Studies

6th Floor, Central Library • Box 19497 • 817-272-3997

The Southwestern Studies minor fosters an interdisciplinary examination of an historically and culturally significant region—the southwestern United States and northern Mexico. The program offers opportunities for students to explore important topics in a regional context, including multicultural diversity, economic development, political and social change, art and literature, environment, cultural and historical geography, historical cartography, and architectural and urban history. The minor is supported by faculty from seven departments and is sponsored by the University's Center for Greater Southwestern Studies and the History of Cartography, which promotes the use of the U.T. Arlington Special Collections and the Minority Cultures Collection in the Central Library.

With the permission of their departmental advisor, students enroll in 18 hours selected primarily from the courses listed below. These hours must be distributed among at least three different departments.

Some of the following courses change content from offering to offering and might not be relevant to the minor during a particular year. In addition, special topics courses and/or courses taught outside the College of Liberal Arts may also be used to fulfill the Southwestern Studies minor with the permission of the Director of Southwestern Studies. For these reasons it is important that students consult with the Southwestern Studies faculty advisor before registering each semester.

## Southwestern Studies

**Director**  
Professor Francaviglia

### Anthropology

**ANTH 3333. NORTH AMERICAN INDIANS (3-0) 3 hours credit.** North American Indian cultures and their development both before and after European contact. Prerequisite: ANTH 1306 or 2322 or permission of instructor.

**ANTH 3346. CULTURES OF THE AMERICAN SOUTHWEST (3-0) 3 hours credit.** The ethnography, prehistory, and culture contacts of Native Americans of Arizona, New Mexico, Southwestern Colorado, Southeastern Utah, and West Texas. Prerequisite: ANTH 1306 or 2322 or permission of the instructor.

**ANTH 3350. NORTH AMERICAN ARCHAEOLOGY (3-0) 3 hours credit.** Prehistoric cultural adaptations in North America from human arrival to European contact. Topics include the question of when and how humans entered the New World; the domestication of native plants and animals; and the evolution of complex civilizations in Mexico and Central America. Prerequisite: ANTH 1306 or 2339 or permission of the instructor.

### Architecture

**ARCH 4308. HISTORY OF URBAN FORM (3-0) 3 hours credit.** The history of cities as physical form, influenced by political, economic, and social forces.

### Art History

**ART 3318. PRE-COLUMBIAN (3-0) 3 hours credit.** Architecture, sculpture, pottery, and other arts before the Spanish conquest in Mexico, Central America, and the Andean Region. \$5 special fee.

### English

**ENGL 3300. SPECIAL TOPICS IN LITERATURE (3-0) 3 hours credit.** May include topics on Utopian literature, the American short story, Southwestern American literature, and modern British fiction. May be repeated for credit when content changes.

**ENGL 3375. LITERARY WRITING (3-0) 3 hours credit.** The craft of narrative, poetic, and dramatic discourses. Attention to figurative language, characterization, dialogue, point of view, and poetic structure as well as other elements of the craft. Assignments may include the writing of character sketches, short stories, poetry in various forms, and one-act play.

**ENGL 4336. SPECIAL TOPICS IN AMERICAN LITERATURE (3-0) 3 hours credit.** Important themes, movements, regions, genres, or cross-cultural relationships. May be repeated for credit when course content changes.

### Geography

**GEOG 3371. IMAGES OF THE SOUTHWEST (3-0) 3 hours credit.** Examines the changing culture, architecture, and landscapes of the American Southwest as depicted in literature, art, film, television, and advertising, including the role of popular culture and commerce in creating and marketing a regional "Southwestern style." Also listed as HIST 3371; credit will be granted only once.

**GEOG 4301. HISTORICAL GEOGRAPHY AND CARTOGRAPHY (3-0) 3 hours credit.** An introduction to cultural and historical geography with an emphasis on cartography and the use of maps in research and teaching. Also listed as HIST 4301; credit will be granted only once.

**GEOG 4310. GEOGRAPHY OF THE GREATER SOUTHWEST (3-0) 3 hours credit.** The geography of the Greater Southwest to include Texas, New Mexico, Arizona, California, and Mexico. In particular, the course will examine how the natural environment, cultural environment, and space itself have affected the history and development of the Southwest.

**GEOG 4350. SPECIAL TOPICS IN MODERN GEOGRAPHY (3-0) 3 hours credit.** Selected topics in an identified area of geography. The course may be repeated for credit. Prerequisite: approval of instructor.

**GEOG 4391, 4291, 4191. UNDERGRADUATE CONFERENCE COURSE (Variable credit as arranged).** Topics assigned on an individual basis covering personal research or study in designated areas. Prerequisite: permission of the instructor.

## History

**HIST 3351. HISTORY OF THE DALLAS-FORT WORTH METROPLEX (3-0) 3 hours credit.** The growth and development of Dallas and Fort Worth from competitive 19th-Century trade centers in a rural setting to cooperative high-tech cities in a rapidly urbanizing metropolis. Political, economic, cultural, and spatial changes of this area are explored within a national urban context.

**HIST 3352. THE SOUTHWEST (3-0) 3 hours credit.** A multicultural history of the southwestern United States from pre-Columbian times to the present. Cultural adaptation to environment; cultural contact and conflict; political, social, and economic change.

**HIST 3357. THE EARLY FRONTIER (3-0) 3 hours credit.** The clash of empires and the patterns of exploration and settlement from the Atlantic Coast to the Mississippi River. Indian-white relations and the development of cultural, social, and political life on the early frontier.

**HIST 3358. THE LATER FRONTIER (3-0) 3 hours credit.** American settlement west of the Mississippi River through the close of the frontier. Exploration, the fur trade, mining, the cattle industry, Indian relations, and the role of the West in U.S. foreign affairs.

**HIST 3363. TEXAS TO 1850 (3-0) 3 hours credit.** Multicultural heritage of Texas from pre-Colombian period to early statehood. Cultural contact; social, economic, and political change. Completion of either HIST 3363 or 3364 is recommended for those planning to teach in Texas schools.

**HIST 3364. TEXAS SINCE 1845 (3-0) 3 hours credit.** The state of Texas since its annexation. Social development, political events, and the rise of industry and labor. Completion of either HIST 3363 or 3364 is recommended for those planning to teach history in Texas secondary schools.

**HIST 3367. AMERICAN INDIAN HISTORY (3-0) 3 hours credit.** Representative Indian tribes within the continental limits of the United States from pre-history to the contemporary period. Special topics: tribal cultures, the impact of European contact, and the colonial and United States Indian policies.

**HIST 3368. THE HISTORY OF THE MEXICAN AMERICAN (3-0) 3 hours credit.** The role of the Mexican American in the cultural and historical development of the United States with special emphasis on the Southwest.

**HIST 3370. THE IMAGE OF THE AMERICAN WEST (3-0) 3 hours credit.** The way the American West has been portrayed and the part the Western myth has played in a search for a national identity. First impressions of the new world; the West in colonial literature; fiction in the 19th and 20th Centuries; art, music and film; Western themes in politics; recent variations of the Western myth; the way such developments have reflected changes in popular values and a sense of national purpose.

**HIST 3371. IMAGES OF THE SOUTHWEST (3-0) 3 hours credit.** Examines the changing culture, architecture, and landscapes of the American Southwest as depicted in literature, art, film, television, and advertising, including the role of popular culture and commerce in creating and marketing a regional "Southwestern style." Also listed as GEOG 3371; credit will be granted only once.

**HIST 4365. HISTORY OF SPAIN AND PORTUGAL (3-0) 3 hours credit.** The cultural, political and economic history of the Iberian

peninsula from ancient times. The medieval epoch; the Catholic Church; the overseas empires of Spain and Portugal, and their artistic achievements. The monarchist ideal, as well as political ideologies such as liberalism, Marxism, anarchism, and fascism.

**HIST 4366. LATIN AMERICAN HISTORY: ORIGINS THROUGH INDEPENDENCE (3-0) 3 hours credit.** Latin America during the colonial period of Spanish and Portuguese rule. Pre-European civilizations; Iberian backgrounds; conquest of indigenous peoples; development of colonial institutions, economic patterns, social structures, and race relations; independence from Europe.

**HIST 4367. LATIN AMERICAN HISTORY: POST-INDEPENDENCE TO THE PRESENT (3-0) 3 hours credit.** The evolution of six Latin American nations during the 19th and 20th Centuries. The social, economic, and political development of three social groups in three regions: the Europeanized southern cone area of Argentina, Chile, and Uruguay; the indigenous culture of the Andean mountains in Peru; the African background of Brazil and Cuba.

**HIST 4368. HISTORY OF MEXICO (3-0) 3 hours credit.** Mexican history from its pre-Colonial Indian heritage to the current scene. A social and economic analysis of the major events in Mexican history with emphasis on the Mexican Revolution for an understanding of the present situation in Mexico.

## Spanish

**SPAN 3312. SPANISH-AMERICAN CULTURE AND CIVILIZATION (3-0) 3 hours credit.** The evolution of Spanish-American society and culture as a background for its contemporary problems. Prerequisite: SPAN 2314 with a grade of C or better, or a knowledge of the language and consent of the department. \$5 computer fee.

**SPAN 4313. TOPICS IN HISPANIC CULTURE (3-0) 3 hours credit.** Among the topics are Spanish music, television, radio, film, and literature as culture. May be repeated for credit. Credit cannot be given for both SPAN 3304 and 4313.

**SPAN 4317. CHICANO LITERATURE (3-0) 3 hours credit.** Mexican-American literature, with special attention to its social, cultural, and linguistic background.

**SPAN 4326. THE TWENTIETH CENTURY HISPANIC ESSAY (3-0) 3 hours credit.** Major essayists and their contributions to the understanding of modern Hispanic problems. Includes the literary criticism of Ortega and Unamuno, and the Spanish-Americans Borges, Mallea, Paz, Alfonso Reyes, or others.

## Political Science

**POLS 3316. LATIN AMERICAN POLITICS (3-0) 3 hours credit.** The political development of Latin American nations and various explanations for trends and differences in Latin American politics. Strategies of development; Latin America's relationship with the United States; and contemporary events in Latin America.

**POLS 3317. MEXICAN POLITICS AND U.S.-MEXICO RELATIONS (3-0) 3 hours credit.** Current economic and political systems of Mexico and relevant issues in U.S.-Mexico relations. Trade, immigration, economic dependency, energy, contraband, and other topics.

# Theatre Arts

191 Fine Arts Bldg. • Box 19103 • 817-272-2650

The University of Texas at Arlington Theatre Arts Program provides students with an extensive education in the theatrical profession through broad practical experience together with an equally extensive theoretical application of the art and craft of the stage. The student learns the primary components which comprise the theatrical event: acting performance; dramatic theory and history; scene, lighting and costume design; stage direction; voice and movement; and theatre technology. The application of these components, in a series of classroom and public performances, ensures a challenging educational environment for the theatre arts student. The Theatre Arts Program offers both the Bachelor of Fine Arts and the Bachelor of Arts degrees.

## The Bachelor of Fine Arts (B.F.A.) Degree Program

### Liberal Arts Requirements

The Bachelor of Fine Arts degree is a specialized degree and provides a thorough background in the liberal arts. Students seeking the B.F.A. elect courses chosen from the University and Liberal Arts core curricula outside the Theatre Arts Program.

### Admission

In addition to the general requirements for admission to the University, the aspiring undergraduate must meet the following requirements for admission to the Bachelor of Fine Arts program:

- Submission of a supplementary application to Theatre Arts.
- An audition/interview.
- Upon acceptance, indication of area of specialization (performance, production/ design, or management).

Transfer students follow the same entrance procedures as freshmen and should realize that acceptance into the program is determined by the Theatre Arts faculty.

Candidates for the Bachelor of Fine Arts degree must satisfy the requirements for the University and the College of Liberal Arts. Students working toward the B.F.A. may not use theatre arts courses to satisfy the core curriculum requirements of the University or the College of Liberal Arts.

All freshmen and incoming transfer B.F.A. students are required to complete THEA 1304 or otherwise demonstrate their proficiency in technical theatre skills. All Theatre Arts students enroll in one Theatre Practicum course (THEA 0181) each semester they are in residence at the University. All B.F.A. students who elect the performance option are required to audition for each major production each semester they are enrolled. Production activities and Theatre Arts disciplinary rules shall be governed by a student handbook, which is supplied to the student by Theatre Arts.

The Arlington Arts Council Auxiliary and the Theatre Arts Program offer limited scholarships to deserving students. Work-study positions are also available. Contact Theatre Arts for further information.

## Requirements for a Bachelor of Fine Arts Degree in Theatre Arts

### English

Six hours of composition.

### Literature

Three hours of English or foreign language literature or other approved substitute.

### Liberal Arts Elective

Three hours above the freshman level of literature, or social and cultural studies designated as taught in the College of Liberal Arts, or fine arts or philosophy, or technical writing.

### Political Science

2311, 2312.

### History

1311, 1312.

### Mathematics

Six hours (level of college algebra or higher).

### Science

11 hours, at least eight hours of which are in one laboratory science.

### Fine Arts and Philosophy

Six hours from architecture, art, dance, music, theatre arts, or philosophy.

### Social/Cultural Studies

Three hours of designated courses in archaeology, classical studies, communication, economics, history, humanities, linguistics, political science, social or cultural anthropology, social/political/cultural geography, social psychology, sociology or women's studies.

### Electives

Sufficient to give the total number of hours required for degree.

### Options

#### **B.F.A. Performance**

1303, 1304, 1307, 1343, 2306, 2352, plus 36 upper-division hours including 3300, 3304, 3315, 3340, 3341, 4300, 4301, 4307. B.F.A. students must enroll in 0181 each semester they are enrolled. B.F.A. students are required to audition for each major production.

#### **B.F.A. Production/Design**

1304, 1305, 1307, 1343, 2306, plus 36 upper-division hours including 3300, 3301, 3302, 3304, 3305, 3307, 3315, 4302, 4305, 4306, and 4343. B.F.A. students must enroll in 0181 each semester.

#### **B.F.A. Theatre Management**

1302 or 1303, 1304, 1305, 1307, 1343, 2306, plus 36 upper-division hours including 3300, 3301 or 3305, 3302, 3304, 3307 or 4343, 4300, 4302, 4305 or 4306, 4312, and 4360. B.F.A. students shall enroll in 0181 each semester they are enrolled.

### Total

128 hours, of which at least 36 must be 3000/4000 level, plus exercise and sport activities (EXSA) or ROTC or marching band as required. No more than 60 hours may be in theatre arts, excluding 0181.

## The Bachelor of Arts Degree Program

### Liberal Arts Requirements

The Bachelor of Arts degree is a general theatre degree and provides a thorough background in the liberal arts. Students seeking the Bachelor of Arts degree elect courses chosen from the University and Liberal Arts core curricula outside the Theatre Arts Program.

#### Admission

The student must meet the general requirements for admission to the University. Candidates for a Bachelor of Arts must satisfy the University and the College of Liberal Arts core requirements. The candidate for the B.A. degree must also complete an approved minor in the liberal arts. Advanced placement credits, if appropriate, may be applied toward these requirements.

All freshmen and incoming transfer B.A. students are required to complete THEA 1304 or otherwise demonstrate their proficiency in technical theatre skills. All Theatre Arts students enroll in one Theatre Practicum course (THEA 0181) each semester. Production activities and discipline within Theatre Arts shall be governed by a student handbook, which is supplied to the student by Theatre Arts.

The Arlington Arts Council Auxiliary and the Theatre Arts Program offer limited scholarships to deserving students. Work-study positions are also available. Contact Theatre Arts for further information.

## Requirements for a Bachelor of Arts Degree in Theatre Arts

### English

Six hours of composition.

### Literature

Three hours of English or foreign language literature or other approved substitute.

### Liberal Arts Elective

Three hours above the freshman level of literature, or social and cultural studies designated as taught in the College of Liberal Arts, or fine arts or philosophy, or technical writing.

### Foreign Language

1441, 1442, 2313, and 2314 or equivalent.

### Political Science

2311, 2312.

### History

1311, 1312.

### Mathematics

Six hours (level of college algebra or higher).

### Science

11 hours, at least eight of which are in one laboratory science.

### Fine Arts and Philosophy

Three hours from architecture, art, dance, music, philosophy, or theatre arts.

### Social/Cultural Studies

Three hours of designated courses in archaeology, classical studies, communication, economics, history, humanities, linguistics, political science, social or cultural anthropology, social/political/cultural geography, social psychology, sociology or women's studies.

### Electives

Sufficient to give the total number of hours required for a degree.

### Major

1302, 1304, 1307, 2306, 3300, 3301, 3305, 3307, 3315, and nine hours 3000/4000 level within Theatre Arts, for a total of 36 hours, not including Theatre Practicum 0181. All Theatre Arts Bachelor of Arts degree candidates enroll in 0181 each semester.

### Minor

18 hours, nine of which must be 3000/4000 level, in a field outside Theatre Arts, selected after consulting with an advisor.

### Total

128 hours, of which at least 36 must be 3000/4000 level, plus exercise and sport activities (EXSA) or ROTC or marching band as required.

## Teacher Certification in Theatre Arts

Theatre Arts programs provide for teacher certification at the secondary teaching level and elementary teaching levels. Students interested in Texas Teacher Certification should consult the Center for Professional Teacher Education section of this catalog for the most recent changes in requirements regarding admission to Teacher Education, completion of University programs in preparation for certification, and eligibility for certification after graduation. Students whose major is Theatre Arts complete 36 semester hours in the major field, not including Theatre Practicum 0181. All certification candidates in Theatre Arts enroll in Theatre Practicum 0181 each semester. Students seeking teacher certification with a major in Theatre Arts should complete the courses as listed below:

- **Elementary Certification, Theatre Arts Major**

THEA 1302 or 1303, 1304, 1307, 1343, 3300, 4300.

Six hours from THEA 3301, 3305, 3307, 3310, 3312.

Six hours from THEA 4302, 4303, 4304, 4309, 4321, 4330, 4343, 4360.

Six hours advanced (3000/4000) level in Theatre Arts.

All Theatre Arts majors enroll in 0181 each semester.

*Consult the Center for Professional Teacher Education for further requirements.*

- **Secondary Certification, Theatre Arts Major**

THEA 1302 or 1303, 1304, 1307, 1343, 3300, 4300

Six hours from THEA 3301, 3305, 3307, 3310, 3312.

Six hours from THEA 4302, 4303, 4304, 4309, 4321, 4330, 4343, 4360.

Six hours advanced (3000/4000) level in Theatre Arts.

All Theatre Arts majors enroll in 0181 each semester.

*Consult the Center for Professional Teacher Education for further requirements.*

## Theatre Arts Faculty

### Director

Associate Professor Kongevick

### Associate Professors

Gaupp, Maher

### Assistant Professors

Chapa, Lynch, Melde

### Specialist

Simons

## Theatre Arts (THEA)

Prefix and number in parentheses following the U.T. Arlington course number and title is the Common Course Number designation.

### 0181. THEATRE PRACTICUM (0-4) 1 hour credit (DRAM 1120).

Open to all students interested in participating in dramatic productions on-stage, backstage, or front of house. Considers aspects of play production which may include scenery construction, publicity, costumes, and lighting. Practicum students participate in auditions and are assigned to production crews. May be repeated for credit. All Theatre Arts majors register for 0181 each semester.

### 1302. VOCAL FUNDAMENTALS (3-0) 3 hours credit (DRAM 2336).

Introduction to the fundamentals of vocal production. Emphasis on relaxation, breathing techniques, and the creation of vocal sound. Credit will not be granted to B.F.A. students in the performance option. (Formerly listed as Voice and Diction.)

### 1303. PERFORMANCE FUNDAMENTALS I: VOICE AND MOVEMENT (3-0) 3 hours credit.

The use and training of the voice, primarily for performance majors. Includes specialized techniques of vocal production, physical relaxation and coordination of voice and body. Required for all B.F.A. students in the performance option. Prerequisite: permission of faculty.

### 1304. STAGECRAFT I (2-4) 3 hours credit (DRAM 1330).

Equipment, materials, methods, and procedures for the fabrication of scenery and properties for theatrical production. Service on crews in productions as required for one semester. Required of all theatre arts majors. \$20 lab fee.

### 1305. INTRODUCTION TO THEATRICAL DESIGN (3-0) 3 hours credit.

Basic aesthetic skills of color, line, texture, and form, and the interactions of these elements in all visual arts. Mechanics and techniques of illustration and rendering of design ideas.

### 1306. DEVELOPING CREATIVE IMAGINATION (3-0) 3 hours credit.

Improvisation, sensory awareness, bodily control, and expression. The use of imagination and observation in developing vocal and bodily skills in creative drama activities.

### 1307. ACTING I: FUNDAMENTALS (3-0) 3 hours credit (DRAM 1351).

Study and exercise in fundamentals of the actor's craft. Emphasis on the development of basic acting techniques including: characterization, objectives, action and script analysis. Performance requirements may include improvisation, monologues, and scene study.

### 1342. DRAMA APPRECIATION (3-0) 3 hours credit.

Develops awareness of and appreciation for all forms of dramatic art as reflected in theater, television, and film. Increases the student's enjoyment and knowledge of drama and its historical, social, and cultural contexts. Students may be required to attend and review productions. Open to all students as a fine arts elective; does not count toward theatre arts degree programs.

### 1343. INTRODUCTION TO THEATRE (3-0) 3 hours credit (DRAM 1310).

Acquaints the student with major phases of theatrical activity and production research. Considers the duties and contributions of director, actor, scene designer, costumer, and others involved in play production. Students may be required to attend and review productions.

### 2306. THE CRAFT OF COSTUME (2-4) 3 hours credit.

Introduction to the process and application of the fundamental skills of costuming and costume design preparation methods, including color and fabric, the techniques of construction, stitching, dyeing, stenciling, fabric printing, pattern and draping methods, non-traditional ornamentation and use of fabrics, as well as script/character analysis and charting. \$20 lab fee.

**2330. STAGE MOVEMENT (3-0) 3 hours credit.** The relationships between expressive movement and acting. Theory and techniques of

the actor's use of the body in role interpretation. Prerequisite: THEA 1306 or 1307 and permission of faculty.

**2331. DANCE DRAMA (3-0) 3 hours credit.** Self expression in dance forms. Effective body movement and control. Response to rhythm and fluidity of movement. Prerequisite: THEA 1306 or 1307 and permission of faculty.

**2352. ACTING II: SCENE STUDY (2-4) 3 hours credit (DRAM 1352).** Acting technique exercises to enhance and develop acting skills through scene study. Methods of characterization, research, and role preparation. Both presentational and representational approaches. Prerequisite: THEA 1307 and permission of faculty. \$20 lab fee.

**3300. DIRECTING I (2-4) 3 hours credit.** The techniques of staging plays. Play interpretation, casting, rehearsal procedure, staging, and the role of the director in character analysis and creation. Prerequisites: THEA 1304, 1307, 1343, 2306, 2352, and permission of faculty. \$30 lab fee.

**3301. SCENE DESIGN I (3-0) 3 hours credit.** History, theory, and basic concepts of design methods with application for stage, television, and film. Prerequisites: THEA 1304, 1305, 1343, 2306, and permission of faculty. \$20 lab fee.

**3302. STAGE MANAGEMENT (2-4) 3 hours credit.** Theory and techniques of managing a production from auditions through closing night. Service on crews in productions is required for the semester. Prerequisite: THEA 1304 and 1343. \$25 special fee.

**3304. STAGECRAFT II (2-4) 3 hours credit.** Paint and the effect of lighting on paint; basic principles of stage lighting. Prerequisites: THEA 1304, 1305, 1343, 2306, and permission. \$20 lab fee.

**3305. LIGHTING DESIGN I (2-4) 3 hours credit.** Basic design principles and techniques and their application. Theories and application of optical control and distribution. Service on light crews in productions as required. Prerequisites: THEA 1304, 1305, 1343, 2306, and permission of faculty. \$20 lab fee.

**3307. HISTORY OF COSTUME (3-0) 3 hours credit.** Historical styles and trends of fashion to the present as applied to stage, television, and film. Prerequisites: THEA 1304, 1343, 2306, and permission of faculty.

**3310. CREATIVE DRAMA (2-4) 3 hours credit.** The theory and practice of creative dramatics exercises and activities, the application of the artistic elements in creative drama, and interdisciplinary applications of creative drama activities. Prerequisites: THEA 1307, 1343. \$20 lab fee.

### 3312. THEATRE FOR YOUNG AUDIENCES (2-4) 3 hours credit.

The theory and practice of creating and producing plays for young audiences. Students shall be required to act in selected works. Prerequisites: THEA 1307 and 1343. \$20 lab fee.

**3315. THEATRICAL MAKE-UP (3-0) 3 hours credit.** Types, styles, and techniques of make-up application for stage, television, and film. Prerequisites: THEA 1304, 1305, 1343, 2306, and permission of faculty. \$20 lab fee.

**3320. PLAYWRITING (3-0) 3 hours credit.** The art and craft of constructing a play. Students write playlets, scenes, and one-act plays for in-house production and/or instructor evaluation. Prerequisites: THEA 3300 and permission. \$20 special fee.

**3321. ORAL INTERPRETATION (3-0) 3 hours credit.** The fundamental principles of oral interpretation and techniques of interpretation. Stresses background research concerning author and type of material. Prose is emphasized.

**3322. ORAL INTERPRETATION (3-0) 3 hours credit.** Principally drama and poetry, although prose may be touched on. Acquiring an effective technique for sharing the enjoyment of literature with an audience.

**3323. ORAL INTERPRETATION OF CHILDREN'S LITERATURE (3-0) 3 hours credit.** Designed to help the oral reader select, analyze, and read aloud for audiences of children and adults. Story telling for children.

**3332. CHOREOGRAPHY (3-0) 3 hours credit.** Dynamics, design, gesture and rhythm, motivation, and feeling in movement. Basic principles of choreography. Dance forms as a means of dramatic staging. Prerequisite: THEA 2330 or 2331 and permission of faculty.

**3340. PERFORMANCE FUNDAMENTALS II: VOICE FOR THE ACTOR (3-0) 3 hours credit.** Further development of techniques covered in THEA 1303. Freeing the voice through exercises and experiences in relaxation, physical awareness, breath, vibrations, resonance, and articulation. Focus on awareness and the release of habitual patterns that restrict the voice. Prerequisite: THEA 1303 and 1307. \$20 special fee.

**3341. ACTING III: ADVANCED SCENE STUDY (2-4) 3 hours credit.** Further development of techniques covered in THEA 1307-2352; basic principles of character building. Emphasis on the development of a role through script, exercises, and scene work. Prerequisite: permission of faculty. \$20 lab fee.

**3345. FEMINISM IN THEATRE (3-0) 3 hours credit.** Theatre criticism that blends theory and practice from a feminist perspective. Application of theory in performance. May include politics of contemporary performance, feminism, performability and theory, female performance art, sexuality in performance. Cross listed as WOMS 3345; credit will be granted only once.

**3346. STAGE COMBAT (3-0) 3 hours credit.** Basic skills in hand-to-hand stage combat. Slapping, punching, kicking, and falling techniques. \$20 lab fee.

**3373. SPECIAL TOPICS: WOMEN IN THE ARTS (3-0) 3 hours credit.** An interdisciplinary course; includes art, music, dance, theatre, and literature. May vary in emphasis depending upon the field of the instructor and her/his theoretical perspective. May include works of women artists, the portrayal of women in the arts, the status of women in the arts, and feminist theory and criticism in the various disciplines. Cross listed as WOMS 3373; credit will be granted only once.

**4300. DIRECTING II (2-4) 3 hours credit.** Continuation of THEA 3300. Students will direct scenes and one-act plays. Prerequisites: THEA 3300. \$30 lab fee.

**4301. ACTING IV: STYLES (2-4) 3 hours credit.** Selected acting styles exploring images, text, movement, and development of the actor throughout history. The use of various acting techniques to condition the actor to meet the demands of classical literature. Prerequisites: THEA 3300, 3341, and permission of faculty. \$20 lab fee.

**4302. THEATRE MANAGEMENT I (3-0) 3 hours credit.** Management-producer responsibilities applicable to community or professional theatre with attention to box office, marketing, production coordination, press and community relations, funding and grantsmanship, unions, and business management structures. Prerequisites: THEA 3302 and permission of faculty. \$25 special fee.

**4303. CLASSICAL THEATRE HISTORY (3-0) 3 hours credit.** The development of world theatre from its beginnings through the Renaissance. Analysis of representative plays of each period with particular emphasis on drama in its historical context. History of acting, costuming, and directing. Prerequisites: THEA 1304, 1343, 2306, and permission of faculty.

**4304. MODERN THEATRE HISTORY (3-0) 3 hours credit.** The development of Western theatre from the Renaissance to the present day. Analysis of representative plays from Europe, England, and America. Development of the modern stage, acting methods, and production techniques. Prerequisites: THEA 4303 and permission of faculty.

**4305. SCENE DESIGN II (3-0) 3 hours credit.** Continuation of

THEA 3301. Distinctions among stage, television, and film design, interaction of one with another, advanced methods, and application of scene design concepts. Prerequisites: THEA 3301 and permission of faculty. \$20 lab fee.

**4306. LIGHTING DESIGN II (3-0) 3 hours credit.** Specialized topics and advanced design technique and application principles. Participation on light crews in departmental productions required. Prerequisites: THEA 3305 and permission of faculty. \$20 lab fee.

**4307. PERFORMANCE FUNDAMENTALS III: MOVEMENT FOR THE ACTOR (3-0) 3 hours credit.** The history, theory and practice of movement and gesture as it relates to the actor. Movement and alignment techniques are explored as are the uses of movement and gesture in specific performance contexts. Prerequisite: THEA 1307, 2352, and 3340. \$35 special fee.

**4308. ACTING FOR THE CAMERA (3-0) 3 hours credit.** An advanced acting course to acquire film and video technique. Prerequisites: THEA 1303, 1307, 1343, 2352. \$20 lab fee.

**4309. DRAMATIC THEORY (3-0) 3 hours credit.** Major documents in evolution of dramatic theory, from classical foundations through major movements in contemporary criticism. Prerequisites: THEA 1304, 1343, 2306, and permission of faculty.

**4312. STUDIES IN ARTS MANAGEMENT (3-0) 3 hours credit.** Practical problem-solving techniques and theoretical constructs for managing arts organizations. Prerequisites: THEA 4302 and permission. \$25 special fee.

**4321. READERS' THEATRE (3-0) 3 hours credit.** Readers interpret various types of literature for an audience. Analysis and criticism of literature are stressed. Prerequisites: THEA 1302 or 1303, 2321 or 2322 or 2323, 2352, and permission of faculty.

**4330. HISTORY OF AMERICAN THEATRE (3-0) 3 hours credit.** The evolution of theatre in the United States from its beginning in colonial times to the present day. Representative plays from various periods are studied. Prerequisites: THEA 1304, 1343, 2306, and permission of faculty.

**4341. ACTING PROFESSIONALLY (3-0) 3 hours credit.** Acting techniques including stage dialects, the actor's audition, acting for the camera, and the business of acting. Prerequisite: permission of instructor. \$20 lab fee.

**4343. COSTUME AND DESIGN (2-4) 3 hours credit.** Theory and practice of costume design and application of those principles to theatrical production. Prerequisites: THEA 3307 and permission of faculty.

**4360. THEATRE MANAGEMENT II (3-0) 3 hours credit.** Exercises in practical skills necessary to manage a theatre program. Prerequisites: THEA 4312 and permission of faculty.

**4391. CONFERENCE COURSE (3-0) 3 hours credit.** Topics assigned on an individual basis covering individual research or study in a designated area. May be repeated as topic changes. Prerequisite: permission of the instructor.

**4393. SPECIAL TOPICS (3-0) 3 hours credit.** Special studies in drama and theatre. Topic varies from semester to semester. May be repeated as topic changes or until a maximum of six credit hours is attained. Prerequisite: permission of the instructor.

**4394. HONORS THESIS/SENIOR PROJECT (3-0) 3 hours credit.** Required of all students in the University Honors Program. During the senior year, the student must complete a thesis or project of equivalent difficulty under the direction of a faculty member in the major department.

**4395. INTERNSHIP (3-0) 3 hours credit.** Individual research through working with a professional theatre organization. Individual conference to be arranged. Prerequisites: senior standing, permission of program director and instructor.

# Women's Studies

223 University Hall • Box 19599 • 817-272-3131

The Women's Studies Program offers a minor for all students in Liberal Arts. The Women's Studies Minor provides a critical and analytical examination of issues involving gender and sexual difference. With the permission of their departmental advisor, students may enroll in a series of courses and obtain a minor in Women's Studies. Students selecting the Women's Studies minor should consult first with advisors in their departments or programs for approval of the minor, then with the Women's Studies Program Director. A Women's Studies minor consists of 18 hours selected from the following courses or from other approved courses in liberal arts:

## Women's Studies

### Director

Associate Professor Dunn

**WOMS 2310. INTRODUCTION TO WOMEN'S STUDIES (3-0) 3 hours credit.** Focuses on Women's Studies as a reconstruction of knowledge. Places women's experience at the center of inquiry, examining topics such as work, family, reproduction, sexual orientation, politics, and creativity. Explains the diversity of methods and theories employed in Women's Studies scholarship, emphasizing the intersection of gender, race, ethnicity, and class.

**WOMS 2317. BASIC CONCEPTS IN HUMAN SEXUALITY (3-0) 3 hours credit.** Physiological, psychological, sociological aspects of human sexuality. Also listed as BIOL 2317, PSYC 2317, and HEED 2317. Credit will be granted for one only. Students seeking certification in Health must enroll in HEED 2317. Students seeking credit toward their science requirement must enroll in BIOL 2317. Cannot be counted for major credit toward a degree in biology, psychology, or sociology.

**WOMS 3305. WOMEN'S HEALTH ISSUES (3-0) 3 hours credit.** Specific issues of importance to women and their health, including growth and development, nutrition, reproductive health, pregnancy, chronic diseases and relationship/family issues. Also listed as HEED 3305; credit will be granted only once.

**WOMS 3308. WOMEN IN THE WEST, 1500-1900 (3-0) 3 hours credit.** Examines women's experiences in the Trans-Mississippi West, focusing on issues of gender roles and socio-economic class within a multicultural perspective (Native American, Asian, African American, Hispanic and Euro-American). Also listed as HIST 3308; credit will be granted only once.

**WOMS 3309. WOMEN AND WORK, 1600 TO THE PRESENT (3-0) 3 hours credit.** Examines the history of women and work, both waged and nonwaged, in Europe and the Americas, including the United States. Highlights differences within women's work cultures as well as variation in women's employment opportunities and their efforts to achieve equality with men in the workplace, by ethnicity, region, and nation. Also listed as HIST 3309; credit will be granted only once.

**WOMS 3310. U.S. WOMEN'S HISTORY TO 1860 (3-0) 3 hours credit.** Women in politics, work and society from the colonial era to the Civil War. Women's efforts to reform society, including the abo-

lition of slavery and acquisition of suffrage. Also listed as HIST 3310; credit will be granted only once.

**WOMS 3311. U.S. WOMEN'S HISTORY 1860 TO PRESENT (3-0) 3 hours credit.** American women in politics, work and society since 1860, focusing on race and class and women's struggles for rights and liberation. Also listed as HIST 3311; credit will be granted only once.

**WOMS 3312. FAMILY AND SOCIAL CHANGE IN EARLY AMERICA (3-0) 3 hours credit.** Family and childhood during Spanish, Mexican, French and English colonization and settlement in North America to 1820. Effects of political and social change on the family. Also listed as HIST 3312; credit will be granted only once.

**WOMS 3313. FAMILY AND SOCIAL CHANGE IN AMERICA, 1820 TO PRESENT (3-0) 3 credit hours.** Changes and challenges that families, including immigrant, Native American and African American, have faced since 1820. Deals with moral and ethical issues ranging from family violence to test tube babies. Also listed as HIST 3313; credit will be granted only once.

**WOMS 3314. GENDER AND RACE IN AMERICAN REGIONALISM (3-0) 3 hours credit.** Examines historical construction of gender and racial roles in different regions between colonization and 20th century. Topics include changes in women's and men's work, their images in art, literature, and film, and comparative ideals of masculinity and femininity across racial lines. Also listed as HIST 3314; credit will be granted only once.

**WOMS 3328. MARITAL AND SEXUAL LIFESTYLES (3-0) 3 hours credit.** Contemporary American lifestyles selected from the following topics: singles, traditional marriage, homosexuals, single-parent families, open marriage, non-marital sexuality, cohabitation, dual-career marriage, childless couples, egalitarian marriage, families in later life. Also listed as SOCI 3328; credit will be granted only once.

**WOMS 3331. SOCIOLOGY OF THE FAMILY (3-0) 3 hours credit.** Examines the family in American society and in other cultures to better understand its past, present, and future role. Family research methods, comparative family systems, child development/parenting, culture and personality, minority families, social class variation in families, work and family. Prerequisite: junior standing or permission of the instructor. Also listed as SOCI 3331; credit will be granted only once.

**WOMS 3334. GENDER ROLES (3-0) 3 hours credit.** Theories of gender role socialization and change in female and male roles. Impact of biology, psychology, and socialization on gender role development. Emphasis on how we learn gender in various social contexts including the family, education, and the peer group. Also listed as SOCI 3334; credit will be granted only once.

**WOMS 3345. FEMINISM IN THEATRE (3-0) 3 hours credit.** Theatre criticism that blends theory and practice from a feminist perspective. Application of theory in performance. May include politics of contemporary performance, feminism, performability and theory, female performance art, sexuality in performance. Also listed as THEA 3345; credit will be granted only once.

**WOMS 3356. WOMEN, WORK AND SOCIAL CHANGE (3-0) 3 hours credit.** Women's work experiences, how these experiences are changing, and relationship between paid employment and non-



wage household labor. Paid and unpaid work experiences are empirically examined in terms of a variety of theoretical perspectives. Also listed as SOCI 3356; credit will be granted only once.

**WOMS 3366. SEX, GENDER, AND CULTURE (3-0) 3 hours credit.** The ways gender and sexuality are culturally constructed. Readings include ethnographies, life histories, and fiction. Debates within anthropology and within specific cultures over maleness and femaleness. Also listed as ANTH 3366; credit will be granted only once.

**WOMS 3370. WOMEN IN LITERATURE (3-0) 3 hours credit.** Works by women writers and/or images of women in literature. May be repeated for credit as subject matter changes. Also listed as ENGL 3370; credit will not be granted for both.

**WOMS 3373. WOMEN IN THE ARTS (3-0) 3 hours credit.** An interdisciplinary course exploring historical and contemporary roles of women in the arts, including visual art, dance, literature, music and theatre. The works, portrayal, and status of women in the arts, as well as feminist theory and criticism. Also listed as ENGL 3373, MUSI 3373, and THEA 3373; credit will be granted in only one department.

**WOMS 3380. ETHNIC AND GENDER ISSUES IN CRIMINAL JUSTICE (3-0) 3 hours credit.** Ethnic and gender issues focusing on victims, offenders, and professionals in the criminal justice system. Also listed as CRCJ 3800; credit will be granted only once.

**WOMS 3381. THE FAMILY AND SOCIAL CHANGE IN EUROPE (3-0) 3 hours credit.** Changes in individual life patterns and in the family from pre-industrial times to the present. Specific attention will be given to the effects of social change on family composition. Also listed as HIST 3381; credit will be granted only once.

**WOMS 4301. ART AND GENDER (3-0) 3 hours credit.** Approaches to the integration of art from the stance of gender and feminism. Emphasis is placed on the work of significant female artists and on gendered representation of art in general, both male and female. Also listed as ART 4301; credit will be granted only once. \$8 special fee.

**WOMS 4303. WOMEN IN SOCIETY (3-0) 3 hours credit.** Women's status in contemporary American society, including the family, workplace, and politics. Women's status examined in historical and crosscultural perspectives. Also listed as SOCI 4303; credit will be granted only once.

**WOMS 4318. LANGUAGE AND GENDER (3-0) 3 hours credit** (Also taught as HUMA 5392). The role of language in the expression and creation of gender identities. Gender differences in language structure and use, men's and women's language in other cultures, the acquisition of gendered ways of speaking, and sexism in language. Also listed as LING 4318. Formerly offered as WOMS 4392/LING 4392; credit will be granted only once.

**WOMS 4323. FEMINIST POLITICAL THOUGHT (3-0) 3 hours credit.** Issues raised by the feminist critique of political theory; the exclusion of women from the political sphere until the 20th Century; Marxist, liberal, and radical feminist political thought; alternative feminist conceptions of the political. Also listed as POLS 4323; credit will be granted only once.

**WOMS 4327. WOMEN IN HISPANIC LITERATURE (3-0) 3 hours credit.** Considers women as characters in and writers of Hispanic literature. Includes the analysis of themes, language, and how the writings of women often give voice to lesser known aspects of culture. Also listed as SPAN 4327; credit will be granted only once. \$5 computer fee.

**WOMS 4340. LITERATURE BY WOMEN (3-0) 3 hours credit.** Women's writing in a particular genre or historical period or on a concept or issue of importance to women writers. May be repeated for credit as subject matter changes. Also listed as ENGL 4340; credit will be granted only once.

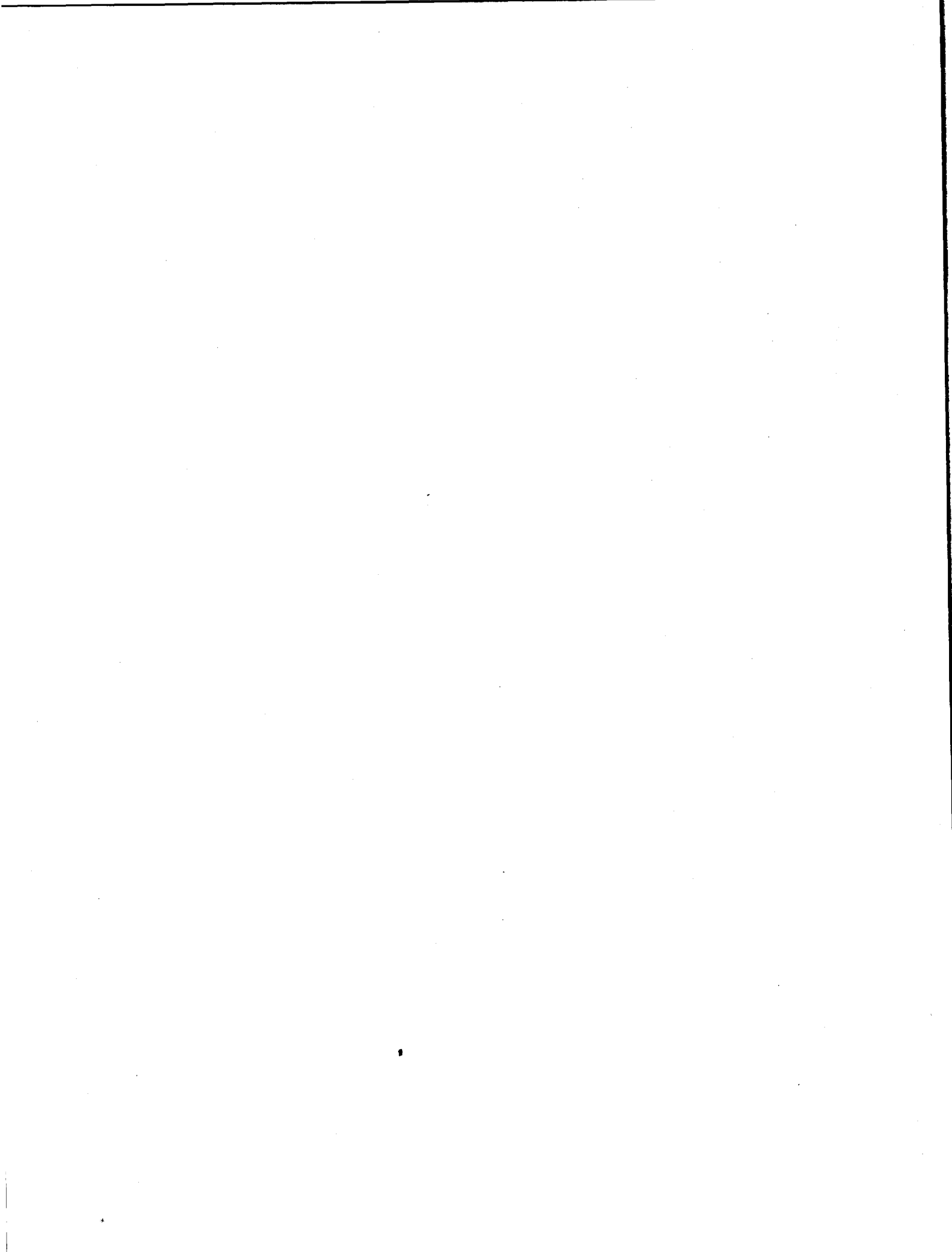
**WOMS 4392. SPECIAL TOPICS IN WOMEN'S STUDIES (3-0) 3 hours credit.** Special topics of interest in the discipline of Women's Studies. May be repeated for credit when the topic changes.

**WOMS 4393. GENDER, SPACE, AND PLANNING (3-0) 3 hours credit.** Considers both theoretical and professional issues. Topics include: the expression and reinforcement of gender roles in and through urban spatial organization; critiques of rational technical planning; contributions of women to the urban planning profession; threats and opportunities facing women planners today. Also listed as CIRP 4393; credit will be granted only once.

**PSYC 3313. PSYCHOLOGY OF WOMEN (3-0) 3 hours credit.** The roles, abilities, and personality characteristics of women in our society and how they change with age. Emphasis is on the empirically-measured traits and conditions which are associated with women and which might contribute to change in those characteristics. Both normal and abnormal characteristics are considered. This course is of interest to both men and women. Formerly PSYC 3302. Prerequisite: PSYC 1315.

**SOCW 3317. SOCIAL WORK WITH WOMEN AND MINORITIES (3-0) 3 hours credit.** Using history of women and selected minorities in the U.S. to facilitate understanding and development of social work practice skills. Prerequisite: junior standing or permission of the instructor.

Special topics courses may also be used to fulfill the Women's Studies minor with the permission of the Women's Studies Program Director.



# The School of Nursing

669 Pickard Hall • Box 19407 • 817-272-2776

## Philosophy

The School of Nursing, an integral component of The University of Texas at Arlington, seeks to assure health care of the highest quality for the people of Texas. Through its baccalaureate, graduate, and continuing education programs, the School of Nursing is committed to the preparation, enhancement, and development of individuals who will use professional nursing roles to collaborate with other professionals and consumers in the delivery of health care. The faculty believes in the promotion and support of excellence in professional nursing through teaching, scholarly endeavors, and community service.

The faculty subscribes to a philosophy in which the person is viewed holistically. A person has unique and complex needs that are communicated through a variety of behaviors in the process of living and dying. Each person has unique environmental, physiological, psychosocial-cultural, philosophical, developmental, and spiritual dimensions with inherent dignity, worth, and responsibility to society. Each person has the right to health care provided through interdisciplinary collaboration.

Nursing, as a part of the health care delivery system, is a socially determined profession whose practice evolves in response to the needs of individuals, families, aggregates, communities, and societies. These needs provide direction for the current and emerging roles of professional nursing practice.

The professional nurse, guided by concern for quality of life, functions in diverse practice settings with persons of various cultures. Professional nursing practice encompasses the application of knowledge and skills in the management of nursing care. Nursing, utilizing research and implemented through the merging of nursing process and roles, is accountable for helping the person toward maximum potential for daily living.

Learning, a continuous lifelong process, is the responsibility of each individual. In nursing education, learning experiences are planned to achieve sequence, continuity, and synthesis of knowledge and skills as defined by the educational objectives. The teaching and learning processes involve the teacher and student in setting goals, selecting learning experiences, evaluating student progress, and appraising instructional methods. Faculty and students share the responsibility for creating an educational climate which fosters intellectual inquiry, critical thinking, and creativity; facilitates the development of each person's potential; and reflects democratic values and ethical principles.

Undergraduate nursing education is based upon studies in the arts, sciences and humanities, and provides a foundation for continuing personal, professional, and educational development. The baccalaureate program is designed to prepare a competent, self-directed general practitioner of nursing who can assume increasing responsibility and leadership in the delivery of nursing care for individuals, families, aggregates, communities and societies.

Graduate nursing education articulates with a foundation of undergraduate nursing education and provides an opportunity for professional nurses to continue developing a specialty practice that is congruent with an expanding theoretical and empirical knowledge

base. The graduate program in nursing is designed to assist professional nurses to prepare for advanced clinical and functional roles that demand increased accountability, expertise, and leadership. The masters program facilitates the use of the research process through the course of study and prepares the graduate to be a critical, self-directed professional who collaborates with consumers and other health care providers.

Continuing education in nursing is based upon the premise that maintaining competency in nursing practice is the responsibility of each professional nurse. The faculty believes it is the responsibility of the School of Nursing to be sensitive to the influences inherent in a changing society and to respond to the continuing educational needs of professional nurses in Texas.

## Undergraduate Objectives

The purpose of this program is to prepare a graduate for practice as a professional nurse in diverse settings. The focus is on the application of knowledge of nursing art and science; implementation of nursing roles within professional, ethical and legal standards; demonstration of responsibility for continued personal and professional growth; and action based on knowledge of current and emerging health and social issues.

### Objectives

- Synthesize theoretical and empirical knowledge from nursing, the sciences and the humanities in the practice of professional nursing.
- Demonstrate critical thinking in professional nursing practice.
- Use therapeutic nursing interventions to assist persons to achieve their maximum health potential.
- Use effective communication and interpersonal skills in professional nursing practice.
- Use nursing roles and nursing process interactively to provide care in diverse settings.
- Integrate professional values, ethics and standards in the practice of nursing.
- Provide culturally competent and developmentally appropriate nursing care.
- Apply research findings appropriately in nursing practice.
- Coordinate resources within and between agencies and disciplines to promote effective and efficient health care delivery.
- Analyze the impact of health policy on access to and delivery of health care.
- Assume responsibility for personal and professional development.
- Accept accountability for one's own nursing practice.

## Admission

**Pre-Nursing:** Students may be admitted or may transfer into the pre-nursing program of the School of Nursing upon meeting the admission or transfer requirements established by the University and the School of Nursing. (See Undergraduate Admission and College Transfers.)

**Professional Nursing:** Students desiring admission to the sequence of nursing courses leading to the degree of Bachelor of Science in Nursing must have completed the required 60 hours of credit with a minimum overall grade point average of 2.0, and, in addition, a minimum grade point average of 2.0 for all prerequisite lower-division courses (excluding electives). A health history and physical examination (reported on a form supplied by the School of Nursing) must be completed prior to enrollment.

Enrollment in the professional nursing program is limited by the availability of resources. In the event that the number of applicants meeting the minimum requirements exceeds the enrollment limitation, the selection of the persons to be admitted will be based on an evaluation of the applicant's previous academic record.

**Immunizations:** State law or regulation requires persons applying for admission to be immunized against the following: polio, tetanus/diphtheria, measles and mumps (if born after January 1, 1957), rubella, hepatitis B and chicken pox. The TB test is required by the School of Nursing.

**Certification-Cardiopulmonary Resuscitation:** Evidence of successful completion of an approved course is required upon admission and must be maintained throughout the program.

**Professional Liability Insurance:** All U.T. Arlington nursing students enrolling in the nursing courses are required to have evidence of professional liability insurance coverage for a minimum of \$1,000,000 limit each claim and \$3,000,000 limit aggregate. The charge for coverage will be assessed as a mandatory fee at the time of registration.

## Transfer

Students desiring transfer credit for nursing courses must submit requested information about the courses and may be asked to take selected written examinations for acceptance of credits and placement in the nursing program. Only upper-division nursing courses completed within the past five years with a grade of C or better will be considered for transfer credit. Further information about the transfer procedure may be obtained from the Office of the Dean, School of Nursing. Processing of the transfer procedure will not be initiated until the student has met the requirements for admission to the professional nursing program. (See Admission.)

## RN to BSN

The RN to BSN program has been developed for registered nurses who wish to earn a baccalaureate degree in nursing. Curricular content is designed to assist the student in socialization to the professional nursing role. Classroom activities, independent learning, and individualized clinical experiences are planned to assist the student achieve the terminal program objectives for the undergraduate program. Admission requirements for this alternative are the same as those for the generic undergraduate program.

## Credit by RN Licensure

Twenty-eight (28) semester hours will be awarded toward the Bachelor of Science in Nursing degree for individuals who have a license to practice in Texas as a Registered Nurse and who have completed 12 credit hours in our RN-BSN Program.

### Eligibility to write the National Council Licensure Examination for Registered Nurses (NCLEX RN)— Declaratory Orders

The Board of Nurse Examiners for the State of Texas has set out guidelines and criteria on the eligibility of persons with criminal convictions to obtain a license as a registered nurse. The board may refuse to admit persons to its licensure examinations, may refuse to issue a license or certificate of registration, or may refuse to issue a temporary permit to any individual who has been convicted of a felony, a misdemeanor involving moral turpitude, or engaged in conduct resulting in the revocation of probation imposed pursuant to such conviction.

The Board of Nurse Examiners for the State of Texas has set out the guidelines and criteria on the eligibility of persons with mental illness and/or chemical dependency to obtain a license as a registered nurse. The board may refuse to admit persons to its licensure examinations, may refuse to issue a license or certificate of registration, or may refuse to issue a temporary permit to any individual with lack of fitness to practice by reason of mental illness or intemperate use of alcohol or drugs that could result in injury to patients or the public. (Detailed information available from the Board of Nurse Examiners for the State of Texas or the School of Nursing Dean's office.)

## Requirements for the Bachelor of Science Degree in Nursing

The National League of Nursing\* accredited nursing program consists of two academic years (or four semesters) of lower-division courses taken in an approved college or university followed by two academic years (or four semesters) of upper-division nursing courses which are taken in The University of Texas at Arlington School of Nursing. Upon successful completion of the program, the student is awarded the Bachelor of Science Degree in Nursing and is eligible to take the National Council Licensure Examination for licensure as a registered nurse. Full-time students enrolled in the RN-BSN program may complete the upper-division courses in two semesters.

\* National League of Nursing, 350 Hudson St., New York, NY, 10014. PH: (212) 989-9393.

### Lower-Division Courses

The following 60 hours must be completed prior to enrollment for upper-division courses in nursing:

	Hours
<b>Natural Sciences</b>	
Anatomy and Physiology	4 <sup>1,4</sup>
Microbiology or Bacteriology	4
Chemistry	4 <sup>1</sup>
Electives	3
	15 <sup>2</sup>
<b>Behavioral Sciences</b>	
Psychology	3
Sociology	3
Growth and Development	3
	9
<b>History and Political Science</b>	12 <sup>3</sup>
<b>Other</b>	
Fine Arts/Philosophy	3
College Algebra	3
Statistics	3
English	12
Nutrition	3
	24
<b>TOTAL (Lower-Division)</b>	<b>60 hours</b>
	plus exercise and sport activities (EXSA) or ROTC or marching band as required

<sup>1</sup> If part of a two-semester sequence, both courses are required.

<sup>2</sup> No fewer than six hours must be in courses which contain laboratory experience.

<sup>3</sup> House Bill 935, passed by the Sixtieth Legislature, provides that no person may receive an undergraduate degree unless she/he has taken and passed six semester hours in American political science and six semester hours in United States history.

<sup>4</sup> Credit will not be granted for courses taken more than five years ago.

The program outlined here will satisfy the lower-division requirements toward a baccalaureate degree program at The University of Texas at Arlington.

### Suggested Course Sequence

#### Freshman Year

**First Semester:** ENGL 1301; BIOL 1449; HIST 1311; MATH 1302; PSYC 1315; EXSA—Total Credit 17 hours.

**Second Semester:** ENGL 1302; CHEM 1451; HIST 1312; BIOL 2457; SOCI 1311; EXSA—Total Credit 18 hours.

#### Sophomore Year

**First Semester:** English, 3 hours; POLS 2311; BIOL 2458; MATH 1308; Fine Arts/Philosophy, 3 hours; EXSA—Total Credit 17 hours.

**Second Semester:** English, 3 hours; POLS 2312; BIOL 2451; PSYC 3310; BIOL 1301; EXSA—Total Credit 17 hours.

The nursing major begins in the junior year after completion of the 60 hours of basic liberal arts courses providing a foundation for understanding the holistic person's response to the health processes.

### Upper-Division Major

#### Generic

##### Junior Year

**Semester I:\*** NURS 3240, 3320, 3365, 3366, 3532—Total Credit 16 hours.

**Semester II:\*** NURS 3421, 3561, 3681—Total Credit 15 hours.

##### Senior Year

**Semester I:\*** NURS 4321, 4361, 4531, 4541—Total Credit 16 hours.

**Semester II:\*** NURS 4223, 4451, 4462, 4581—Total Credit 15 hours.

\* Satisfactory completion (C) of prerequisite courses is required prior to enrolling in courses in subsequent semesters.

#### RN to BSN

**Semester I:\*** NURS 3222, 3242, 3320, 3334, 3335, 3341—Total Credit 16 hours.

**Semester II:\*** NURS 4225, 4281, 4321, 4324, 4451, 4463—Total Credit 18 hours.

**Credit by RN Licensure:** NURS 3360, 3365, 3431, 3831, 4561, 4571—Total Credit 28 hours.

**Total Required Nursing Hours in both Generic and RN-BSN programs:** 62 hours

**Upper-Division Electives:** 6 hours

**Total (for degree):** 128 hours\*\*

\* Satisfactory completion (C) of prerequisite courses is required prior to enrolling in courses in subsequent semesters.

\*\* Plus exercise and sport activities (EXSA) or ROTC or marching band as required.

### Clinical Courses

To pass a theoretical and clinical course, the student must pass both the theory and the clinical component of that course.

### Progression

Students will not be permitted to continue in the nursing program nor to enroll for additional nursing courses if they:

- Receive a grade of D or F in more than one nursing course, or
- Receive any combination of grades of D or F on two attempts of the same course.

The University grade replacement policy is limited by the School of Nursing and not applicable to nursing courses.

## School of Nursing Faculty

### Dean

Professor Poster

### Professors

M.L. Bond, Burns, Cason, Grove, M.E. Jones, Pickard, Wyers

### Associate Professors

Courtney, Hegstad, Heusinkveld, Marks, Okimi, O'Quinn, Reed, St. Clair

### Assistant Professors

P. Adams, Anderson, Barr, Gibson, Handy, B. Johnson, Kyba, Schmelzer, A. Smith, V. Smith, Stuppy

### Senior Lecturer

Summerlin

### Specialists

Aldridge, Ashwill, Calligaro, Campbell, Carlson, Chappell, Clark, Cline, Cochran, Cowan, Diebenow, Goller, Gray, Gurica, Hale-Brown, Haskew, Hawley, Hennes, High, Hoffmans, Holtberg, Howard, Judkins, Kardong-Edgren, Leipheimer, Miles, Palmer, Parker, N. Patrick, V. Patrick, Pinkerton, Raines, Royes, Runzheimer, Schira, Singer, Snow, Stam, Tamasy, Turpin, K. Wright, K.B. Wright

### Adjunct Professor

Vestal

### Adjunct Associate Professors

Benefield, Dishon, Guzzetta, Schroeder, Winslow

### Adjunct Assistant Professors

Alford, Andrews, Bentley, Biggins, Harrington, Munn, Perley, Peyton, Qudah, J. Roberson, Rodriguez, Schira, Sharp, Speer, Ternay

### Adjunct Clinical Associate Professors

Peschel, Turbeville

### Adjunct Clinical Assistant Professors

Campbell, Keyser, Lindsay, Moll, Nielsen

### Adjunct Clinical Instructors

S. Adams, Allen, Antai-Ontong, Baird, Banks, Bartos, Birka, S. Bond, Bourne, D. Cook, N. Cook, Dale, Dasch, Dawkins, DeMeyer, Dillion, Dudley, Dunham-Hakala, Dvorak, Estep, M. Evans, S. Evans, Fabre, Fowler, Frias, Hagerty, Halverson, Hopson, E. Johnson, Johnny, T. Jones, Kitchen, Krentz, Lane, Leeper, Loftis, Lord, Mancini, Marcontel, Markauskas, Martin de Santana, M. Martin, Maryol, Mashburn, McCullar-Sampson, McGehee, McHugh-Burton, Miller, Mims, Mize, Moody, Morrison, Mountain, Newcomb, Newell, Olsen, Plonien, Potts, Porter, F. Prock, Riggsby, A. Roberson, M. Roberts, Root, Royes, Sampson, Schriener, Story, Tolentino, Toto, Troy, Urista, Vish, Wilkinson-Faulk, Willis, Yasso, Zapata

## Nursing (NURS)

**3100. COOPERATIVE NURSING WORK EXPERIENCE (1-0) 1 hour credit.** Designed for nursing cooperative education students to integrate classroom study with career-related practical experience in the workplace. May be repeated for credit. Prerequisite: consent of instructor.

**3200. COOPERATIVE NURSING WORK EXPERIENCE (2-0) 2 hours credit.** Designed for nursing cooperative education students to integrate classroom study with career-related practical experience in the workplace. May be repeated for credit. Prerequisite: consent of instructor. #

**3222. GERONTOLOGICAL NURSING (2-0) 2 hours credit.** Introduction to gerontologic nursing principles and standards. Selected concepts and issues related to aging and its impact on society and health care. (RN-BSN students only). #

**3240. CONCEPTS OF PROFESSIONAL NURSING (2-0) 2 hours credit.** Selected concepts and processes for professional nursing. Introduction to nursing's theoretical, philosophical, ethical and legal dimensions. Socialization into nursing roles.

**3242. CONCEPTUAL FOUNDATIONS FOR PROFESSIONAL NURSING (2-0) 2 hours credit.** Introduction to concepts foundational for professional nursing practice. Essential values, behaviors, and processes required for implementing professional nursing roles. Registered nurse students only. Prerequisites: All lower division courses. #

**3320. HOLISTIC HEALTH ASSESSMENT (2-3) 3 hours credit.** Theory and practice of holistic health assessment of individuals and families across the life span with emphasis on normal findings. Concurrent enrollment: NURS 3365, 3366, 3240, 3532, or RN student. \$25 course fee. #

**3334. INTRODUCTION TO POPULATION-FOCUSED NURSING PRACTICE (2-3) 3 hours credit.** Concepts and processes of public health science and community health nursing. The nursing process is applied for individuals, family, and population-focused care. Registered nurse students only. \$10 course fee. #

**3335. HEALTH PROMOTION ACROSS THE LIFE SPAN (3-0) 3 hours credit.** Health and health promotion for individuals, families, and communities. The nurse's role in health promotion. Registered nurse students only. Prerequisites or concurrent enrollment: NURS 3242, 3320, 3341. #

**3341. THEORIES IN PROFESSIONAL NURSING (3-0) 3 hours credit.** Theories from nursing science, social sciences, and humanities for application in the practice of professional nursing. Registered nurse students only. Prerequisite or concurrent enrollment: NURS 3242. #

**3360. PATHOPHYSIOLOGIC AND PSYCHOPATHOLOGIC PROCESSES IN THE PERSON (3-0) 3 hours credit.** Focus is on providing a knowledge base of pathophysiologic and psychopathologic processes which affect health status. Integration of structural, functional, and regulatory processes and their effects on health of the individual. Registered nurse students only.

**3365. PHARMACOLOGY IN NURSING PRACTICE (3-0) 3 hours credit.** Introduction to current concepts of pharmacology and their relationship to nursing practice. Included are basic principles of drug actions, side effects for major drug classifications, and the role of the nurse in drug therapeutics. Concurrent enrollment: NURS 3240, 3320, 3366, and 3532.

**3366. PATHOPHYSIOLOGIC PROCESSES: IMPLICATIONS FOR NURSING (3-0) 3 hours credit.** Pathophysiologic alterations, their interactions, and effects on persons across the life span as a basis for therapeutic nursing interventions. Concurrent enrollment: NURS 3320, 3365, and 3532. Prerequisite or concurrent enrollment: NURS 3240.

**3421. HEALTH PROMOTION AND ILLNESS PREVENTION ACROSS THE LIFE SPAN (3-3) 4 hours credit.** Focus on health promotion and disease prevention strategies that can reduce morbidity and mortality, promote healthy lifestyles and empower individuals and aggregates to become informed health care consumers. Prerequisites: NURS 3240, 3320, 3365, 3366, and 3532. \$10 course fee.

- 3431. PROFESSIONAL NURSING SEMINAR I (4-0) 4 hours credit.** Theories and concepts for professional nursing practice. Focus on primary and secondary prevention throughout the life span and in providing professional nursing care in diverse settings. Registered nurse students only.
- 3532. CLINICAL NURSING FOUNDATIONS (2-9) 5 hours credit.** Basic therapeutic nursing interventions with individuals and families in diverse settings using nursing process framework. Required to receive 90 percent or above (three opportunities) on medication competency test. Prerequisites or concurrent enrollment: NURS 3240, 3320, 3365, and 3366. \$25 course fee.
- 3561. NURSING OF ADULTS (3-6) 5 hours credit.** Application of the nursing process with emphasis on critical thinking, therapeutic nursing interventions, and effective communication for persons experiencing medical-surgical problems. Theory and clinical application in diverse settings. Prerequisites: NURS 3240, 3320, 3365, 3366, and 3532. \$25 course fee.
- 3681. PSYCHIATRIC MENTAL HEALTH NURSING OF INDIVIDUALS, FAMILIES, AND GROUPS (4-6) 6 hours credit.** Application of the nursing process with emphasis on critical thinking, therapeutic nursing interventions, and effective communication and interpersonal skills as they relate to persons with psychiatric mental health conditions. Prerequisites: NURS 3240, 3320, 3365, 3366, 3532. \$10 course fee.
- 3831. PROFESSIONAL NURSING PRACTICUM AND SEMINAR II (1-21) 8 hours credit.** Clinical application of theories and concepts for professional nursing practice. Primary and secondary prevention throughout the life span; focus on professional nursing care in diverse settings. Registered nurse students only. \$4 course fee.
- 4100. COOPERATIVE NURSING WORK EXPERIENCE (1-0) 1 hour credit.** Designed for nursing cooperative education students to integrate classroom study with career-related practical experience in the workplace. May be repeated for credit. Prerequisite: Consent of instructor.
- 4200. COOPERATIVE NURSING WORK EXPERIENCE (2-0) 2 hours credit.** Designed for nursing cooperative education students to integrate classroom study with career-related practical experience in the workplace. May be repeated for credit. Prerequisite: Consent of instructor.
- 4223. PROFESSIONAL NURSING TRENDS (2-0) 2 hours credit.** Analysis of societal issues and trends influencing health care. Application of ethical, legal, economic, and political concepts. Identification of strategies for personal and professional empowerment. Prerequisites: NURS 4321, 4361, 4531, and 4541. \$30 course fee.
- 4224. PROFESSIONAL NURSING (2-0) 2 hours credit.** Ethical, legal, legislative, and political processes that have impact upon the practice of professional nursing in contemporary health care. Identifying strategies for personal and professional empowerment. Registered nurse students only. Prerequisites: All required Junior level courses. Recommended: NURS 4321.
- 4225. FUTURE DIRECTIONS FOR PROFESSIONAL NURSING (2-0) 2 hours credit.** Emerging health care and societal issues and trends and the effect on professional nursing roles. Future directions for enhancing the quality of nursing care. Registered nurse students only. Prerequisites: All required Junior level courses. Prerequisites or concurrent enrollment: NURS 4324, 4281, 4463, 4451. #
- 4281. PROFESSIONAL NURSING SEMINAR V (2-0) 2 hours credit.** Theories and concepts for professional nursing practice. Secondary and tertiary prevention throughout the life span; focus on professional nursing care in diverse settings. Registered nurse students only. \$30 course fee. #
- 4321. NURSING RESEARCH (3-0) 3 hours credit.** Basic concepts, processes, and applications of nursing research. Research role of the nurse in decision making and clinical practice. Prerequisites: NURS 3431, 3561, 3681 or registered nurse students. #
- 4324. PROFESSIONAL NURSING (3-0) 3 hours credit.** Ethical, legal, legislative, and political processes that have impact upon the practice of professional nursing in contemporary health care. Identifying strategies for personal and professional empowerment. Registered nurse students only. #
- 4361. NURSING OF OLDER ADULTS (2-3) 3 hours credit.** Selected concepts and issues related to aging and its impact on society and health care. Introduction to gerontologic nursing principles. Clinical application in diverse settings across the continuum of care. Prerequisites: NURS 3431, 3561, 3681. \$10 course fee.
- 4451. NURSING LEADERSHIP AND MANAGEMENT (2-6) 4 hours credit.** Exploration of organizational strategies, leadership theories and societal trends with implications for decision making in health care. Introduction to management skills needed by professional nurses with clinical application in diverse settings. Prerequisites: NURS 4321, 4361, 4531, 4541 or RN student. \$10 course fee. #
- 4462. COMMUNITY HEALTH NURSING (2-6) 4 hours credit.** Integrate knowledge from nursing theory and public health science in assessing health care needs of aggregates, communities and society. Prerequisites: NURS 4321, 4361, 4531, 4541. \$10 course fee.
- 4463. ADVANCED CONCEPTS OF POPULATION-FOCUSED PRACTICE (2-6) 4 hours credit.** Exploration of population-focused settings for community health nursing practice. Application of models and methods of community health, health planning, epidemiology, and research. Registered nurse students only. \$10 course fee. #
- 4531. NURSING OF CHILDREN AND ADOLESCENTS (3-6) 5 hours credit.** Nursing care for infants, children, adolescents, and their families. Theory and clinical application in diverse settings. Prerequisites: NURS 3431, 3561, 3681. \$12 course fee.
- 4541. NURSING OF THE CHILDBEARING FAMILY (3-6) 5 hours credit.** Application of the nursing process with emphasis on critical thinking, communication and therapeutic nursing interventions as related to care of individuals and families during the childbearing experience. Prerequisites: NURS 3431, 3561, 3681. \$12 course fee.
- 4561. PROFESSIONAL NURSING PRACTICUM AND SEMINAR III (1-12) 5 hours credit.** Clinical application of theories and concepts for professional nursing practice. Secondary and tertiary prevention throughout the life span; focus on professional nursing care in diverse settings. Registered nurse students only. \$4 course fee.
- 4571. PROFESSIONAL NURSING PRACTICUM AND SEMINAR IV (1-12) 5 hours credit.** Clinical application of theories and concepts for professional nursing practice. Secondary and tertiary prevention throughout the life span; focus on professional nursing care in diverse settings. Registered nurse students only. \$4 course fee.
- 4581. NURSING OF ADULTS WITH COMPLEX NEEDS (3-6) 5 hours credit.** Use of critical thinking, therapeutic nursing interventions and communication skills in promoting quality of life for persons with complex health needs. Application of nursing roles in diverse settings. Prerequisites: NURS 4321, 4361, 4531, and 4541. \$12 course fee.

The following electives may or may not be taught every semester.

**3350. ELECTRONIC INFORMATION RETRIEVAL IN HEALTH CARE (3-0) 3 hours credit.** Experience in the use of electronic information tools to access and manage health care information in an electronic format.

**3351. ADVANCED NURSING: NATURAL FAMILY PLANNING (2-3) 3 hours credit.** Investigation of natural family planning, strategies, and the application of these methods to various reproductive states. Development of a knowledge base for patient teaching and practice in natural family planning education. Prerequisite: BIOL 2458 or consent of instructor. \$2 course fee.

**3353. NURSING ASSESSMENT AND INTERVENTIONS FOR THE VIOLENT FAMILY (3-0) 3 hours credit.** Explores the dynamics of family violence as to etiologies, assessments and interventions for both survivors and perpetrators of violence. An interdisciplinary approach is followed. Prerequisite: Lower division psychology course.

**3354. NURSING COMMUNICATION WITH SPANISH SPEAKING CLIENTS (3-0) 3 hours credit.** Identification, discussion and practice of communication strategies specific to Spanish speaking clients. Focus on vocabulary specific to assessment and intervention with persons whose primary language is Spanish. Prerequisite: Admission to the nursing program or consent of instructor.

**3361. HOLISTIC NURSING/ALTERNATIVE THERAPIES (3-0) 3 hours credit.** Students will explore aspects of holistic health care, the psychophysiology of body/mind healing, lifestyle behaviors and select alternative therapies of care. Prerequisites: NURS 3561, 3681, 3421 or RN student.

**3362. SPIRITUAL CARE IN NURSING (3-0) 3 hours credit.** Students will explore the aspects of spiritual care including the meaning of spirituality, assessment of spiritual well-being, diagnosis of spiritual needs, delivery of spiritual care, and evaluation of intervention effectiveness. Transcultural views of spirituality will be discussed along with ethical implications of spiritual care in nursing. Prerequisites: NURS 3240, 3320, 3365, 3366, 3532 or RN student.

**3363. ETHICAL ISSUES IN CONTEMPORARY HEALTH CARE (3-0) 3 hours credit.** Examines philosophic foundations of ethical decision making in contemporary health care. Methods of moral reasoning based upon traditional ethical frameworks will be applied to selected ethical issues. Prerequisites: NURS 3561, 3681, 3421 or RN student.

**3637, 3537, 3437, 3337, 3237, 3137. INDEPENDENT STUDY (Variable credit from 1 to 6 semester hours as arranged).** Topic and mode of study are agreed upon by the student and instructor. May be repeated with various topics.

**3647, 3347, 3147. SPECIALIZED TOPICS IN NURSING (Variable credit from 1 to 6 semester hours as arranged).** Areas of special interest. May be repeated with varied topics. Prerequisites: junior standing or consent of instructor.

**3652. OPERATING ROOM - CONTINUOUS CARE EXPERIENCE (3-9) 6 hours credit.** Clinical experience with patients who require surgical intervention. Focus on the complete cycle of care: pre-operative teaching, an intraoperative segment, and postoperative care. Prerequisites: NURS 3366 and 3561 or consent of instructor. \$10 course fee.

**3653. EMERGENCY NURSING (3-9) 6 hours credit.** The application of the nursing process to the care of patients experiencing medical or surgical emergencies, or traumatic injuries. In-depth study of nursing problems related to selected emergency situations. Prerequisites: NURS 3431, 3561, and 3681 or consent of instructor. \$10 course fee.

**4351. THERAPEUTIC COMMUNICATION FOR HEALTH CARE PROFESSIONALS (3-0) 3 hours credit.** Identification, discussion, and practice of specific communication techniques to aid health care professionals in confronting and dealing effectively with conflict.

**4352. DEVELOPING PROBLEM SOLVING AND PROGRAM DEVELOPMENT SKILLS IN HEALTH CARE DELIVERY (3-0) 3 hours credit.** Identification of client problems, making referrals, and the development of programs with the client to resolve identified problems.

**4652. CLINICAL EXTERNSHIP (2-12) 6 hours credit.** Expansion of nursing knowledge and skills; application of the nursing process concepts. Prerequisites: NURS 3431, 3561, and 3681. \$2 course fee.

**4653. ISSUES IN NURSING PRACTICE: SERVICE AND EDUCATION (5-3) 6 hours credit.** Issues related to the practice of nursing in educational and service settings. The management role of the nurse in the acute care, community health, education, and other health care settings. Issues and trends related to society, economics, politics, litigation, organization, technology, and their effects on nursing. Prerequisite: all required junior level courses or consent of instructor. \$2 course fee.

**4654. ADVANCED NURSING: PEDIATRIC INTENSIVE CARE (3-9) 6 hours credit.** Practice of nursing in the pediatric and neonatal intensive care units. Nursing care using the nursing process needed by critically ill pediatric patients who require life support and monitoring systems. Prerequisites: NURS 4541, 4531, 4361, and 4321, or consent of instructor. \$10 course fee.

**4655. CULTURAL VARIATION IN NURSING PRACTICE: A COMPARATIVE ANALYSIS OF TWO CULTURES (6-0) 6 hours credit.** A comparative analysis of two cultures and the influences of cultural beliefs and practices upon the delivery of nursing care. Includes field study in a foreign country. Prerequisites: Completion of Junior I required nursing courses or consent of instructor.

# Courses with a \$20 Distance Education Fee for only those students at the four distance sites: Grayson, Kaufman, Paris and Waco.



# The College of Science

206 Life Science Bldg. • Box 19047 • 817-272-3491

The College of Science consists of the Departments of Biology, Chemistry and Biochemistry, Geology, Mathematics, Physics, and Psychology. Bachelor of science degrees are offered in all of the science departments and bachelor of arts degrees in most of them. The B.A. degrees are for students who prefer a broad liberal education with a concentration in science. The B.S. degrees are for those who want a thorough grounding in the fundamentals of a science and serve as excellent preparation for either graduate work or application of science in technological industries, medical institutions, government laboratories, business, or commerce. Several of the science departments list degree options which illustrate a few of the specialties that can be developed. The number of individual degree plans that can be designed to fit career goals is large. Students are urged to consult departmental advisors for assistance in formulating career objectives and the corresponding educational plans.

The College of Science offers programs leading to graduate degrees in all departments. These degrees include Mathematical Sciences and Radiological Physics. Consult the graduate catalog for details of master's and doctoral programs.

## Opportunities in Science

The marvels of the 21st century will spring from science just as did those of the 20th century. The crowning achievements of the past century are numerous. Miracle drugs, efficient fuels, arrays of synthetic materials, the transistor, the laser, nuclear power, solar energy, the computer, the electron microscope, and sophisticated techniques for locating mineral deposits are merely a few examples. Discoveries of similar magnitude will be made in the next century as scientists bring their talents to bear on modern society's pressing problems such as energy, environmental protection, and improved health care for mental and physical problems.

## Requirements for Admission to the College of Science

Admission to The University of Texas at Arlington does not admit the student to any specific degree program. Students admitted to the University who wish to pursue a major in one of the science programs must apply to the appropriate academic unit for acceptance. Students should familiarize themselves with the general requirements for acceptance to the program of their choice as well as the specific requirements and the details of academic probation policies which may differ among science programs.

### General University Requirements

All new students to the University, including transfer students, must first enroll in the Academic Foundations Program (AFP) and remain in the AFP until acceptance into a major program. AFP stu-

dents may declare a major within AFP and are encouraged to take courses in the discipline in which they wish to major, but students will remain subject to requirements governing AFP students until being accepted as majors in a program. The University's policy governing admission to a degree program for non-transfer and transfer students is stated elsewhere in this catalog and will be explained to students by counselors within the college.

### Academic Advising of AFP Students

All AFP students will be advised by advisors from their intended departmental major. Students with a declared major within AFP should consult with designated undergraduate advisors in the discipline of choice to insure that their program of study while in AFP provides the appropriate foundation courses to qualify for acceptance as a major in that discipline.

### Undergraduate Admission to Major Status in the College of Science

Students are eligible for admission to major status in a degree program in the College of Science upon completion of the University's core and residency requirements with a minimum overall GPA of 2.25 and a minimum GPA of 2.25 for a minimum of 11 credit hours of math or science courses taken in residence as specified by individual programs. See listings under math and science programs for specific course and GPA requirements. The actual number of credit hours used for GPA calculation may exceed the minimum depending on a student's specific program of study. Each degree program within the College of Science requires completion of a core of courses specific to that program before the student is eligible for major status. In many cases a portion of courses specific to a program may also satisfy all or a portion of the University science core. In other cases, courses specific to a program are in addition to courses required by the University core and will require the student to accumulate more than the minimum number of credit hours required by AFP before being considered for acceptance into a program. Courses completed under the Honors Program may substitute for College of Science course requirements where applicable.

### Academic Probation Policy for College of Science Majors

College of Science majors are required to maintain a minimum overall GPA of 2.0 as well as a minimum GPA of 2.0 in major courses to remain in good standing. Students whose overall or major GPA falls below 2.0 will be placed on academic probation and returned to the AFP until such time that the student's overall and major GPA reaches 2.0.

The general policy on academic probation for the College of Science may be superseded by stated policies within individual science programs.

## Program Course Requirements within the College of Science

Courses listed below by program category are the minimum courses required in conjunction with or in addition to the University core curriculum before a student is eligible for acceptance into major status within a program.

### Biology (Programs in Biology, Microbiology, and Medical Technology)

Students who wish to apply for major status in one of the three degree programs in biology must first satisfy each of the following:

- U.T. Arlington and College of Science requirements.
- completion of a minimum of 11 hours of biology courses in residence.
- have acquired 12 hours of credit for BIOL 1441, 1442, 2343 and 2451 and eight hours of credit for CHEM 1301, 1302 and 1284.

A student transferring biology courses from another institution should contact the Department Advisor for a list of suggested courses to take in residence.

Students currently enrolled at the University may qualify to change their major to biology by meeting the requirements listed above.

**Academic Probation (College of Science):** Majors whose overall GPA or GPA in major courses falls below 2.0 will be placed on probation and, in addition to counseling by the University's Academic Advising Office, may consult with the Department Advisor prior to enrolling in additional courses.

### Chemistry and Biochemistry

Students who wish to apply for major status in programs in chemistry or biochemistry must first complete the University and College of Science requirements and the specific requirements of the Department of Chemistry and Biochemistry listed below:

- CHEM 1301, CHEM 1302, and CHEM 1284.
- Six hours of mathematics approved by the department.
- Four hours of either biology or geology.
- Twelve hours of courses of the University core curriculum in disciplines other than science and mathematics.

Students currently enrolled at the University may qualify to change their major to chemistry or biochemistry by meeting the requirements listed above.

Entering students who intend to major in chemistry or biochemistry should schedule an appointment with the Department Advisor in addition to counseling within the Academic Foundations Program.

**Academic Probation (College of Science):** Majors whose overall GPA or GPA in major courses falls below 2.0 will be placed on probation and, in addition to counseling by the University's Academic Advising Office, must consult with the Department Advisor prior to enrolling in additional courses.

### Geology

Students who wish to apply for major status in programs in geology must first complete the University and College of Science requirements and the specific requirements of the Department of Geology listed below:

- GEOL 1435 and GEOL 1436.
- Seven hours of mathematics for B.S. program (MATH 1325 and MATH 1426) or six hours of mathematics for B.A. program (MATH 1324 [or MATH 1302 and MATH 1303] and MATH 3316 or 1308).
- CHEM 1301.
- Twelve hours of courses of the University core curriculum in disciplines other than science and mathematics.

Students currently enrolled at the University may qualify to change their major to geology by meeting the requirements listed above.

Entering students who intend to major in geology should schedule an appointment with the Department Advisor in addition to counseling within the Academic Foundations Program.

**Academic Probation (College of Science):** Majors whose overall GPA or GPA in major courses falls below 2.0 will be placed on probation and, in addition to counseling by the University's Academic Advising Office, must consult with the Department Advisor prior to enrolling in additional courses.

### Mathematics

Students who wish to apply for major status in mathematics must first complete the University and College of Science requirements and the specific requirements of the Department of Mathematics listed below.

- Minimum GPA of 2.25 in at least nine hours of mathematics courses in residence at the level of MATH 1325 or above.
- At least six hours from the science or computer science courses listed in the mathematics degree plans.
- Twelve hours of courses of the University core curriculum in disciplines other than science and mathematics.

Students currently enrolled at the University may qualify to change their major to mathematics by meeting the requirements listed above.

Entering students who intend to major in mathematics should schedule an appointment with the Department Advisor in addition to counseling within the Academic Foundations Program.

**Academic Probation (College of Science):** Majors whose overall GPA or GPA in major courses falls below 2.0 will be placed on probation and, in addition to counseling by the University's Academic Advising Office, must consult with the Department Advisor prior to enrolling in additional courses.

### Physics

Students wishing to be accepted into the physics program should first enroll as physics majors within AFP. Students should schedule an appointment with the Departmental Advisor to ensure that he/she will take the appropriate courses necessary to be accepted as a physics major. A student may apply for major status upon satisfying University and College requirements and successful completion of major courses prescribed by the physics program.

Students currently enrolled at the University may qualify to change their major to physics by meeting the requirements listed above.

**Academic Probation (College of Science):** Majors whose overall GPA or GPA in major courses falls below 2.0 will be placed on pro-

bation and, in addition to counseling by the University's Academic Advising Office, must consult with the Department Advisor prior to enrolling in additional courses.

### Psychology

Students wishing to be accepted into the psychology program should first enroll in the Academic Foundations Program (AFP PSYC). Admission to major status in the psychology program is dependent upon successful completion of the minimum core and residency hours prescribed by the University for non-transfer and transfer students and the College of Science GPA requirements and a 2.25 GPA in all psychology courses taken in residence. Course work satisfying the core and residency requirements must include ENGL 1301 and 1302; three hours of mathematics (college algebra or above); four hours of laboratory science; nine hours in English, history, political science, social and cultural studies, fine arts and philosophy; and PSYC 1315 and 2441.

Students currently enrolled at the University may qualify to change their major to psychology by meeting the requirements listed above.

Admission to major status in the psychology program requires application to the Departmental Advisor.

**Academic Probation (College of Science):** Majors whose overall GPA or GPA in major courses falls below 2.0 will be placed on probation and, in addition to counseling by the University's Academic Advising Office, must consult with the Department Advisor prior to enrolling in additional courses.

### Undecided Science Major

Entering freshmen who plan eventually to major in one of the science degree programs but who have not decided on a particular major at the time of enrollment should declare an "Undecided Science Major" and may consult the Office of the Dean of Science for advice on specific courses before registration. The student is urged to declare his/her major by the beginning of the sophomore year and consult an advisor in his/her major department before subsequent registrations.

### Computer Literacy Requirement

Any student who graduates with a major in one of the disciplines represented by the departments in the College of Science must demonstrate computer literacy—defined as follows:

- Be able to use a computer terminal (connected to a microcomputer, minicomputer, or main-frame computer) to run established programs pertinent to the student's discipline.
- Be able to write, program, and run simple programs in an approved computer language. See each departmental listing for specific ways to satisfy this requirement.

### Substitutions for Foreign Language in the College of Science Bachelor of Arts Degree Requirements

With the approval of the major advisor and the Dean of Science, a student may substitute two courses in a single area cluster for six hours of a foreign language. The area clusters:

#### African American area cluster

HIST 3365. Afro-American History to 1865  
 HIST 3366. Afro-American History, 1865-present  
 POLS 4312. African Regional Subsystems  
 HIST 4374. African History I  
 HIST 4375. African History II  
 HIST 4376. African Diaspora I  
 HIST 4377. African Diaspora II

#### Mexican area cluster

ANTH 3346. Cultures of the American Southwest  
 HIST 3368. The History of the Mexican American  
 HIST 4368. History of Mexico  
 POLS 3317 Mexican Politics and U.S.-Mexico Relations

#### American Indian area cluster

ANTH 3333. North American Indians  
 ANTH 3346. Cultures of the American Southwest  
 HIST 3367. American Indian History

#### Middle East area cluster

ART 3301. Ancient Near East  
 POLS 4310. Middle East Regional Subsystem  
 HIST 4371. Middle East in the Twentieth Century

#### Far East area cluster

HIST 4379. History of Modern China  
 PHIL 3315. Oriental Philosophy and Religion  
 POLS 3318. Political Systems of East Asia

#### Russian area cluster

ENGL 3301. Russian Literature in Translation  
 HIST 4359. History of Russia to 1855  
 HIST 4360. History of Russia since 1855  
 POLS 4361. The Political Environment of Russia and the Successor States  
 POLS 4362. Russia and the Successor States Today

#### Latin America area cluster

ART 3318. Pre-Columbian  
 HIST 4365. History of Spain and Portugal  
 HIST 4366. Latin American History: Origins Through Independence  
 HIST 4367. Latin American History: Post-Independence to the Present  
 POLS 3316. Latin American Politics

One of ANTH 2322, Cultural Anthropology, or ANTH 3331, Culture and Personality, or LING 2301, Introduction to the Study of Human Languages, may substitute for three hours in one of the area clusters.

## Premedical/Predental and Post Baccalaureate Professional Programs

Advising for premedical/dental/pharmacy/optometry and veterinary medicine students is available through the Dean of Science Office, Room 206 in the Life Science Building. Services for students include preadmission counseling, career counseling, and assistance in applying to professional schools. Many medical and dental schools request a recommendation from the school the applicant attended. In order to provide this recommendation, The University of Texas at Arlington created a Health Professions Advisory Committee. The purpose of the committee is to interview and evaluate viable applicants for admission to medical or dental school. Criteria for obtaining a committee recommendation are established by the committee and are periodically reviewed. Students planning to apply to professional schools should contact the Dean's office at least one year prior to making application.

Medical and dental school applicants should begin the application process in January of the year preceding entry to professional school. An applicant's file should be complete, including the Health Professions Advisory Committee evaluation, by May 1. Students who have not completed their files by May 1 must petition the Health Professions Advisor for special consideration and must document the reason for requesting an extension of the May 1 deadline.

Students who plan to enroll for the fall MCAT and DAT are expected to follow the spring application process. The professional schools will hold the applicant's credentials until MCAT and DAT scores are received.

### Premedical and Predental Curriculum

In general, medical and dental school admission committees do not state a preference regarding an undergraduate major, leaving the student to choose a degree program suited to his or her special abilities and interests. Therefore, the student may choose any major, after conferring with an advisor, as long as the minimum requirements stated by the medical and dental schools are met. The minimum admission requirements for medical and dental school in Texas are shown below with U.T. Arlington courses in parentheses.

#### Biology

14 semester hours: 12 hours lecture, 2 hours lab (1441 and three additional courses).

#### Chemistry

16 semester hours: 8 hours general chemistry with lab (1301, 1302/1284), and 8 hours organic chemistry with lab (2321/2181, 2322/2182).

#### English

6 semester hours (1301, 1302).

#### Mathematics

One course of calculus (1426) (not required for admission to dental schools).

#### Physics

8 semester hours including lab (1441/1442 or 1443/1444).

#### Test

The Medical College Admission Test (MCAT) or the Dental Aptitude Test (DAT) is required.

The requirements listed here are representative of admission requirements for most American medical and dental schools.

### Pre-Optometry

A minimum of 90 credit hours of course work is required for admission to the University of Houston, College of Optometry. The following list of courses must be completed prior to matriculation at the College of Optometry. Applicants will also be expected to receive acceptable scores on the Optometry College Aptitude Test.

#### Biology

1441, 1442, 2451, 2457, 2458, 3442

#### Inorganic Chemistry

1301, 1302, 1284

#### Organic Chemistry

2321 & 2181, 2322 & 2182

#### Biochemistry

4311

#### Physics

1441, 1442

#### Calculus

1426

#### Psychology

1315, 2441

#### English Composition

6 credit hours

#### English Literature

6 credit hours

### Pre-Pharmacy (U.T. Austin)

A minimum of 60 credit hours of course work is required for admission to The University of Texas College of Pharmacy in Austin. The following list of courses must be taken prior to matriculation to the College of Pharmacy. Applicants will also be expected to receive acceptable scores on the Pharmacy College Aptitude Test or other examination acceptable to the College of Pharmacy.

#### Biology

1441, 1442, 2451

#### Inorganic Chemistry

1301, 1302, 1284

#### Organic Chemistry

2321 & 2181, 2322 & 2182

#### Physics

1441

#### Mathematics

1308, 1426

#### English Composition

1301

#### English Literature

3 credit hours

#### History

1311, 1312

#### Political Science

2311, 2312

#### Fine Arts or Humanities

3 credit hours

#### Social Science

3 credit hours

#### Foreign Language

1441, 1442 or 2 years of a single foreign language in high school

## Pre-Veterinary Medicine

A minimum of 64 credit hours of coursework is required for admission to the Texas A&M College of Veterinary Medicine. The following list of courses must be completed prior to matriculation at A&M. Applicants will also be expected to receive acceptable scores on the Graduate Record Examination and to have experience working with veterinarians who care for large and small animals.

### Biology

1441, 2451, 3315

### Animal Nutrition

(Not offered at UTA)

### Inorganic Chemistry

1301, 1302, & 1284

### Organic Chemistry

2321 & 2181, 2322 & 2182

### Biochemistry

4311

### Physics

1441, 1442

### Calculus

1426

### English Composition

1301

### English Literature

3 credit hours

### Speech

1301

### Technical Writing

(Not offered at UTA)

All preprofessional applicants should contact the advisor for suggested course sequences, prerequisites, suggested work experience, recommendation letters, and assistance in applying to these or other professional schools.

## Allied Health Programs

The University of Texas at Arlington offers a number of programs in the allied health sciences. Career Counseling, degree plan evaluation and assistance in procuring hands-on experience are available for students seeking degrees in:

### Health Care Administration

### Physical Therapy

### Dental Hygiene

### Physician's Assistant

### Gerontology

### Prosthetics and Orthotics

### Medical Technology\*

### Rehabilitation Science

### Dietetics

as well as other related fields. These services are offered through the office of the Allied Health Coordinator, Department of Biology, Room 351, Life Science Building.

\* The program leading to a Bachelor of Science Degree in Medical Technology is described under the Department of Biology.

## Teacher Certification in the Sciences

Programs leading to teacher certification at the elementary and secondary levels are available in the science departments. Included among these are secondary certification in Composite Science offered in the Departments of Chemistry and Biochemistry and Physics, in Earth Science offered in the Department of Geology, in Life-Earth Science offered in the Departments of Biology and Geology, and in Physical Science offered in the Departments of Chemistry and Biochemistry and Physics. These programs are coordinated with the Center for Professional Teacher Education. For more information, the student should see the Center for Professional Teacher Education section of this catalog.

## Science Major/Business Administration Minor

Science majors planning to pursue a Master of Business Administration degree are advised to select a minor (18-24 semester hours) from the following courses: ACCT 2301, 2302, BUSA 2301, 2302, 3306, 3321, MANA 3319, FINA 3313, MARK 3321, and ECON 2305, 2306. Completion of the above courses will allow the student, subject to normal graduate admission requirements, to reduce the foundation MBA program requirements. A student not completing all of the courses identified above will be required to enroll in the appropriate MBA foundation courses. All students minoring in business administration should consult with an undergraduate advisor in the College of Business Administration.

## Pass-Fail Program

Students majoring in a science who have earned at least 60 semester hours credit with a grade-point average of 2.5 or better may take as many as 12 semester hours on a pass-fail basis in elective courses in the sciences or mathematics for credit toward their degrees. Permission for a maximum of two courses in a given semester may be obtained up to the Census Day. Forms for both science and non-science majors are available in the Office of the Dean of Science.

Students not majoring in a science are invited to take, on a pass-fail basis, with the approval of their major departments, any course offered in the College of Science for which they are qualified.

## Transfer Students

Students transferring from other institutions are invited to explore opportunities in the College of Science. Inquiries about equivalency of courses and other questions related to transferring are welcome in the Office of the Dean of Science.

Students who plan to attend junior college or another senior college before entering U.T. Arlington can get help in planning their programs of courses and may avoid needless delay of graduation by consulting an advisor in the Office of the Dean of Science before matriculating.

## Science Constituent Council

The Science Constituent Council, the official student government for the College of Science, is an organization which serves both students and the College. It meets at least once a month, and one of its purposes is to involve a greater number of students in matters of interest to those taking courses in the College of Science. Members are majors in the departments of the College. At least half of the voting members are elected at the time of the student congress elections. Self-nomination is encouraged.

## Science Learning Center

The Science Learning Center is located in Room 106 of the Life Science Building. It is a great resource for students in the College of Science in need of help in Biology, Chemistry, Geology, Mathematics, Physics and Psychology.

The Science Learning Center maintains a number of materials such as sample tests, homework solutions, readings required for certain courses, lab notes, study guides, and solution manuals. Also available are a number of video tapes for Mathematics and Chemistry.

Students must have a valid ID card for check out.

Adjacent to the Science Learning Center in Room 103 Life Science is a computer lab equipped with Mac computers. This facility is a joint effort between the College of Science and Academic Computing Services.

## Math Clinic

The Math Clinic is a service provided on a walk-in basis for all math students enrolled in Math 0300, 1302, 1303, 1308, 1315, 1316, 1324 and 1325. It is located in Room 314, Pickard Hall, and open seven days a week. The tutors are outstanding undergraduate students with demonstrated abilities for helping students.

## Science and Mathematics for the Non-Science Major

The following is a list of some of the courses that are applicable to science and mathematics requirements. The student is advised to examine the requirements for his or her degree before making selections. The list is intended, also, to encourage interest in the sciences and mathematics beyond degree requirements. The courses named have no prerequisites, few prerequisites, or prerequisites consisting of introductory courses only. The figures in parenthesis indicate the number of hours of instruction per week in the Fall and Spring Semesters. The first figure indicates the amount of time devoted to theory, and the second indicates the amount of time devoted to laboratory work.

### Biology

- 1301. Nutrition (3-0)
- 1333. Introduction to Biology (3-0)
- 1334. Introduction to Biology (3-0)
- 2311. Man and Environment (3-0)
- 2312. Heredity and Human Affairs (3-0)
- 2315. Plants and Man (3-0)
- 2317. Basic Concepts in Human Sexuality (3-0)
- 3303. Drugs and Behavior (3-0)

### Chemistry

- 1300. Introductory Chemical Principles (3-0)
- 1445. Chemistry for Non-Science Majors (3-3)
- 1451. General and Biological Chemistry (3-3)
- 1463. Forensic Chemistry (3-3)
- 3310. Air Pollution Chemistry (3-0)

### Geology

- 1435. Introduction to Physical Geology (3-3)
- 1436. Introduction to Historical Geology (3-3)
- 3303. Volcanoes and Volcanic Eruptions (3-0)
- 3304. Geologic Hazards (3-0)
- 3306. Geologic Time and the Fossil Record (3-0)
- 3307. Geology and Energy Resources (3-0)
- 3308. Geology of National Parks and Monuments (3-0)
- 3309. Landscape Evolution (3-0)
- 3310. Planetary Geology (3-0)
- 3311. Race to Save the Planet (3-0)

### Mathematics

- 1302. College Algebra (3-0)
- 1315. College Algebra for Economics and Business Analysis (3-0)

### Physics

- 1300. Introduction to Musical Acoustics (3-0)
- 1401. Physics for Nonspecialists I (3-2)
- 1402. Physics for Nonspecialists II (3-2)
- 1445. Introductory Astronomy I (3-2)
- 1446. Introductory Astronomy II (3-2)

The courses in psychology which are listed below are of general interest. Such courses contribute significantly to a well-balanced education even though they do not apply to any science requirement. Courses marked with an asterisk can be taken as biology.

### Psychology

- 1315. Introduction to Psychology (3-0)
- 2310. Behavior Management and Modification (3-0)
- 2313. Environmental Psychology (3-0)
- 2317. Basic Concepts in Human Sexuality (3-0)\*
- 2319. Analysis of Parapsychology and Other Controversial Sciences (3-0)
- 2441. Psychological Statistics (3-2)
- 3301. Human Relations (3-0)
- 3303. Drugs and Behavior (3-0)\*
- 3306. Psychology of Creativity and Creative Thinking (3-0)
- 3310. Developmental Psychology (3-0)
- 3311. Aging and Adulthood (3-0)
- 3313. Psychology of Women (3-0)
- 3314. Psychology of Personality (3-0)
- 3315. Social Psychology (3-0)
- 3317. Introduction to Clinical and Counseling Psychology (3-0)
- 3318. Abnormal Psychology (3-0)
- 3326. Animal Behavior (3-0)\*

# The Department of Biology

337 Life Science Bldg. • Box 19498 • 817-272-2871

The Department of Biology provides training in the biosciences to undergraduate and graduate students so that they can pursue careers in the medical and allied health professions, biomedical sciences and biosciences research. With a diverse and interactive research program, students can prepare for positions of leadership in a wide range of basic and applied biological disciplines. The Department of biology offers three programs of study leading to an undergraduate degree. These are the Bachelor of Science Degree in Biology, the Bachelor of Science Degree in Medical Technology, and the Bachelor of Science Degree in Microbiology. The student can select a degree program emphasizing the field of biology best suited to their career goals.

## Applying for Major Status in Biology

Freshmen who have no previous college work must complete the following courses before applying to the Biology Department to become a major:

19 hours from the University core (consisting of courses in English, history, political science, et al. See list of general core curriculum requirements set by the University elsewhere in this catalog). and a minimum of 20 hours from the courses below:

### Biology

**BIOL 1441.** Cell and Molecular Biology

**BIOL 1442.** Structure and Function of Organisms

**BIOL 2343.** Evolution, Ecology and Biodiversity

**BIOL 3315.** Genetics

### MedTech

**BIOL 1441.** Cell and Molecular Biology

**BIOL 1442.** Structure and Function of Organisms

**BIOL 2451.** General Microbiology

### Microbiology

**BIOL 1441.** Cell and Molecular Biology

**BIOL 2451.** General Microbiology

**BIOL 3315.** Genetics

and 1 additional microbiology course

### Chemistry

**CHEM 1301.** General Chemistry 1

**CHEM 1302.** General Chemistry 2

**CHEM 1284.** General Chemistry Laboratory

The applicant for status as a biology major **MUST** have a GPA of 2.25 or better in all courses taken, and 2.25 or better in biology courses. An application form is available from the undergraduate advisor (Room 346 LS).

A suggested course sequence for entering freshmen students for the first two years is:

### Freshman Year

**First Semester:** ENGL 1301; MATH 1325; CHEM 1301; BIOL 1441; HIST 1311; EXSA or Marching Band or ROTC—Total Credit 17 hours.

**Second Semester:** ENGL 1302; MATH 1426; CHEM 1302; CHEM 1284; BIOL 1442 or 2343\*; HIST 1312; EXSA or ROTC—Total Credit 18-19 hours.

### Sophomore Year

**First Semester:** English or SPCH 3302, 3 hours; CHEM 2181 and 2321; BIOL 1442 or 2343\*; POLS 2311; EXSA or ROTC—Total Credit 14-15 hours.

**Second Semester:** English or SPCH 3302, 3 hours; CHEM 2182 and 2322; BIOL 3315; POLS 2312; EXSA or ROTC—Total Credit 14 hours.

\* Micro majors will substitute 2451 in the second semester of freshman year, and another micro class in the first semester of sophomore year. Med Tech majors will substitute 2451 during the first semester of sophomore year.

Transfer students interested in one of the degree programs in the field of biology will, after admission to UTA, be placed into the Academic Foundations Program, to be designated a AFP-BIOL, AFP-MEDT, or AFP-MICR major. To apply for status as a major in biology, microbiology, or medical technology, these students must have a minimum of 39 hours which include:

- At least 28 hours in the UTA core curriculum including eight hours of freshman chemistry, with lab (credit by transfer or earned at U.T. Arlington).
- At least 11 hours in biology courses taken at UTA that apply to one of the three programs awarded by the department.

At the time of application for major status in biology, the student must have a GPA of 2.25 or better in the courses taken at UTA (both overall and in the biology courses). An application form for requesting major status is available from the Department Advisor (Room 346 LS). Transfer students will be evaluated for major status only after completing 11 hours in biology in residence at UTA.

## Maintaining Major Status

- Students who are accepted as majors in biology, microbiology, or medical technology must thereafter maintain a GPA of 2.0 or better in all courses and in biology courses. Any student whose GPA falls below 2.0 in either of these categories will be returned to an AFP status at the end of the semester in which the deficiency occurs. A letter confirming this action will be sent to the student in question.
- If the student is able to make up the GPA deficiency in the semester immediately following loss of major status, he/she can be reinstated as a major by making application to the Departmental Advisor when grades are released. If the deficiency is not made up during this specified time interval, the student must then wait at least one academic year before reapplying to the department for restoration of major status. An academic year is defined as being a Fall and a Spring Semester; or two 5-week summer terms plus one Fall Semester; or one Spring Semester plus two summer terms. Courses to make up a GPA deficit must be taken at U.T. Arlington (individuals should seek advice from the Department Advisor in this regard). Students whose overall or major GPA falls below a 1.25 will not be allowed to register for any junior or senior biology course. Students whose GPA is below 1.0 will not be allowed to register in any biology course. The GPA deficit in all affected areas (overall, major, and/or both) must be raised to 2.25 or better before the student can apply for reinstatement as a major.

- Students who have lost status as a major must have departmental permission to enroll in any junior or senior course in biology at U.T. Arlington.
- Students in the medical technology program whose GPA is below 2.75 (overall and major) after completing 3 years work will not be recommended for the final year of training in medical technology.

## General Information

- To receive a B.S. degree in Biology or Microbiology from UTA, transfer students must complete a minimum of 18 hours of junior or senior level courses (12 of the 18 hours in Biology) at UTA. Transfer students who are approved for admission to the medical technology program must complete at least 13 hours of junior or senior level courses in biology at UTA to qualify for a B.S. Degree in Medical Technology from UTA.
- No student working toward a B.S. degree in Biology, Medical Technology or Microbiology may take any biology course on a Pass/Fail basis other than BIOL 3149, 3249, 3349, 4189, or 4289. Non-majors may enroll in any junior or senior biology course on a Pass/Fail basis at the instructor's discretion. Approval must be given in the first week of the semester. Formal evaluation of the work for Pass/Fail credit will be made by the supervising professor that is consistent with grading in the same or other courses at this level. The equivalent or a grade of C or better is required to receive a Pass.
- Students are not allowed to receive credit for biology courses at the sophomore level or above by special examination.
- Exceptions to the core course prerequisites for advanced courses will be made only for specialized degree programs such as Medical Technology, Nursing, and Physical Education, and for selected non-majors with special needs.

## Selection of a Degree Track and Filing a Degree Plan

A wide range of degree paths and specialized programs are available to meet our students' career goals. Upon acceptance as a major by the Biology Department, each student must select Biology, Microbiology, or Medical Technology as a degree track. Thereafter, each student with major status must obtain the approval of a faculty advisor prior to selecting advanced biology electives for a given degree, and shall file a degree plan with the Departmental Advisor at the start of the junior year. With the assistance of an advisor, students may choose specialized programs for premedical or pre dental studies, preallied health studies, botany, ecology/evolution, physiology, cell and molecular biology or other subdisciplines. Names of faculty advisors and a listing of specified courses for specialized programs will be available in the Departmental Advisor's office in Room 346, Life Science Building.

## Requirements for a Bachelor of Science Degree in Biology

### English

1301, 1302, and six hours of literature or three hours of literature and SPCH 3302.

### Political Science

2311, 2312.

### History

1311, 1312.

### Fine Arts and Philosophy

Three hours from art, dance, music, architecture, philosophy, or theatre arts.

### Social/Cultural Studies

Three hours from social or cultural anthropology, archaeology, social/political/cultural geography, economics, sociology, classical studies, psychology, or linguistics.

### Mathematics\*

1325 and 1426.

### Electives

13 hours.

### Science other than Biology

CHEM 1301, 1302, 1284, 2181, 2321, 2182, and 2322 and PHYS 1441, 1442.

### Computer Literacy

GEOL 1491 or equivalent.

### Major

42 hours including 1441; 1442, 2343, and 3315. Three classes from the remaining 28 hours of advanced majors electives must be laboratory classes and no more than 6 hours from 4189, 4289, 3149, 3249, 3349, and 4388 may be applied to the major.

### Total

120 hours of which at least 36 must be 3000/4000 level, plus exercise and sport activities (EXSA) or marching band or ROTC as required.

\* Transfer students must present a minimum of six semester credit hours of equivalent mathematics.

## Bachelor of Science Degree in Medical Technology

A student who completes the special degree plan given below plus 12 months of clinical laboratory training in an accredited hospital school of medical technology may receive the degree of Bachelor of Science in Medical Technology, which will be conferred by The University of Texas at Arlington. Graduates may become certified in medical technology by passing the examination of the Board of Registry of the American Society of Clinical Pathologists (ASCP).

### English

1301, 1302, and six hours of literature or three hours of literature and SPCH 3302.

### Political Science

2311, 2312.



**History**

1311, 1312.

**Fine Arts and Philosophy**

Three hours from art, dance, music, architecture, philosophy, or theatre arts.

**Social/Cultural Studies**

Three hours from social or cultural anthropology, archaeology, social/political/cultural geography, economics, sociology, classical studies, psychology, or linguistics.

**Mathematics**

1302, and MATH 1303 or PSYC 2441.

**Science other than Biology**

PHYS 1441, 1442; CHEM 1301, 1302, 1284, 2181, 2321, 2182, 2322 and 4311.

**Computer Literacy**

CSE 1301 or equivalent.

**Major**

36 hours including 1441, 1442, 2451, 2457, 2458, 3312, 3315, 3353, and 4450 and a three-hour 3000/4000-level biology elective.

**Total**

102 hours, of which 16 must be 3000/4000 level, plus exercise and sport activities (EXSA) or marching band or ROTC as required in addition to 12 months training in a school of medical technology approved by the Committee on Allied Health Education and Accreditation (CAHEA) in conjunction with the National Accrediting Agency for Clinical Laboratory Science (NAACLS).

**Senior Year**

Twelve-month program in a school of medical technology which has been certified by the Committee of Allied Health Education and Accreditation (CAHEA) in conjunction with the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS).

**Requirements for a Bachelor of Science Degree in Microbiology****English**

1301, 1302, and six hours of literature or three hours of literature and SPCH 3302.

**Political Science**

2311, 2312.

**History**

1311, 1312.

**Fine Arts and Philosophy**

Three hours from art, dance, music, architecture, philosophy, or theatre arts.

**Social/Cultural Studies**

Three hours from social or cultural anthropology, archaeology, social/political/cultural geography, economics, sociology, classical studies, psychology, or linguistics.

**Mathematics\***

1325 and 1426.

**Electives**

8 hours.

**Science other than Biology**

CHEM 1301, 1302, 1284, 2181, 2321, 2182, 2322, 4311, and PHYS 1441, 1442.

**Computer Literacy**

GEOL 1491 or equivalent.

**Major**

44 hours including 1441, 2451, 3315 and 3351 and 30 hours to be selected from 2459, 3301, 3311, 3312, 3314, 3343, 3328, 3353, 4302, 4312, 4346, 4445 and 4450.

**Total**

120 hours, of which at least 36 must be 3000/4000 level, plus exercise and sport activities (EXSA) or marching band or ROTC as required.

\* Transfer students must present a minimum of six semester credit hours of equivalent mathematics.

## Department of Biology Faculty

### Chair

Professor Smatresk

### Professors

Arnott, Bacon, Campbell, Chrzanowski, Hellier, McMahon, Robinson, Stewart, Whitmore

### Associate Professors

Boley, Formanowicz, Frye, Neill

### Assistant Professors

Bernard, Burleson, Chippindale, Grover, Johnson, Payne, Phillips, Smith

## Biology (BIOL)

### Designation of Semester in Which Courses Are Offered

To assist the student in planning his/her sequence of courses, all biology course descriptions include the semester(s) when they are usually taught. However, the Department of Biology reserves the right to change the semester in which any course is taught.

Designations are:

F - Fall, S - Spring, SS-Summer Session, I - Irregular.

The prefix and number in parenthesis following the U.T. Arlington course number and title is the Common Course Number designation.

**1282. INTRODUCTION TO BIOLOGY LABORATORY (1-2) 2 hours credit (BIOL 1108, 1109).** Laboratory exercises will illustrate basic concepts covered in BIOL 1333 and BIOL 1334. This course is for non-science majors, and with 1333 and 1334 will satisfy the laboratory science requirements for students in the Colleges of Liberal Arts and Business Administration and in the School of Social Work. Prerequisites: BIOL 1333 and 1334. It is recommended that this course be taken concurrently with BIOL 1334. \$22 lab fee, \$20 microscope fee, \$20 equipment fee. F, S, SS.

**1301. NUTRITION (3-0) 3 hours credit.** Nutrients essential to an adequate diet and good health and the nutritive values of common foods are reviewed. Also listed as HEED 1301. Credit will be granted for only one of these courses. Students seeking certification in Health Education must enroll in HEED 1301. Students seeking credit toward their science requirement must enroll in BIOL 1301. May not be used for biology grade point calculation or biology credit toward a BS degree in biology, microbiology, or medical technology. F, S, SS.

**1310. CAREERS IN ALLIED HEALTH (3-0) 3 hours credit.** An overview of allied health careers and concepts relevant to the health care industry. Topics include: the organization of health care in America, external factors affecting the health care industry, medical ethics, biotechnology and health care, and alternate careers in biology. May not be used for Biology grade point calculation or Biology credit toward a BS degree in Biology, Microbiology or Medical Technology.

**1333. INTRODUCTION TO BIOLOGY I (3-0) 3 hours credit (BIOL 1408).** Emphasis is on fundamental principles, concepts, and topical subjects relating to biology. This course is for non-science majors and with 1334 and 1282, will satisfy the laboratory science requirements for students in the Colleges of Liberal Arts and Business Administration, and in the School of Social Work. F, S, SS.

**1334. INTRODUCTION TO BIOLOGY II (3-0) 3 hours credit (BIOL 1409).** A continuation of BIOL 1333. Students are encour-

aged to apply pertinent biological concepts to biologically-based problems in today's society. This course is for non-science majors, and with 1333 and 1282 will satisfy the laboratory science requirements for students in the Colleges of Liberal Arts and Business Administration and in the School of Social Work. Prerequisite: BIOL 1333. It is recommended that BIOL 1282 and BIOL 1334 be taken concurrently. F, S, SS.

**1441. CELL AND MOLECULAR BIOLOGY (3-2) 4 hours credit (BIOL 1406).** The first of a three-part introductory biology sequence, this course focuses on the chemical and molecular basis of life, including metabolism, cell structure and function, and genetics. Laboratory experiments are designed to complement theory presented in lecture. This course was formerly BIOL 1449; credit will not be given for both. \$20 lab fee, \$20 microscope fee, \$20 equipment fee, F, S, SS.

**1442. STRUCTURE AND FUNCTION OF ORGANISMS (3-2) 3 hours credit.** The study of structure and function in plants and animals. Topics to be covered include structure at the level of the cell, tissue, organ and individual growth, transport/circulation/gas exchange, nutrition, reproduction, development, endocrinology, and animal neural regulation. The laboratory will examine plant and animal structure and function with observational and experimental approaches. Prerequisites: BIOL 1441. \$20 lab fee, \$20 microscope fee, \$20 equipment fee, F, S, SS.

**2311. MAN AND ENVIRONMENT (3-0) 3 hours credit.** Reviews some of the major problems facing man in our modern technological society. Topics addressed include population problems, resource depletion, and pollution. May not be used for biology grade point calculation or biology credit toward a BS degree in biology, microbiology, or medical technology. F, S.

**2317. BASIC CONCEPTS IN HUMAN SEXUALITY (3-0) 3 hours credit.** The physiological, psychological, and sociological aspects of human sexuality. Also listed as HEED 2317 and PSYC 2317. Credit will be granted for one of these three courses only. Students seeking certification in Health Education must enroll in HEED 2317. Students seeking credit toward their science requirement must enroll in BIOL 2317. May not be used for biology grade point calculation or biology credit toward a BS degree in biology, microbiology, medical technology, psychology, or sociology. F.

**2343. EVOLUTION, ECOLOGY AND BIODIVERSITY (3-0) 3 hours credit.** Reviews three significant aspects of organismal biology and presents current hypotheses concerning the origin and diversification of life on earth. The ecological and behavioral interactions between organisms and their biotic/abiotic environments are considered from an evolutionary perspective. Prerequisite BIOL 1441. F, S, SS.

**2451. GENERAL MICROBIOLOGY (3-3) 4 hours credit (BIOL 2420).** Fundamental principals of microbiology including the structure and function of microbial cells and their activities in nature. Bacteria will be used in the laboratory to provide training in experimental methodology. Prerequisites: BIOL 1441 and one year of chemistry. \$30 lab fee, \$20 microscope fee, \$20 equipment fee. F, S, SS.

**2453. GENERAL ZOOLOGY (3-3) 4 hours credit (BIOL 1407).** Fundamental principles of animal structure and function. An overview of essential systems, evolutionary concepts, and a survey of animal groups. Prerequisite: BIOL 1441 or equivalent. \$30 lab fee, \$20 microscope fee, \$20 equipment fee. I.

**2454. GENERAL BOTANY (3-3) 4 hours credit.** A survey of plant science including the importance of plants to people and the human

side of botany: the structure, reproduction, physiology, and classification of plants. The laboratory is designed to support and expand the course contents. Prerequisite: BIOL 1441, 1442 or equivalent. \$30 lab fee, \$20 microscope fee. I.

**2457. HUMAN ANATOMY AND PHYSIOLOGY I (3-2) 4 hours credit (BIOL 2401).** Functional morphology of humans, cellular function, principles of support and movement, and neural and endocrine control systems. Laboratory exercises involve both anatomical and experimental aspects of principles introduced in the lecture. This class is designed for students in sport activities (EXSS), medical technology and pre-nursing. Prerequisite: BIOL 1441 or equivalent, and approval of the department. May not be used for biology grade point calculation or biology credit toward a B.S. degree in biology or microbiology. \$20 lab fee, \$20 microscope fee, \$20 equipment fee. F, S, SS.

**2458. HUMAN ANATOMY AND PHYSIOLOGY II (3-2) 4 hours credit (BIOL 2402).** Functional morphology of humans, maintenance of the human body, and continuity of life. Specific topics will include the cardiovascular, respiratory, digestive, urinary, immune, and reproductive systems. Laboratory exercises explore both anatomical and experimental aspects of principles introduced in the lecture. This class is designed for students in sport activities (EXSS), medical technology, and pre-nursing. Prerequisites: BIOL 1441 or the equivalent, BIOL 2457, and approval of the department. May not be used for biology grade point calculation or biology credit toward a B.S. degree in biology or microbiology. \$30 lab fee, \$20 microscope fee, \$20 equipment fee. F, S, SS.

**2459. METHODS IN MICROBIOLOGY (2-6) 4 hours credit.** Advanced instruction in the laboratory techniques required for isolation, cultivation, identification and enumeration of bacteria and their viruses. Prerequisites: BIOL 1441, 2451 or consent of instructor. \$30 lab fee, \$20 microscope fee, \$20 equipment fee. I.

**3149, 3249, 3349. COOPERATIVE PROGRAM IN BIOLOGY (10-30) 1-3 hours credit.** The purpose of this course is to allow students to earn college credit for relevant field work in the areas of biotechnology, health care, and biomedical industry. Students must apply for the program and be cleared for registration during the semester prior to enrollment. A maximum of 3 hours can be applied to the major for biology or microbiology credit. These courses are offered on a pass/fail basis. F, S, SS.

**3170. LIMNOLOGY LABORATORY (0-3) 1 hour credit.** A laboratory and field-based course designed to acquaint the student with common laboratory practices in the study of inland waters. Prerequisite: BIOL 3318 or concurrent enrollment. \$30 lab fee, \$20 microscope fee, \$20 equipment fee. I.

**3181. LABORATORY IN GENETICS (0-3) 1 hour credit.** An experimental laboratory in which breeding experiments with certain plants, *Neurospora* and *Drosophila*, are used to verify the principles of classical genetics. In addition, studies on probability theory and analysis of results, population genetics, and salivary gland chromosomes are completed. Prerequisite: BIOL 3315 or concurrent enrollment. \$20 lab fee, \$20 microscope fee, \$20 equipment fee. I.

**3300. ANCIENT LIFE (3-0) 3 hours credit.** This course reviews the biology, physiology, and ecology of extinct organisms from the first appearance of life on earth, through prokaryotes, to eukaryotes, and the development of multicellularity through to the form and function of complex marine and terrestrial species. Throughout the

course, emphasis will be on the biology of extinct organisms and how geological events have shaped the course of life on earth. Prerequisites: BIOL 1441, 1442 and 2453. I.

**3301. CELL PHYSIOLOGY (3-0) 3 hours credit.** An introduction to the basic physical, chemical, and biological principles which govern function in eukaryotic cells, and the relationships between cells and their environments. Prerequisites: BIOL 1441, 1442 and 2343. F.

**3303. DRUGS AND BEHAVIOR (3-0) 3 hours credit.** A survey of the psycho-active agents, their therapeutic uses, and social abuses. Alcohol, nicotine, caffeine, narcotics, hallucinogens, stimulants, and tranquilizers. Also listed as PSYC 3303 and HEED 3303; credit will be granted only once. May not be used for biology grade point calculation or biology credit toward a B.S. degree in biology, microbiology, or medical technology. Students seeking certification in health education must enroll in HEED 3303. I.

**3310. SELECTED TOPICS IN BIOLOGY (3-0) 3 hours credit.** Topics in biology not treated in the regular curriculum. Topic, format, and prerequisites to be determined by the instructor. May be repeated for biology elective credit as different topics are offered. I.

**3311. SELECTED TOPICS IN MICROBIOLOGY (3-0) 3 hours credit.** Topics in microbiology not treated in the regular curriculum. Topic, format, and prerequisites to be determined by the instructor. May be repeated for microbiology elective credit as different topics are offered. I.

**3312. IMMUNOBIOLOGY (3-0) 3 hours credit.** An introduction to the components, properties, and manifestations of the adaptive immune response that occurs in vertebrates. Prerequisites: BIOL 1441, 2451. CHEM 2181, 2321 are recommended. F, S, SS.

**3314. EPIDEMIOLOGY (3-0) 3 hours credit.** Basic terms and methods of reasoning in the epidemiological approach. The role of epidemics in history and modern times. Ecological and ethological aspects of the epidemic and epizootic process. Contagion, the germ theory, the causation theory; epidemiological research, as well as theoretical epidemiology. Prerequisite: BIOL 1441 and 2451 or permission of instructor. F.

**3315. GENETICS (3-0) 3 hours credit.** Principles of molecular and classical genetics. The function and transmission of hereditary material in microorganisms, plants, and animals, including humans. Prerequisite: BIOL 1441, 1442 and 2343. F, S, SS.

**3318. LIMNOLOGY (3-0) 3 hours credit.** The living and nonliving components of inland waters. An introduction to the geological, physical, and chemical background, and to the major organisms and ecological processes. Prerequisites: BIOL 1441, 1442, and 2343 and one year of chemistry. F.

**3326. ANIMAL BEHAVIOR (3-0) 3 hours credit.** A survey of research and theory comparing behavior at various phyletic levels. Also listed as PSYC 3326. Credit will be granted for only one of these courses. Prerequisites: BIOL 1441, 1442 and 2343. F.

**3328. ENVIRONMENTAL MICROBIOLOGY (3-0) 3 hours credit.** An introduction to the principles, methodology, and practical applications and implications of environmental microbiology. Lecture topics include habitat and community approaches to environmental microbiology, measures of microbial populations and activities, interactions among microbial communities, the role of microorganisms in the origin of mineral resources, microorganisms and pollution, and current developments on energy flow through microbial communities. Prerequisites: BIOL 1441 and 2451. S.

**3333. CELL BIOLOGY (3-0) 3 hours credit.** A survey of current knowledge of cell structure and function from the microscopic to the molecular level. Prerequisites: BIOL 1441, 1442 and 2343 and one year of chemistry. S.

**3339. INTRODUCTION TO EVOLUTION (3-0) 3 hours credit.** Processes and mechanisms which cause evolutionary changes in organisms. Prerequisite: BIOL 1441, 1442, 2343 and 3315. F, S.

**3341. ENTOMOLOGY (2-3) 3 hours credit.** This course is a study of the basic principles of insect life including structure, physiology, life cycles, and classification. Certain related arthropods are included. Lab work emphasizes collection and identification of local insects. Prerequisites: BIOL 1441, 1442, and 2343. \$20 lab fee, \$20 microscope fee. I.

**3343. GENERAL MYCOLOGY (2-3) 3 hours credit.** A survey of the fungi; their morphology, taxonomy, life cycles, and identification of representative organisms. Prerequisites: BIOL 1441 and 2451. \$30 lab fee, \$20 microscope fee. F (odd years).

**3344. PLANT MORPHOLOGY (2-3) 3 hours credit.** The development, comparative structures, and life cycles of the vascular plants. Prerequisites: BIOL 1441, 1442, 2343 and 2454. \$30 lab fee, \$20 microscope fee. I.

**3348. PLANT SYSTEMATICS (2-3) 3 hours credit.** The biology of plants, their classification, general morphology, and environmental relationships. Lab work includes the identification of local and Texas flora. Prerequisite: BIOL 1441, 1442, 2343 and 2454. \$30 lab fee, \$20 microscope fee. S.

**3351. MICROBIAL METABOLISM (3-0) 3 hours credit.** A comparative study of metabolic pathways of the prokaryotes with emphasis on anabolic metabolism, nutrient assimilation, and energy generation. This course is required of all microbiology majors. Prerequisites: BIOL 1441, 2451, CHEM: 1 year of inorganic and 2321 (latter may be taken concurrently) or consent of instructor. I.

**3353. PATHOGENIC BACTERIOLOGY (2-3) 3 hours credit.** The major groups of disease-causing bacteria, including group characteristics, host ranges, pathogenic mechanisms, and public health significance. This course is reserved for Microbiology and Medical Technology majors. Prerequisite: BIOL 1441, 2451, CHEM 2321 and 2181 and permission of instructor. \$30 lab fee, \$20 microscope fee, \$20 equipment fee. F, S.

**3442. PRINCIPLES OF ANIMAL PHYSIOLOGY (3-3) 4 hours credit.** A comparative study of animal function. Evidence from different groups of animals, particularly the vertebrates, to identify the general principles of physiological mechanisms operating at the cellular, tissue, organ, and organismal levels. Laboratory studies will complement lecture material and will stress experimental design, data analysis, and the understanding of critical research in physiology. Prerequisite: BIOL 1441, 1442 and 2343. BIOL 3301 recommended. \$30 lab fee, \$25 equipment fee. F, S.

**3452. COMPARATIVE VERTEBRATE ANATOMY (3-4) 4 hours credit.** A comparative study of the anatomy of the protochordates and the vertebrates. The laboratory includes a detailed study of the shark and the cat. Prerequisite: BIOL 1441, 1442 and 2343. \$30 lab fee, \$20 microscope fee. F, S.

**3455. INVERTEBRATE ZOOLOGY (3-4) 4 hours credit.** The structure, function, and evolution of invertebrate animals. Survey covers all invertebrate phyla with the exception of protozoa and includes the invertebrate chordates. Emphasis is on the major animal phyla. Laboratory includes a weekend field collecting trip to the Texas Gulf Coast. Prerequisites: BIOL 1441, 1442 and 2343. \$30 lab fee, \$20 microscope fee. F.

**3457. GENERAL ECOLOGY (3-3) 4 hours credit.** An examination of the theoretical and experimental aspects of the relationship between the biological and physical environments (organisms, food, space, and time) at the individual, population, community, and ecosystem levels. Prerequisites: BIOL 1441, 1442 and 2343. \$10 lab fee, \$25 equipment fee. F, S.

**4189, 4289. RESEARCH IN BIOLOGY (Variable credit 1-2 hours as arranged).** Research problems on an individual basis, conducted under the direction of a member of the biology faculty. A limit of two hours per semester is imposed and only a total of three hours may be counted toward degree requirements. These courses are offered only on a pass/fail basis. Prerequisite: written permission of the supervising instructor prior to registration. \$10 lab fee, \$25 new equipment for 4189; \$20 lab fee, \$25 equipment fee. F, S, SS.

**4302. MICROBIAL GENETICS (3-0) 3 hours credit.** Consideration of the physical, chemical, and functional nature of genetic processes in micro-organisms. Prerequisite: BIOL 1441 and 2451. S.

**4305. PHYSIOLOGICAL ECOLOGY (3-0) 3 hours credit.** Adaptation to environmental variation in animals including the evolution of physiological mechanisms, bioenergetic budgets and life history tactics in both vertebrates and invertebrates. Prerequisite: BIOL 1441, 1442 and 2343. S.

**4312. INTRODUCTION TO VIROLOGY (3-0) 3 hours credit.** The nature, reproduction, and host cell interactions of viruses and virus-like agents of bacteria, animals, and plants. Prerequisite: BIOL 1441, 2451, and 3315 or 3333. F.

**4315. GENERAL ENDOCRINOLOGY (3-0) 3 hours credit.** The vertebrate endocrine system. The cellular origin of hormones, their role in physiological regulation, and the mechanism of hormone action. Prerequisite: BIOL 1441, 1442, 2343, and 3315, at least one physiology course, and senior standing. I.

**4338. COMMUNITY ECOLOGY (3-0) 3 hours credit.** The effects interspecific interactions have on the distribution and abundance of organisms. Prerequisites: BIOL 1441, 1442 and 2343, and three semester hours of ecology. S.

**4340. PLANT PHYSIOLOGY (3-0) 3 hours credit.** The relationship of plant metabolism to cellular organization and the interaction of environmental, metabolic, and hormonal factors of vegetative growth and reproduction. Prerequisite: BIOL 1441, 1442, 2343 and 2454. F (odd years).

**4343. PLANT ANATOMY (2-3) 3 hours credit.** The internal structure of the existing seed plants, with emphasis on the angiosperms. Prerequisite: BIOL 1441, 1442, 2343 and 2454. \$30 lab fee, \$20 microscope fee. F (even years).

**4345. POPULATION BIOLOGY (4-0) 3 hours credit.** The quantitative study of populations in theory and practice. How populations change in ecological and evolutionary time. Prerequisite: BIOL 1441, 1442, 2343 and MATH 1426 or equivalent. I.

**4346. TECHNIQUES IN MICROBIAL AND MOLECULAR GENETICS (1-5) 3 hours credit.** A laboratory based techniques course focusing on current methods in microbial and molecular genetics. Students will design experiments and perform: bacterial mutagenesis and phage transduction; selection, screening and physical mapping of mutants; blots, plasmid manipulations including purification, digestion, subcloning, bacterial transformations; PCR and DNA sequencing. Prerequisites: BIOL 1441, 2451 and 4302 (latter may be taken concurrently), or permission of instructor. \$20 lab fee, \$20 microscope fee, \$20 equipment fee. S.

**4348. AQUATIC BIOLOGY (2-3) 3 hours credit.** Ecological relationships in aquatic ecosystems, with emphasis on fresh water systems. The lab is designed to acquaint the student with pond, stream, and reservoir habitats of the Southwest. Prerequisites: BIOL 1441, 1442, 2343 and 3315 plus three hours of ecology and three hours of limnology. \$30 lab fee, \$20 microscope fee. S.

**4388. INSTRUCTIONAL TECHNIQUES IN BIOLOGY (0-6)**

**3 hours credit.** Students will participate in laboratory instruction and student recitation sessions under the supervision of a faculty member. A maximum of 3 hours can be applied to the major for biology or microbiology credit. Enrollment by departmental permission only. A maximum of 6 hours credit from this class will be used to calculate a student's grade point average. Students on probation or who have not qualified for major status may not enroll in this course. \$5 lab fee. F, S, SS.

**4393. HONORS SENIOR PROJECT IN BIOLOGY (1-5) 3 hours credit.** A topic will be selected after consultation with a supervising professor and will involve both original research and writing a formal report. The work will be evaluated by a faculty honors committee. Completion of this course will satisfy the thesis requirement for the honors program described elsewhere in this catalog. \$20 microscope fee, \$20 equipment fee. F, S, SS.

**4444. VERTEBRATE NATURAL HISTORY (3-3) 4 hours credit.** Lecture will cover the systematics, life histories, morphology, ethology and distribution of world vertebrates, with emphasis on tetrapods. The laboratory will provide the opportunity to examine and identify a taxonomically comprehensive collection of amphibians, reptiles, birds and mammals. Prerequisite: BIOL 1441, 1442 and 2343. \$20 microscope fee, \$20 equipment fee. I.

**4445. MICROBIAL STRUCTURE AND FUNCTION (3-3) 4 hours credit.** This course considers the anatomy and physiology of the bacterial cell in detail. Lecture topics consider the molecular architecture of cell wall, membranes and organelles, synthesis of wall material and membranes, insertion of proteins into membranes and regulation of biosynthetic systems at the whole cell level. The labo-

ratory focuses on growth of the bacterial cell, single and multiple substrate utilization, and growth kinetics. Prerequisites: BIOL 1441, 1442, 2451 and 3351 or permission of the instructor. This course is reserved for Microbiology majors. \$20 lab fee, \$20 microscope fee, \$20 equipment. F.

**4450. PARASITOLOGY (3-3) 4 hours credit.** The lecture portion deals with macro- and microecology of parasites, morphologic and physiologic adaptations to the parasitic way of life, host adaptations to parasitism and the effects of parasites on their hosts. The laboratory is concerned with clinical and veterinary parasitology, animal dissections, diagnosis of parasitic infections and identification of parasites. Prerequisites: BIOL 1441, 1442, 2343 and 3315 or permission of instructor. \$30 lab fee, \$20 microscope fee. S.

**4455. VERTEBRATE PHYSIOLOGY (3-3) 4 hours credit.** An environmental approach to the study of physiological regulation in vertebrates, including consideration of energy metabolism, the responses to temperature, water and solute metabolism, oxygen transport and acid-base regulation. Topics will be discussed in relation to current literature. The laboratory will introduce a variety of experimental methods used in physiological research. In addition, each student will select a small research project to be completed under supervision of the instructor. Prerequisite: BIOL 1441, 1442, 2343, 3315 and 3442. \$30 lab fee, \$20 microscope fee, \$25 equipment fee. I.

### Teacher Certification

A student interested in earning a Bachelor of Science degree with a major in biology with secondary teacher certification, or in biology or life-earth science as a second teaching field, should refer to the Center for Professional Teacher Education section of this catalog for teacher certification requirements and for biology courses recommended for each teaching field option.

# The Department of Chemistry and Biochemistry

219 Science Hall • Box 19065 • 817-272-3171

The Department of Chemistry and Biochemistry offers three programs of study leading to the bachelor's degree and one leading to both the bachelor's and master's degree. They are the Bachelor of Arts in Chemistry, the Bachelor of Science in Chemistry, the Bachelor of Science in Biochemistry, and a combined Bachelor of Science-Master of Science in Chemistry.

- **Professional Chemist:** Students who wish to become professional chemists should pursue the Bachelor of Science in Chemistry. Students whose ultimate goal includes a graduate education should consider the accelerated Bachelor of Science-Master of Science combined program, which offers an unusual opportunity for professional advancement. Prospective students should contact the undergraduate advisor.
- **Professional Biochemist:** Students who wish to become professional biochemists should pursue the Bachelor of Science in Biochemistry. Students whose ultimate goal includes a graduate education should consider the accelerated Bachelor of Science-Master of Science combined program. Prospective students should contact the undergraduate advisor.
- **Premedical and Predental Programs:** Students who wish to prepare for entry into medical or dental school may choose to major in chemistry or biochemistry. While any of the three bachelor's programs will meet the minimum requirements, the department recommends either the Bachelor of Arts in Chemistry or the Bachelor of Science in Biochemistry. Prospective students should contact the department premedical advisor.
- **Preallied Health Programs:** Students who wish to prepare for entry into pharmacy or veterinary school, nursing, medical technology, physical therapy, or occupational therapy may choose to major in chemistry. Prospective students should contact the undergraduate advisor.
- **Chemistry as a Teaching Field:** Although students who intend to teach chemistry at the secondary school level may pursue any of the degrees, the Bachelor of Arts Degree offers the greatest flexibility.

## Declaring a Major in Chemistry or Biochemistry

New students enter the University as part of the Academic Foundations Program (AFP). Beginning freshmen who intend to declare chemistry or biochemistry as a major must complete the following courses with a minimum GPA of 2.25 before they will be admitted to the Department of Chemistry and Biochemistry as a major.

- Chemistry 1301, 1302, and 1284.
- Six hours of mathematics approved by the department.
- Four hours of biology or geology.
- 12 hours from courses in the University core curriculum other than science or mathematics (English, history, political science, social and cultural studies, fine arts and philosophy).

Transfer students who transfer part or all of the above requirements must complete a minimum of 11 hours of approved science and mathematics courses in residence with a minimum GPA of 2.25 to be eligible to major in chemistry or biochemistry.

All new students who intend to major in chemistry or biochemistry should schedule an appointment for advising with the department advisor.

## Second Major

A person who satisfies the requirements for any other baccalaureate degree qualifies for having chemistry named as a second major upon completion of 27 semester hours from among CHEM 2321, 2181, 2322, 2182, and chemistry courses with higher numbers. The specific courses to be used must be approved by the undergraduate advisor and the chair of the Department of Chemistry and Biochemistry.

## Requirements for a Bachelor of Science Degree in Chemistry

This program meets the standards for professional baccalaureate programs established by the American Chemical Society. It is recommended to students who plan to enter into graduate study in the sciences and for those who anticipate professional careers as chemists.

### English

Six hours of composition.

### Literature

Three hours of English or foreign language literature or other approved substitute.

### Liberal Arts Elective

Three hours above the freshman level of literature, or social and cultural studies designated as taught in the College of Liberal Arts, or fine arts or philosophy, or technical writing.

### Political Science

2311, 2312.

### History

Six hours from 1311, 1312, or 3364.

### Social/Cultural Studies

Three hours of designated courses in social or cultural anthropology, archaeology, social/political/cultural geography, economics, sociology, classical studies, or linguistics.

### Fine Arts and Philosophy

Three hours from architecture, art, dance, music, philosophy, or theatre arts.

### Mathematics\*

1325, 1426, 2325, 2326, 3318.

### Computer Science

One course chosen from CSE 1306, 1310, or GEOL 1491.

**Other Science**

PHYS 1443, 1444, and three hours of 3000/4000-level courses (3313 recommended); six to eight hours of either biology or geology.

**Electives**

Sufficient number of hours to complete the total hours required for the degree.

**Major**

CHEM 1284, 1301, 1302, 2181, 2182, 2321, 2322, 2451, 3181, 3182, 3307, 3321, 3322, 4101, 4311, 4317, 4318, 4346, 4461.

**Minor**

The required 15 hours of mathematics and 11 hours of physics constitute a combined minor.

**Total**

128 hours, of which at least 36 must be 3000/4000 level, plus exercise and sport activities (EXSA) or ROTC or marching band as required.

\* A student not qualified to take MATH 1325 must complete the prerequisites for the course. This may add three to six hours to the total required for the degree.

**Suggested Course Sequence****Freshman Year**

**First Semester:** ENGL 1301; MATH 1325; BIOL 1441 or GEOL 1445; CHEM 1301; HIST 1311; EXSA or ROTC or Marching Band—Total Credit 17 hours.

**Second Semester:** ENGL 1302; MATH 1426; BIOL 1442, 2451, or 2453 or GEOL 1446; CHEM 1302; CHEM 1284; HIST 1312—Total Credit 19 hours.

**Sophomore Year**

**First Semester:** Literature, 3 hours; MATH 2325; PHYS 1443; CHEM 2181; CHEM 2321; CHEM 2451—Total Credit 18 hours.

**Second Semester:** Liberal Arts Elective, 3 hours; MATH 2326; PHYS 1444; CHEM 2182; CHEM 2322; Computer Science, 3 hours; EXSA or ROTC—Total Credit 17 or 18 hours.

**Junior Year**

**First Semester:** POLS 2311; CHEM 3181; CHEM 3321; MATH 3318; Physics (3000/4000), 3 hours; Fine Arts/Philosophy, 3 hours; EXSA or ROTC or Marching Band—Total Credit 17 hours.

**Second Semester:** POLS 2312; CHEM 3182; CHEM 3322; CHEM 4317; Social Science, 3 hours; Elective, 3 hours; EXSA or ROTC—Total Credit 17 hours.

**Senior Year**

**First Semester:** CHEM 4311; CHEM 4318; CHEM 4461; Electives, 6 hours—Total Credit 16 hours.

**Second Semester:** CHEM 3307; CHEM 4101; CHEM 4346; Electives, 5 to 7 hours—Total Credit 12 to 14 hours.

**Requirements for a Bachelor of Arts Degree in Chemistry**

This program is suitable preparation for admission to medical and dental schools, other health-related professions, and for students who desire certification with a teaching field in chemistry.

**English**

Six hours of composition.

**Literature**

Three hours of English or foreign language literature or other approved substitute.

**Liberal Arts Elective**

Three hours above the freshman level of literature, or social and cultural studies designated as taught in the College of Liberal Arts, or fine arts or philosophy, or technical writing.

**Foreign Language**

14 hours in a single foreign language or eight hours in a language plus six hours from one liberal arts area cluster (See substitution list in introductory information for the College of Science).

**Political Science**

2311, 2312.

**History**

Six hours from 1311, 1312, or 3364.

**Social/Cultural Studies**

Three hours of designated courses in social or cultural anthropology, archaeology, social/political/cultural geography, economics, sociology, classical studies, or linguistics.

**Fine Arts and Philosophy**

Three hours from architecture, art, dance, music, philosophy, or theatre arts.

**Mathematics\***

1325, 1426, 2325.

**Computer Science**

One course chosen from CSE 1306, 1310, or GEOL 1491.

**Other Science**

PHYS 1443 and 1444 and six to eight hours in either biology\*\* or geology.

**Electives**

Sufficient to complete the total hours required for the degree.

**Major**

1284, 1301, 1302, 2181, 2182, 2321, 2322, 2451, 3301, 4311, and at least seven hours from 3307, 3310, 4101, 4242, 4312, 4317 and 4346.

**Minor**

18 hours in a single field or 24 hours combination in two fields; six hours must be 3000/4000-level courses. (Biology is recommended as a minor for premedical\*\* and pre-dental students. Students who wish to qualify for a teaching certificate must include a second teaching field of 24 hours in their degree programs as well as 24 hours of education.)

**Total**

124 hours, of which at least 36 must be 3000/4000 level, plus exercise and sport activities (EXSA) or ROTC or marching band as required.

\* A student not qualified to take MATH 1325 must complete the prerequisites for the course. This may add three to six hours to the total required for the degree.

\*\* The minimum biology requirement for premedical students is 1441 and three additional courses. BIOL 2451 and 3452 are recommended plus three additional hours.

## Suggested Course Sequence

### Freshman Year

**First Semester:** CHEM 1301; BIOL 1441 or GEOL 1445; ENGL 1301; MATH 1325; POLS 2311; EXSA or ROTC or Marching Band—Total Credit 17 hours.

**Second Semester:** CHEM 1284; CHEM 1302; GEOL 1446 or Biology, 4 hours; ENGL 1302; MATH 1426; EXSA or ROTC—Total Credit 17 hours.

### Sophomore Year

**First Semester:** CHEM 2181; CHEM 2321; CHEM 2451; MATH 2325; PHYS 1443; EXSA or ROTC or Marching Band—Total Credit 16 hours.

**Second Semester:** CHEM 2182; CHEM 2322; PHYS 1444; HIST 1311; Literature, 3 hours; EXSA or ROTC—Total Credit 15 hours.

### Junior Year

**First Semester:** CHEM 3301; Computer Science, 3 hours; Liberal Arts Elective, 3 hours; Foreign Language, 4 hours; HIST 1312—Total Credit 16 hours.

**Second Semester:** Chemistry (3000/4000), 3 or 4 hours; Fine Arts/Philosophy, 3 hours; Foreign Language, 4 hours; POLS 2312; Elective, 3 hours—Total Credit 16 or 17 hours.

### Senior Year

**First Semester:** CHEM 4311; Social Science, 3 hours; Foreign Language, 3 hours or Liberal Arts Cluster Course, 3 hours; Electives, 6 hours—Total Credit 15 hours.

**Second Semester:** Chemistry (3000/4000), 3 or 4 hours; Foreign Language, 3 hours or Liberal Arts Cluster Course, 3 hours; Electives, 9 hours—Total Credit 15 or 16 hours.

## Requirements for a Bachelor of Science Degree in Biochemistry

This program prepares students for careers in biochemistry and is also suitable for premedical and pre dental students and for training in allied medical sciences.

### English

Six hours of composition.

### Literature

Three hours of English or foreign language literature or other approved substitute.

### Liberal Arts Elective

Three hours above the freshman level of literature, or social and cultural studies designated as taught in the College of Liberal Arts, or fine arts or philosophy, or technical writing.

### Political Science

2311, 2312.

### History

Six hours from 1311, 1312, or 3364.

### Social/Cultural Studies

Three hours of designated courses in social or cultural anthropology, archaeology, social/political/cultural geography, economics, sociology, classical studies, or linguistics.

### Fine Arts and Philosophy

Three hours from architecture, art, dance, music, philosophy, or theatre arts.

### Mathematics\*

1325, 1426, 2325, and 2326.

### Computer Science

One course chosen from CSE 1306, 1310, or GEOL 1491.

### Physics

1443, 1444.

### Chemistry

1284, 1301, 1302, 2181, 2182, 2321, 2322, 2451, 3181, 3182, 3321, 3322, 4242, 4311, 4312, 4313, 4314, 4316, 4318, 4461.

### Biology

1441, 2451, and 6 hours from 3312, 3315, 3333

### Electives

Sufficient to complete total hours required for the degree.

### Minor

17 hours of biology required constitutes a minor.

### Total

128 hours, of which at least 36 must be 3000/4000 level, plus exercise and sport activities (EXSA) or ROTC or marching band as required.

\* A student not qualified to take MATH 1325 must complete the prerequisites for the course. This may add three to six hours to the total required for the degree.

## Suggested Course Sequence

### Freshman Year

**First Semester:** MATH 1325; CHEM 1301; BIOL 1441; ENGL 1301; POLS 2311; EXSA or ROTC or Marching Band—Total Credit 17 hours.

**Second Semester:** MATH 1426; CHEM 1284; CHEM 1302; BIOL 2451; ENGL 1302; EXSA or ROTC—Total Credit 17 hours.

### Sophomore Year

**First Semester:** CHEM 2181; CHEM 2321; CHEM 2451; MATH 2325; PHYS 1443—Total Credit 15 hours.

**Second Semester:** CHEM 2182; CHEM 2322; MATH 2326; BIOL 3312, 3315, or 3333; PHYS 1444; Literature, 3 hours—Total Credit 17 hours.

### Junior Year

**First Semester:** CHEM 3181; CHEM 3321; CHEM 4311; HIST 1311; Liberal Arts Elective, 3 hours; Computer Science, 3 hours; EXSA or ROTC or Marching Band—Total Credit 17 hours.

**Second Semester:** CHEM 3182; CHEM 3322; CHEM 4312; CHEM 4242; BIOL 3312, 3315, or 3333; HIST 1312; EXSA or ROTC—Total Credit 16 hours.

### Senior Year

**First Semester:** CHEM 4313; CHEM 4461; CHEM 4318; Fine Arts/Philosophy, 3 hours; POLS 2312—Total Credit 16 hours.

**Second Semester:** CHEM 4314; CHEM 4316; Social Science, 3 hours; Electives, 9 hours—Total Credit 18 hours.



## Requirements for Combined B.S.-M.S. Degree in Chemistry

### English

Six hours of composition.

### Literature

Three hours of English or foreign language literature or other approved substitute.

### Liberal Arts Elective

Three hours above the freshman level of literature, or social and cultural studies designated as taught in the College of Liberal Arts, or fine arts or philosophy, or technical writing.

### Political Science

2311, 2312.

### History

Six hours from 1311, 1312, or 3364.

### Social/Cultural Studies

Three hours of designated courses in social or cultural anthropology, archaeology, social/political/cultural geography, economics, sociology, classical studies, or linguistics.

### Fine Arts and Philosophy

Three hours from architecture, art, dance, music, philosophy, or theatre arts.

### Mathematics\*

1325, 1426, 2325, 2326, 3318, or 1526, 2425, 2326, 3318.

### Computer Science

One course chosen from CSE 1306, 1310, or GEOL 1491.

### Other Science

PHYS 1443, 1444, and three additional hours from 3000/4000-level courses (3313 recommended).

Six to eight hours of either biology or geology.

### Electives

Sufficient number of hours to complete the total hours required for a degree.

### Major

CHEM 1284, 1301, 1302, 2181, 2182, 2321, 2322, 2451, 3181, 3182, 3307, 3321, 3322, 4101, 4311, 4317, 4318, 4346, and 4461; A minimum of 18 hours in graduate-level courses listed in the Graduate Catalog including 12 hours from 5301, 5309, 5311, 5315, and 5321.

Six hours of thesis.

Six hours of electives which may be senior or graduate division courses in chemistry or in another science or engineering selected by the candidate with the approval of the Graduate Advisor.

### Minor

The required 15 hours of mathematics and 11 hours of physics constitute a combined minor.

### Total

161 hours, including a minimum of 36 hours of 3000/4000-level courses counted as undergraduate credit, and exercise and sport activities (EXSA) or ROTC or marching band as required.

\* A student not qualified to take MATH 1325 must complete the prerequisites for the course. This may add three to six hours to the total required for the degree.

## Suggested Course Sequence

### Freshman Year

**First Semester:** ENGL 1301; MATH 1325; BIOL 1441 or GEOL 1445; CHEM 1301; HIST 1311; EXSA or ROTC or Marching Band—Total Credit 17 hours.

**Second Semester:** ENGL 1302; MATH 1426; BIOL 2453 or 2451 or GEOL 1446; CHEM 1284; CHEM 1302; HIST 1312; EXSA or ROTC—Total Credit 19 hours.

### Sophomore Year

**First Semester:** Literature, 3 hours; MATH 2325; PHYS 1443; CHEM 2181; CHEM 2321; CHEM 2451—Total Credit 18 hours.

**Second Semester:** Liberal Arts Elective, 3 hours; MATH 2326; PHYS 1444; CHEM 2182; CHEM 2322; CSE requirement, 3 hours; EXSA or ROTC—Total Credit 18 hours.

### Junior Year

**First Semester:** POLS 2311; CHEM 3181; CHEM 3321; MATH 3318; Physics (3000/4000), 3 hours; Fine Arts/Philosophy, 3 hours—Total Credit 16 hours.

**Second Semester:** POLS 2312; CHEM 3182; CHEM 3322; CHEM 4317; Social Science, 3 hours; Elective, 3 hours; select thesis advisor; EXSA or ROTC—Total Credit 17 hours.

### Summer

**First Term:** CHEM 4380—Total Credit 3 hours.

**Second Term:** CHEM 4380; Elective, 3 hours—Total Credit 6 hours.

### Senior Year\*

**First Semester:** CHEM 4311; CHEM 4318; CHEM 4461; Electives, 6 hours—Total Credit 16 hours.

**Second Semester:** CHEM 3307; CHEM 4101; CHEM 4346; Chemistry, 6 hours chosen from 5301, 5309, 5311, 5315, and 5321; Elective, 2 to 4 hours—Total Credit 15 to 17 hours.

### Summer

Chemistry (graduate-level), 3 hours—Total Credit 3 hours.

### Graduate Year

**First Semester:** Chemistry, 6 hours chosen from 5301, 5309, 5311, 5315, and 5321; Graduate Elective, 3 hours—Total Credit 9 hours.

**Second Semester:** Graduate-Level Electives, 6 hours—Total Credit 6 hours.

### Summer

Chemistry (thesis), 6 hours—Total Credit 6 hours.

\* Students progressing satisfactorily will be admitted to the Graduate School at the end of the senior year upon fulfilling admission requirements listed in the Graduate Catalog. Note that six hours of undergraduate credit will have to be reserved for graduate credit.

## Teacher Certification

Students interested in earning a Bachelor of Arts or Bachelor of Science degree with a major in chemistry with secondary teacher certification, chemistry as a concentration in the science composite certification, or in chemistry or physical science as a second teaching field should refer to the Center for Professional Teacher Education section of this catalog for teacher certification requirements.

## Calculation of Chemistry Grade Point Average

Only chemistry courses required in the degree program will be used in calculating the chemistry grade point average for chemistry degree candidates.

## Honors Program

Students who qualify are urged to participate in the University Honors Program. Students should enroll in honors sections of chemistry courses when available and should include CHEM 4381 (Honors Research) as approved by the undergraduate advisor.

## Department of Chemistry and Biochemistry Faculty

### Chair

Professor Elsenbaumer

### Professors

Bellion, Francis, Girardot, Marynick, McDowell, Pomerantz, Rajeshwar, Schelly, Ternay, Timmons

### Associate Professor

Cogdell, Dias

### Assistant Professors

Kinsel, Lovely, MacDonnell

### Lecturer

Rogers

## Chemistry (CHEM)

Prefix and number in parenthesis following the U.T. Arlington course number and title is the Common Course Number designation.

**1284. GENERAL CHEMISTRY LABORATORY (1-4) 2 hours credit.** Experiments related to fundamental principles covered in CHEM 1301 and 1302. Volumetric and gravimetric determinations and qualitative analysis. Concurrent registration in CHEM 1284 and 1302 is advisable. Prerequisite: CHEM 1302 or concurrent registration. \$30 lab fee, \$10 equipment fee. F, S, SS.

**1300. INTRODUCTORY CHEMICAL PRINCIPLES (3-0) 3 hours credit.** Provides a background in fundamental chemical mathematics, in writing and understanding chemical formulas and equations, and in the application of scientific laws to the behavior of matter. This course is designed for the student with little or no previous chemical training who intends to take the CHEM 1301/1302 sequence at a later date. CHEM 1300 cannot replace CHEM 1301 or 1302 for major credit toward a degree in chemistry. Prerequisite: MATH 1302 or equivalent. F, S.

**1301. GENERAL CHEMISTRY (3-0) 3 hours credit (CHEM 1411).** The fundamentals of atomic structure, chemical bonding, the periodic table, nomenclature, kinetic theory, gas laws, chemical equations, and solutions. Students who have not had high school chemistry are advised to take CHEM 1300 first. Prerequisite: MATH 1302 or equivalent. Students whose degree plan requires CHEM 1302 but not CHEM 1301 must take the Advanced Placement Exam if they wish to by-pass CHEM 1301 (see below). F, S, SS.

**Advanced Standing Exam:** Chemistry majors must receive credit for CHEM 1301, either by successful completion of this course or by passing the appropriate Advanced Standing Exam in chemistry. Advanced standing exams are given by the Office of Counseling and Career Development.

**1302. GENERAL CHEMISTRY (3-0) 3 hours credit (CHEM 1412).** Study of advanced atomic structure and bonding concepts, acid-base theory, kinetics and equilibria, thermodynamics, electrochemistry, the chemistry of some elements. Prerequisite: CHEM 1301 or the equivalent, which may include satisfactory grade on the advanced placement examination. Only one of CHEM 1302 or 1462 may be counted for credit. F, S, SS.

**1445. CHEMISTRY FOR NON-SCIENCE MAJORS (3-3) 4 hours credit (CHEM 1405).** Chemistry of things of everyday life: energy, radioactivity, petroleum products, pollution, the nature of matter, and the applications of chemistry to things we use. CHEM 1445, 1446 cannot be used to fulfill the 1301, 1302, 1284 requirement in any degree program. \$30 lab fee, \$10 equipment fee. F.

**1446. CHEMISTRY FOR NON-SCIENCE MAJORS (3-3) 4 hours credit (CHEM 1408).** Continuation of the chemistry of things of everyday life. Vitamins, minerals, chemical additives, plastics, cosmetics, proteins, carbohydrates, poisons, fats and oils. Prerequisite: CHEM 1445 or equivalent. CHEM 1445, 1446 cannot be used to fulfill the 1301, 1302, 1284 requirement in any degree program. \$30 lab fee, \$10 equipment fee. S.

**1451. GENERAL AND BIOLOGICAL CHEMISTRY (3-3) 4 hours credit.** Survey of general, organic, and biochemistry with emphasis on applications to the human body. Measurement, atomic theory and structure, bonding, quantitative relationships in chemical reactions, gases, solutions, electrolytes, organic functional groups and nomenclature, organic reactions, carbohydrates, lipids, proteins, enzymes, metabolism, and nucleic acids. CHEM 1451 cannot count

for major credit toward a degree in chemistry. Prerequisite: MATH 1302 or equivalent. \$30 lab fee, \$10 equipment fee. S.

**1463. FORENSIC CHEMISTRY (3-3) 4 hours credit.** The basic principles of general organic and biochemistry, with emphasis on the descriptive chemistry of substances important in forensic investigation and on modern instrumental techniques used in forensic analysis. The laboratory will emphasize instrumental techniques. \$30 lab fee, \$10 equipment fee. F.

**2180. RESEARCH IN CHEMISTRY (0-4) 1 hour credit.** Research for undergraduate students supervised by faculty of the department. May be repeated. Graded pass-fail only. Prerequisite: written permission of the instructor. Students may take a maximum of 12 hours of credit on a pass-fail basis. \$15 lab fee. F, S, SS.

**2181. ORGANIC CHEMISTRY LABORATORY (0-4) 1 hour credit.** Experiments which illustrate laboratory techniques, theoretical concepts, and synthesis. Prerequisites: CHEM 1284 and 1302. Corequisite: CHEM 2321. If CHEM 2321 is being taken concurrently with 2181 and the student withdraws from 2321 before midsemester date, he/she must also withdraw from 2181. \$30 lab fee, \$25 equipment fee. F, S, SS.

**2182. ORGANIC CHEMISTRY LABORATORY (0-4) 1 hour credit.** Experiments which will include syntheses, characterization of unknown substances, and use of the chemical literature. Prerequisite: CHEM 2181. Corequisite: CHEM 2322. If CHEM 2322 is being taken concurrently with 2182 and the student withdraws from 2322 before the midsemester date, he/she must also withdraw from 2182. \$30 lab fee, \$25 equipment fee. F, S, SS.

**2321. ORGANIC CHEMISTRY (3-0) 3 hours credit (CHEM 2423).** The fundamentals of molecular structure, stereochemistry, and the reactions of aliphatic hydrocarbons, alcohols and ethers. Electronic theory, synthetic methods and mechanisms. Prerequisite: CHEM 1302. F, S, SS.

**2322. ORGANIC CHEMISTRY (3-0) 3 hours credit (CHEM 2425).** Organic spectroscopic analysis. The chemistry of aromatic hydrocarbons, aldehydes, ketones, carboxylic acids and derivatives, amines, amino acid, carbohydrates and other functional groups. Mechanisms and synthesis. Prerequisite: CHEM 2321. F, S, SS.

**2380. UNDERGRADUATE RESEARCH (0-9) 3 hours credit.** Research in chemistry supervised by a faculty member of the department. May be repeated. Graded pass-fail only. Prerequisite: written permission of the instructor. Students may take a maximum of 12 hours credit on a pass-fail basis. \$30 lab fee. F, S, SS.

**2451. QUANTITATIVE ANALYSIS (2-8) 4 hours credit (CHEM 2401).** An introduction to computers for the acquisition and statistical treatment of data. The more important general methods of quantitative chemical analysis including titrimetric and spectrophotometric analysis. Simple instrumental methods of analysis. Prerequisites: CHEM 1302 and 1284 or equivalent, and three hours of college algebra or equivalent. \$30 lab fee, \$30 equipment fee. F, S.

**3181. PHYSICAL CHEMISTRY LABORATORY (0-4) 1 hour credit.** The physical and thermodynamic properties of substances, experimentally determined. Prerequisites: CHEM 2451 and credit for or registration in CHEM 3321. \$30 lab fee, \$30 equipment fee. F.

**3182. PHYSICAL CHEMISTRY LABORATORY (0-4) 1 hour credit.** Experiments in kinetics, equilibria, spectroscopy, and electrochemistry. Modern instrumental techniques. Prerequisites: CHEM 3181 and credit for or registration in CHEM 3322. \$30 lab fee, \$30 equipment fee. S.

**3301. INTRODUCTION TO PHYSICAL CHEMISTRY (3-0) 3 hours credit.** Solutions, equilibria, thermodynamics, kinetics, electrochemistry, and colloids. Required for B.A. chemistry majors, and recommended for premedical and pre dental students and for students desiring chemistry as a second teaching field. Prerequisites: CHEM 1302 and 1284. Credit cannot be granted for both CHEM 3301 and 3321. F.

Science 3301 may be used to satisfy three hours in any science of the 12 required for the Bachelor of Arts degree. It may be used only as a free elective by majors in the College of Science. See Science courses listed on page preceding the Department of Biology material.

**3307. INTRODUCTION TO POLYMER CHEMISTRY (3-0) 3 hours credit.** The chemistry and technology of polymeric systems. The chemistry of natural systems such as proteins as well as the synthesis of fibers, films, plastics, and elastomers. Discussion of the characterization of polymers by modern techniques using instrumental analysis is followed by a summary of end-use and processing techniques. Prerequisite: CHEM 2321 or permission of instructor. S.

**3310. AIR POLLUTION CHEMISTRY (3-0) 3 hours credit.** Air pollutants and their general chemical and ecological effects. Measuring, monitoring, and analysis techniques and pollution sources, control, and economics. Prerequisites: 1302 and 1284 or equivalent. F.

**3321. PHYSICAL CHEMISTRY (3-0) 3 hours credit.** Solids, liquids, and gases, thermo-chemistry, thermodynamics, solutions, equilibria, and electrochemistry. Prerequisites: CHEM 1302 and 1284, eight hours of physics, and MATH 2326. Concurrent enrollment in MATH 3318 is encouraged. F.

**3322. PHYSICAL CHEMISTRY (3-0) 3 hours credit.** Kinetics, quantum theory and molecular structure, and statistical thermodynamics. Prerequisite: CHEM 3321. S.

**4101. SEMINAR IN CHEMISTRY (1-0) 1 hour credit.** Oral and written communication of chemical information. Seminars will be presented by students on topics from the current chemical literature. A term paper is required. The use of the library for researching the chemical literature will be emphasized. May be repeated for a total of two semester hours of credit. Prerequisite: senior standing in chemistry. S.

**4242. LABORATORY TECHNIQUES IN BIOCHEMISTRY (1-3) 2 hours credit.** Designed to introduce the student to biochemical laboratory methods; a practical approach to the properties of carbohydrates, proteins, enzymes, and nucleotides. Prerequisite: CHEM 4311. \$30 lab fee, \$30 equipment fee. S.

**4303. QUANTUM CHEMISTRY (3-0) 3 hours credit.** A course emphasizing molecular quantum mechanics. Topics include the basic postulates of quantum mechanics, many electron wave function, the variation method, and molecular orbital theory at various levels of approximation (Huckel, Extended Huckel, semi-empirical, ab initio, etc.). Related methods, such as force-field approaches and molecular dynamics, will be discussed.

**4311. GENERAL BIOCHEMISTRY (3-0) 3 hours credit.** The chemistry of the sugars, amino acids, proteins, and nucleic acids, followed by an introduction to enzyme chemistry. The major metabolic pathways of the cell, glycolysis, TCA cycle and pentose phosphate pathway. Prerequisite: CHEM 2322. F, SS.

**4312. GENERAL BIOCHEMISTRY (3-0) 3 hours credit.** A continuation of CHEM 4311. The breakdown and biosynthesis of fats and the synthesis of carbohydrate, including photosynthesis. Metabolic utilization of proteins and amino acids together with an introduction to protein synthesis. Prerequisite: CHEM 4311 or equivalent. S.

**4313. METABOLISM AND REGULATION (3-0) 3 hours credit.** Selected topics in advanced metabolism including biosynthesis of phospholipids, steroids, porphyrins and related molecules, and prostaglandins. Membranes and transport phenomena, regulation of glycogen and glucose metabolism in muscle and lipid metabolism in adipose tissue. Prerequisite: CHEM 4312.

**4314. ENZYMOLOGY (3-0) 3 hours credit.** A comprehensive study of enzymes including structures, reaction mechanisms, regulation, and kinetics. Prerequisite: CHEM 4312.

**4316. BIOCHEMICAL GENETICS (3-0) 3 hours credit.** Aspects of the biochemistry of gene expression in prokaryotic and eukaryotic organisms and its regulation, together with genetic manipulations and the methodology of recombinant DNA technology. Prerequisite: CHEM 4312.

**4317. INORGANIC CHEMISTRY (3-0) 3 hours credit.** Atomic and molecular structure, shapes and symmetry, synthesis and applications of main group compounds, acids and bases, materials chemistry and modern characterization techniques. Prerequisite: CHEM 1302 and 2322. S.

**4318. INORGANIC CHEMISTRY (3-0) 3 hours credit.** Synthesis, structures, bonding, properties and applications of transition metal complexes, coordination chemistry, nomenclature, reaction mechanisms, organotransition metal chemistry and catalysis. Prerequisite: CHEM 3322. F.

**4346. ADVANCED SYNTHETIC METHODS (1-6) 3 hours credit.** Methods and techniques for the synthesis and characterization of organic, inorganic, and organometallic compounds. Prerequisites: CHEM 2182, 2322 and 4317 or 4318. \$30 lab fee, \$30 equipment fee. S.

**4380. UNDERGRADUATE RESEARCH (0-9) 3 hours credit.** Research under the direction of a member of the department. May be repeated once. Prerequisites: written permission of the instructor and a minimum grade point average of 2.5. \$30 lab fee. F, S, SS.

**4381. HONORS RESEARCH (0-9) 3 hours credit.** Research in chemistry under the direction of a member of the department, resulting in a written honors thesis. Prerequisites: CHEM 3322 and admission to the department's honors program. \$30 lab fee. F, S, SS.

**4385. INSTRUCTIONAL TECHNIQUES IN CHEMISTRY (0-6) 3 hours credit.** Students participate in undergraduate laboratory instruction or recitation sessions under the supervision of a faculty member. Enrollment by departmental permission only. F, S, SS.

**4392. ADVANCED TOPICS IN CHEMISTRY (3-0) 3 hours credit.** Topics arranged on an individual basis. May be repeated for credit as the topic varies. Prerequisite: permission of the instructor.

**4191, 4291, 4391. READINGS IN CHEMISTRY (Variable credit from 1 to 3 hours as arranged).** May be repeated for a maximum of six hours credit. Topics arranged on an individual basis. Performance may be assessed by oral exam, written test, or review paper. Prerequisite: permission of departmental chair. Graded pass/fail only.

**4461. INSTRUMENTAL ANALYSIS (2-8) 4 hours credit.** The principles involved in the operation of modern analytical instruments and the laboratory use of such instruments. Prerequisites: CHEM 3182 and 3322. \$30 lab fee, \$30 equipment fee. F.

# The Department of Geology

107 Geoscience Bldg. • Box 19049 • Ph: 817-272-2987  
Fax: 817-272-2628 • E-mail: GEOLOGY@UTA.EDU

The Department of Geology offers programs of study leading to the:

- **Bachelor of Science in Geology:** Intended for those who wish either to enter the profession on graduation or to pursue graduate studies in geology. The program emphasizes breadth of geological studies rather than specialization, but two general career areas are recognized by selection of one of:

**General Geology and Natural Resource Exploration and Development:** Senior electives include courses in sedimentary or igneous geology, paleontology, geophysics or geochemistry, and exploration for and development of energy resources and mineral deposits. The minor field of study should be in biology, chemistry, mathematics, computer science engineering, or physics, or a combination of these depending on interest.

**Environmental Geology:** This area emphasizes the application of earth sciences to problems related to underground and surface water, the atmosphere, and geologic hazards such as flooding, slope stability, volcanism, and earthquakes. A broad background in related science and engineering is emphasized. Senior electives should be selected from courses in geochemistry, geophysics, marine geology, hydrology and sedimentology; and the minor should be in biology, chemistry, or civil engineering.

- **Bachelor of Arts in Geology:** Intended for those who desire a degree in geology with a strong liberal arts background and may not intend to enter the profession or graduate school, or as an academic degree for those who wish to teach earth or life-earth science in public schools.
- **Teacher Certification:** Secondary teaching certification programs in composite science, earth science, and life-earth science are offered and supervised by the department. Elementary certification in earth science is also possible. All of these programs can be coupled with the Bachelor of Arts in Geology.

## Requirements for a Bachelor of Science Degree in Geology

University core curriculum requirements other than science (see Degree Program section for a detailed description of the university core curriculum).

### English

Six hours of composition.

### Literature

Three hours of English or foreign language literature or other approved substitute.

### Political Science

2311, 2312.

### History

Six hours from 1311, 1312, and 3364.

### Social/Cultural Studies

Three hours of designated courses in social or cultural anthropology, archaeology, social/political/cultural geography, economics, sociology, classical studies, or linguistics.

### Fine Arts and Philosophy

Three hours from architecture, art, dance, music, philosophy, or theatre arts.

### Liberal Arts Elective

Three hours above the freshman level of literature, or social and cultural studies designated as taught in the College of Liberal Arts, or fine arts or philosophy, or technical writing.

### Geology, Mathematics and Other Science Requirements Major

47 hours including 1445 (or 1435 or 1465) and 1446 (or 1436), 2445, 2446, 3491, 3441, 3442, 3443, 3387, 3388 and at least one course selected from 4443, 4310, 4409, or 4408. Six additional hours of 4000 level courses, selected in consultation with a departmental advisor, are required to ensure educational breadth in the geosciences.

### Minor

18 hours (17 accepted with approval of the advisor) in biology, chemistry, physics\*, mathematics (beginning with 1325)\*\*, civil engineering or computer science engineering, or 24 hours (23 accepted with approval of advisor) in a combination of any two of these. Six hours of minor work must be in 3000/4000 courses from the following lists and subject to approval of a departmental advisor (BIOL 3315, 3339, 3348, 3355, 3455, 3456, 3457, 4305, 4338, 4348), (CHEM 3301, 3310, 3321, 3322, 4311, 4312), (MATH 3302, 3314, 3316, 3318, 3345, 4313, 4318, 4322, 4324), (PHYS 3313, 3445, 3446), (any computer science or civil engineering 3000/4000-level courses acceptable).

### Science other than Geology

CHEM 1301, 1302, and 1284; PHYS 1443 and 1444; BIOL 1442 or 2453\*\*. For other science requirements, see Minor.

### Mathematics

1325\*\*, 1426, 2325.

### Computer Literacy

GEOL 1491

### Total

A minimum of 120 hours, of which at least 36 must be 3000/4000 level. (Exercise and sport activities (EXSA), ROTC and marching band are excluded.)

\* A minor in physics requires the PHYS 1443 and 1444 introductory course sequence.

\*\* Prerequisites may add hours to the total required for the degree.

### Typical Course Sequence

(For students who are well-prepared for college level work at the time of admission, and who can devote 50-60 hours per week to study. All students are expected to see their academic advisor prior to enrollment each term.)

#### Freshman Year

**First Semester:** ENGL 1301; MATH 1325; GEOL 1445, 1491; HIST 1311; EXSA or ROTC or Marching Band—Total Credit 18 hours.

**Second Semester:** ENGL 1302; MATH 1426; CHEM 1301; GEOL 1446; HIST 1312; EXSA or ROTC—Total Credit 18 hours.

**Sophomore Year**

**First Semester:** English (literature), 3 hours; MATH 2325; CHEM 1302; CHEM 1284; GEOL 2445; EXSA or ROTC or Marching Band—Total Credit 16 hours.

**Second Semester:** BIOL 2453; POLS 2311; GEOL 2446; Social Science, 3 hours; EXSA or ROTC—Total Credit 15 hours.

**Junior Year**

**First Semester:** PHYS 1441 or 1443; GEOL 3441 and 3491; POLS 2312—Total Credit 15 hours.

**Second Semester:** GEOL 3442, 3443; PHYS 1442 or 1444; BIOL 2453—Total Credit 16 hours.

**Summer Session**

GEOL 3387 and 3388 (Summer Field Course)—Total Credit 6 hours.

**Senior Year**

**First Semester:** Minor, 6 hours; Geology (elective), 3 hours; Fine Arts/Philosophy, 3 hours; Other Social Science or Fine Arts/Philosophy, 3 hours—Total Credit 15 hours.

**Second Semester:** Minor, 6 hours; Geology Electives, 6 hours; Free Electives, 3 hours—Total Credit 15 hours.

## Requirements for a Bachelor of Arts Degree in Geology

University core curriculum requirements other than science (see Degree Program section for a detailed description of the university core curriculum).

**English**

Six hours of composition.

**Literature**

Three hours of English or foreign language literature or other approved substitute.

**Foreign Language**

14 hours in a single foreign language, or eight hours in a language plus six hours from one area cluster (See substitution list in introductory information for the College of Science)

**Political Science**

2311, 2312.

**History**

Six hours from 1311, 1312, and 3364.

**Social/Cultural Studies**

Three hours of designated courses in social or cultural anthropology, archaeology, social/political/cultural geography, economics, sociology, classical studies, or linguistics.

**Fine Arts and Philosophy**

Three hours from architecture, art, dance, music, philosophy, or theatre arts.

**Liberal Arts Elective**

Three hours above the freshman level of literature, or social and cultural studies designated as taught in the College of Liberal Arts, or fine arts or philosophy, or technical writing.

**Geology, Mathematics and Other Science Requirements****Major**

41 hours including GEOL 1435 (or 1445 or 1465), 1436 (or 1446), 2445, 2446, 3491, 3441, 3442, 3443, and nine hours of 3000 and 4000 level courses selected in consultation with the undergraduate advisor. At least 3 of these 9 hours must be at the 4000 level.

**Minor**

18 hours in a single field of which six must be 3000/4000 level.

**Science other than Geology**

CHEM 1301 and 1302; BIOL 1442 or 2453; PHYS 1441 and 1442.

**Mathematics**

1324 (or 1302 and 1303), 3316 (or 1308).

**Computer Literacy**

GEOL 1491.

**Total**

A minimum of 120 hours of which at least 36 must be 3000/4000 level, plus exercise and sport activities (EXSA) or ROTC or marching band as required.

**Typical Course Sequence**

(For students who are well-prepared for college level work at the time of admission, and who can devote 50-60 hours per week to study. All students are expected to see their academic advisor prior to enrollment each term.)

**Freshman Year**

**First Semester:** ENGL 1301; MATH 1324; GEOL 1435, 1491; HIST 1311; EXSA or ROTC or Marching Band—Total Credit 18 hours.

**Second Semester:** ENGL 1302; GEOL 1436; CHEM 1301; HIST 1312; POLS 2311; EXSA or ROTC—Total Credit 17 hours.

**Sophomore Year**

**First Semester:** English (literature), 3 hours; FORL 1441; GEOL 2445; POLS 2312; EXSA or ROTC or Marching Band—Total Credit 15 hours.

**Second Semester:** Social Science, 3 hours; FORL 1442; BIOL 2453; GEOL 2446; EXSA or ROTC—Total Credit 16 hours.

**Junior Year**

**First Semester:** FORL Elective, 3 hours; GEOL 3441; MATH 3316; PHYS 1447; Minor, 3 hours—Total Credit 17 hours.

**Second Semester:** GEOL 3442; GEOL 3443; FORL Elective, 3 hours; Minor, 3 hours; PHYS 1448—Total Credit 18 hours.

**Summer Session**

GEOL 3687, or GEOL 3387 and 3388 (Summer Field Course)—Total Credit 6 hours (will substitute for six hours of classroom courses)

**Senior Year**

**First Semester:** Minor, 6 hours; Geology Elective, 3 hours; Fine Arts/Philosophy, 3 hours; GEOL 3491—Total Credit 16 hours.

**Second Semester:** Minor (3000/4000), 6 hours; Geology Elective, 3 hours; Liberal Arts Elective, 3 hours—Total Credit 12 hours.

## Department of Geology Faculty

### Chair

Professor Wickham

### Professors

Balsam, Burkart, Crick, Ellwood, Nestell, Reaser

### Associate Professors

Schieber, Scotese

### Adjunct Professors

Damuth, Denison, Moore

### Adjunct Associate Professors

Cooper, Deaton

## Geology (GEOL)

### Designation of Semester in Which Courses Are Offered

To assist the student in planning his/her sequence of courses, all geology courses carry an indication as to when they are usually taught. However, the Department of Geology reserves the right to change the semester in which any course is taught in accordance with unforeseen conditions.

Designations are:

F - Fall, S - Spring, SSI - First Summer Session,  
SSII - Second Summer Session, I - Irregular.

Prefix and number in parenthesis following the U.T. Arlington course number and title is the Common Course Number designation.

**1135. GEOLOGICAL LABORATORY (0-3) 1 hour credit.** Experiments and exercises related to geological principles and problems. Prerequisite: permission of department. \$5 lab fee.

**1435. INTRODUCTION TO PHYSICAL GEOLOGY (3-3) 4 hours credit (GEOL 1403).** Processes in the earth's interior and on the earth's surface and their effects on society and the environment. Credit will be given for only one of GEOL 1435, 1445, 1465, and GEOG 1465. \$5 lab fee. F, S, SSI.

**1436. INTRODUCTION TO HISTORICAL GEOLOGY (3-3) 4 hours credit (GEOL 1404).** Origin and history of the earth and the development and evolution of life. Prerequisite: GEOL 1435 or 1445 or permission of the instructor. (GEOL 1436 and 1446 cannot both be counted for credit) \$5 lab fee. F, S, SSII.

**1445. PHYSICAL GEOLOGY (3-3) 4 hours credit.** For geology majors, other science majors, civil engineering majors, and honors students (honors students attend a separate laboratory section). A study of minerals, rocks, geological processes, and structural geology. \$5 lab fee. F.

**1446. HISTORICAL GEOLOGY (3-3) 4 hours credit.** For geology majors, other science majors, and honors students (honors students attend a separate laboratory section). Principles of historical interpretations, origin and history of the earth, and the development and evolution of life. Prerequisite: GEOL 1435 or 1445 or permission of the instructor. \$5 lab fee. S.

**1455. THE EARTH'S CLIMATE (3-3) 4 hours credit.** Past, present, future climatic patterns of the world with emphasis on processes that control climate locally and globally. The effect of human activity on present and future climate. Also listed as GEOG 1455; credit will not be given for both GEOL 1455 and GEOG 1455. \$5 lab fee.

**1465. THE EARTH'S LANDFORMS (3-3) 4 hours credit.** The Earth's surface processes and resulting landforms. Rock types, weathering processes, formation of soils, and the effects of human activity on landscape evolution. Also listed as GEOG 1465; credit will be given for only one of GEOL 1435, 1445, 1465, and GEOG 1465. \$5 lab fee.

**1491. COMPUTER LITERACY (3-3) 4 hours credit.** This course is designed to develop and perfect skills in all aspects of computer use for an undergraduate education through direct interaction with University facilities and integrated software. Topics include word processing, spreadsheet, database, draw and paint graphics, slide presentations, desktop publishing, electronic mail, Internet services, and on-line services. (Skills are developed through the completion of weekly projects). Assumes no knowledge of computers; satisfies the College of Science requirement for computer literacy.

**2445. MINERALOGY (3-4) 4 hours credit (GEOL 2409).** Elementary crystallography, mineral identification, mineral occurrences, mineral usage, and an introduction to optical mineralogy. Prerequisite: CHEM 1301. \$10 microscope fee, \$7 lab fee. F.

**2446. IGNEOUS AND METAMORPHIC PETROLOGY AND PETROGRAPHY (3-4) 4 hours credit.** Hand-specimen and microscope study of igneous and metamorphic rocks. Rock origins, tectonic controls, rock description, and interpretation of rock textures and structures. Prerequisite: GEOL 2445. \$10 microscope fee, \$7 lab fee. S.

**3183. DINOSAURIA LABORATORY (0-2) 1 hour credit.** Review of the fossil record of dinosaurs and other vertebrates. One required field trip. Prerequisites: GEOL 3302 or concurrent enrollment.

**3184. OCEANOGRAPHY LABORATORY (0-2) 1 hour credit.** Laboratory for students seeking secondary certification in life-earth or earth science programs. Prerequisites: concurrent registration in GEOL 3301 or permission of instructor. \$5 lab fee. I.

**3185. METEOROLOGY LABORATORY (0-2) 1 hour credit.** Laboratory for students seeking secondary certification in life-earth or earth science programs. Prerequisite: concurrent registration in GEOL 3305 or permission of instructor. \$5 lab fee. I.

**3301. INTRODUCTION TO OCEANOGRAPHY (3-0) 3 hours credit.** The many aspects of oceanography with special emphasis on physical oceanography and marine geology. Prerequisites: six hours of science and junior standing, or permission of the instructor. I.

**3302. DINOSAURIA (3-0) 3 hours credit.** Review of evolution environment, and fossil record of dinosaurs and other extinct vertebrates. Prerequisites: six hours of science and junior standing. I.

**3303. VOLCANOES AND VOLCANIC ERUPTIONS (3-0) 3 hours credit.** Comprehensive worldwide overview of volcanic eruptions from prehistoric to recent times. More than 20 actual case studies using original material and data. Includes necessary introductory material to volcanology and information on topics such as climatic change. Prerequisites: six hours of science and junior standing. I.

**3304. GEOLOGIC HAZARDS (3-0) 3 hours credit.** Various geologic hazards such as earthquakes and volcanoes and their relationship to people. Prerequisites: six hours of science and junior standing. I.

**3305. INTRODUCTION TO METEOROLOGY AND CLIMATOLOGY (3-0) 3 hours credit.** Dynamics of the atmosphere: examination of processes that control weather; long-term climatic cycles and geological record of global climate change; atmospheric pollution and its effects on climate. Prerequisites: six hours of science and junior standing, or permission of the instructor. Also listed as GEOG

3305. Credit will be granted for only one of GEOL 3305, GEOG 3305, and GEOL 4405.

**3306. GEOLOGIC TIME AND THE FOSSIL RECORD (3-0) 3 hours credit.** The succession of life as evidenced by the fossil record. Includes the evolution of the continents and ocean basins as well as methods of dating earth materials and events. Prerequisites: six hours of science and junior standing. I.

**3307. GEOLOGY AND ENERGY RESOURCES (3-0) 3 hours credit.** Economics and environmental impact of exploration for and exploitation of energy resources including coal, gas, oil, and selected fissionable materials. The future role of geothermal, solar, and water energy sources. Prerequisite: six hours of science and junior standing or permission of instructor. I.

**3308. GEOLOGY OF NATIONAL PARKS AND MONUMENTS (3-0) 3 hours credit.** Geological and geographical evolution of national parks and monuments. Prerequisites: six hours of science and junior standing. I.

**3309. LANDSCAPE EVOLUTION (3-0) 3 hours credit.** Geomorphology involving a study of the processes and products of landform and landscape evolution. Geologic evolution, rocks and weathering, soils and landscapes. Prerequisites: six hours science and junior standing. Also listed as GEOG 3309, but credit will be granted only once. I.

**3310. PLANETARY GEOLOGY (3-0) 3 hours credit.** The geology and landscapes of the terrestrial planets and the satellites of the outer planets. Histories of the planets and evolution of planetary surfaces. Composition of different planets as a guide to solar system evolution. Prerequisites: six hours of science and junior standing. I.

**3311. GLOBAL ENVIRONMENTAL ISSUES (3-0) 3 hours credit.** An up-to-date look at the global environmental challenges confronting humanity. Based on 10, hour-long programs produced as a PBS television series, the course will address problems of pollution, energy resources, ecosystem deterioration, food production, and other environmental concerns. Prerequisite: six hours of science and junior standing. I.

**3312. GEOLOGY OF THE DALLAS/FORT WORTH METROPLEX (3-0) 3 hours credit.** Introduction to geologic features in the Metroplex. Emphasis will be placed on environmental problems in the local area including earthflows, expansive soil, and flooding. Several field trips will supplement lecture material. Prerequisites: GEOL 1435. \$15 transportation fee.

**3387. FIELD GEOLOGY I. 3 hours credit.** Stratigraphic and structural mapping and analysis of data collected in the field. Taught for three weeks only in the summer session. Prerequisites: GEOL 2446, 3442, 3443. \$10 lab fee plus a special fee covering the cost of transportation, room and board while in the field. SSI.

**3388. FIELD GEOLOGY II. (3-0) 3 hours credit.** Mapping and analysis of igneous and metamorphic rock data as well as hydrologic, geochemical and mass wasting data collected in the field. Taught for three weeks after GEOL 3387 only in the summer session. prerequisites: GEOL 2446, 3442, 3443, and 3387. \$10 lab fee plus a special fee covering the cost of transportation, room and board while in the field. SSI.

**3441. PALEONTOLOGY (3-3) 4 hours credit.** Biology, morphology, and taxonomy of fossil invertebrates. Prerequisites: GEOL 1436; BIOL 2453. \$10 microscope fee, \$5 lab fee. F.

**3442. STRATIGRAPHY AND SEDIMENTARY PETROLOGY AND PETROGRAPHY (3-3) 4 hours credit.** An introduction to the description, origin, and historical interpretation of stratified rocks. Pre-

requisites: GEOL 2446 (or concurrent enrollment) and 3441 or permission of the instructor. \$10 microscope fee, \$7 lab fee. S.

**3443. STRUCTURAL GEOLOGY (3-3) 4 hours credit.** The genesis, classification, and description of structural features resulting from deformation of the earth's crust. Prerequisites: GEOL 2446, 3442 (or concurrent enrollment), and a course in physics, or permission of the instructor. \$5 lab fee. F.

**3491. DATA ANALYSIS AND STATISTICS IN THE SCIENCES (3-3) 4 hours credit.** This course is designed to introduce science students to a variety of programs and techniques available for statistical analysis, display of data, and presentation of data common to the physical sciences in commercial and educational settings. Topics include: data collection, hypothesis testing, basic parametric statistics (through regression), nonparametric testing, time series analysis, and multivariate techniques (both for classifying and confirming hypotheses). Prerequisites: GEOL 1491, MATH 1423 or equivalent, six hours of science, and junior standing.

**4189. PROBLEMS IN GEOLOGY (0-3) 1 hour credit.** Supervised undergraduate research in any one of the various fields of geology. May be repeated but will not meet the requirements of nine hours of 4000 courses as listed in the requirements for a B.S. degree in geology. Prerequisite: senior standing and permission of the instructor. F, S, SSI, SSII.

**4289. PROBLEMS IN GEOLOGY (0-6) 2 hours credit.** Supervised undergraduate research in any one of the various fields of geology. May be repeated but will not meet the requirement of nine hours of 4000 courses as listed above. Prerequisites: senior standing in geology and permission of the instructor. F, S, SSI, SSII.

**4302. PLATE TECTONICS (3-0) 3 hours credit.** Understanding our dynamic Earth through the study of seafloor spreading, subduction and continental collision. This course will examine the geophysical evidence for plate tectonics: magnetism, gravity, and heat flow; and will review the history of plate motions and their effect on climate, evolution, and the formation of natural resources. Prerequisites: GEOL 1491 and 3443.

**4303. GEOARCHAEOLOGY (3-0) 3 hours credit.** Geological, geochemical and geophysical techniques employed in the study of archaeological sites and materials. Also listed as ANTH 4303. Prerequisites: GEOL 1435 or ANTH 2339 and junior standing. S.

**4305. SELECTED TOPICS IN GEOLOGY (3-0) 3 hours credit.** Geological topics not treated in the regular curriculum. Topic, format, and prerequisites to be determined by the instructor. May be repeated for geology elective credit as different topics are offered. I.

**4308. SOLID EARTH GEOPHYSICS (3-0) 3 hours credit.** The principles of magnetism, seismology, gravity, and heat flow will be used in analyzing the earth's dynamics and bulk properties. Topics will include earthquake seismology, geodesy, geomagnetism, heat flow, the composition and state of the earth's interior, development of the continents and ocean basins, and the new Global Tectonics hypothesis. Prerequisites: GEOL 1491, 3443 and a physics course or permission of the instructor. I.

**4310. INTRODUCTION TO GEOCHEMISTRY (3-0) 3 hours credit.** Geochemistry of the elements, processes governing distribution of elements within the earth, and chemical processes in sedimentary, metamorphic, and igneous environments. Prerequisite: GEOL 2446 and 3442 (or concurrent enrollment), or CHEM 3322, or permission of the instructor. S.



- 4315. ECONOMIC GEOLOGY-MINERAL DEPOSITS (3-0) 3 hours credit.** The occurrences, origin, classification, and utilization of metallic and non-metallic mineral deposits. Prerequisite: GEOL 3443. S.
- 4320. HYDROGEOLOGY (3-0) 3 hours credit.** Applied hydrogeology. Discussions of the hydrologic cycle, principles of groundwater flow including the mathematical approaches to groundwater flow modeling, relationships between geology and groundwater flow, groundwater chemistry, and groundwater exploration and development. Prerequisites: GEOL 3443 and MATH 2325 or permission of the instructor.
- 4325. PALEOCLIMATOLOGY (3-0) 3 hours credit.** The physical basis of the climate system, climatic fluctuations and change, records of past climates, and the use of models in studying past climates. Specific examples from earth history will be included. Prerequisites: GEOL 1446 (or GEOL 1435 or 1465), and MATH 1426, and senior standing, or permission of the instructor. I.
- 4342. THE CORRELATION OF SEDIMENTARY ROCKS (2-3) 3 hours credit.** The methods used to differentiate and correlate intra- and inter-basinal rock units. Graphic correlation, isotopic techniques, magnetic properties, seismic stratigraphy, significant macro and micro fossil groups during the Phanerozoic. Prerequisites: GEOL 3441, 3442, and 3491 (or concurrent enrollment) or permission of instructor. \$5 lab fee. S.
- 4345. OPTICAL MINERALOGY (2-4) 3 hours credit.** Principles of optical crystallography and mineral identification. The relationships of optical characteristics to the structure and chemistry of minerals. Prerequisite: GEOL 2445. \$10 microscope fee, \$7 lab fee. F.
- 4346. BASIN ANALYSIS (3-0) 3 hours credit.** Formation of sedimentary basins and evaluation of their economic potential in context of plate tectonics; paleogeography and paleoclimatology. I.
- 4350. ECONOMIC GEOLOGY-ENERGY RESOURCES (2-3) 3 hours credit.** Provides a background in energy resource exploration, development, and evaluation, with special emphasis on petroleum, natural gas, and coal resources. Prerequisite: GEOL 3443. \$5 lab fee. I.
- 4352. INTRODUCTION TO GEOGRAPHICAL INFORMATION SYSTEMS (2-3) 3 hours credit.** An introduction to GIS and its application to the Earth Sciences. Provides "hands on" access to GIS technology and methods for creating, maintaining and analyzing spatial data using ARC/Info and ArcView. Prerequisite: GEOL 1491. \$15 lab fee.
- 4353. VOLCANOLOGY (3-0) 3 hours credit.** A broad survey of volcanic rocks, landforms, products, minerals, volatiles, and processes at a generally descriptive to semi-quantitative level. Introduces areas of interface with other branches of geology and with socio-economic interest. Prerequisite: GEOL. 3442. I.
- 4360. GEOLOGICAL PROCESSES OF OCEANS (3-0) 3 hours credit.** Sedimentation in the oceans, chemistry of seawater, geochemical cycles in the oceans, and physical and biological processes that relate to sediment production, origin of seafloor topography, and seafloor spreading. Prerequisite: GEOL 3442 or permission of instructor. It is recommended that GEOL 3184 be taken concurrently. I.
- 4393. HONORS THESIS/SENIOR PROJECT (3-0) 3 hours credit.** Required of all students in the University Honors Program. During the senior year, the student must complete a thesis or project under the direction of a faculty member in the major department.
- 4402. COMPUTER MODELING IN EARTH SCIENCE (3-3) 4 hours credit.** Computer modeling and visualization techniques applied to the earth sciences, including structural geology, stratigraphy, geophysics, climatology, paleontology, and environmental geology. Prerequisite: GEOL 3443. \$25 lab fee. I.
- 4405. METEOROLOGY AND CLIMATOLOGY (3-3) 4 hours credit.** For science and engineering majors. A quantitative approach to the study of the structure, energy, and motions of the atmosphere. Prerequisite: MATH 2325, six hours of science or engineering, junior standing, or permission of instructor. Credit will be granted for only one of GEOL 3305, GEOG 3305, and GEOL 4405. I.
- 4408. ENVIRONMENTAL GEOCHEMISTRY AND GEOPHYSICS (3-3) 4 hours credit.** The geochemical and geophysical techniques applied to selected problems in environmental geology. Prerequisites: GEOL 2445 and 3443, CHEM 1301, and PHYS 1442 (or 1444 or 1448), or permission of instructor. F.
- 4409. APPLIED GEOPHYSICS (3-3) 4 hours credit.** Geophysical techniques including seismology, seismic stratigraphy, gravity, magnetic and electrical methods used to investigate selected geological problems. Prerequisites: GEOL 1491, 3443 or 3491, 3442. \$5 lab fee. I.
- 4443. SEDIMENTOLOGY (3-3) 4 hours credit.** The analysis and origin of sedimentary rocks. Emphasizes the processes of sedimentation, both physical and chemical, and covers the origin of sediment, its dispersal patterns, transportation, deposition, and diagenesis. Prerequisites: GEOL 1491, 2446 or 3491, 3442. \$10 microscope fee, \$5 lab fee. F.
- 4446. ADVANCED IGNEOUS AND METAMORPHIC PETROLOGY (3-3) 4 hours credit.** Hand specimen and thin section study of igneous and metamorphic rocks. Emphasis on theoretical principles governing the origin and evolution of crustal rocks. Prerequisite: GEOL 2446 or permission of the instructor. \$10 microscope fee, \$5 lab fee. I.

# Interdisciplinary Studies

209 University Hall • Box 19419 • 817-272-2338

The undergraduate Bachelor of Science in Interdisciplinary Studies is an individualized degree that allows students to develop themes or topics that fall outside the usual departmental boundaries. Students work closely with the Interdisciplinary Studies advisor to design a rigorous and coherent program that contributes to professional growth, career goals, or future academic endeavors. Application and information packets are available in Room 209, University Hall. The Interdisciplinary Studies application must clearly articulate goals that no previously established discipline on campus can accommodate. The advisor provides information concerning the courses available throughout the University, and together they examine each prospective course to determine its contribution to the component areas and the degree as a whole. The approved degree plan, the transcript, and the diploma carry the designation Bachelor of Science in Interdisciplinary Studies.

The program includes those requirements established for the Bachelor of Science Degree, an area of concentration, and elective courses.

## Requirements for a Bachelor of Science Degree in Interdisciplinary Studies

### English

1301 and 1302.

### Literature

Three hours of English or foreign language literature at the sophomore level or above

### Liberal Arts Elective

Three hours above the freshman level of literature, or social and cultural studies designated as taught in the College of Liberal Arts, or fine arts or philosophy, or technical writing.

### History

1311 and 1312.

### Mathematics

Six hours (college algebra or higher).

### Political Science

2311 and 2312.

### Fine Arts and Philosophy

Three hours from architecture, art, dance, music, philosophy, or theatre arts.

### Social/Cultural Studies

Three hours from anthropology, economics, psychology, sociology, social/political/cultural geography, classical studies, or linguistics.

### Science

11 hours from chemistry, biology, geology, or physics. Eight hours must be in a single lab science.

### Electives

Sufficient hours to complete the total required for the degree. Students are encouraged to choose elective courses that will enhance and support their area of concentration.

### Area of Concentration

The area of concentration consists of courses selected by the student in consultation with the advisor that focus on the student's unique academic and vocational goals.

A minimum of 36 hours is required for the area of concentration; **no more than 18 hours**, in addition to the general requirements, may be selected from any one discipline.

For the Bachelor of Science in Interdisciplinary Studies, at least one of the areas of concentration must be comprised of courses from science (biology, chemistry, geology, mathematics, physics).

### Total

128 hours, at least 36 of which must be 3000/4000 level, plus four hours in exercise and sport activities (EXSA), ROTC, or marching band.

## Requirements for a Bachelor of Science Degree in Interdisciplinary Studies

### (Elementary Teacher Certification)

Both the Bachelor of Arts and Bachelor of Science in Interdisciplinary Studies are available for students interested in teacher certification at the elementary level. Students seeking secondary certification must pursue a traditional major and minor and may not be certified through an interdisciplinary studies program at The University of Texas at Arlington.

Students should consult the Center for Professional Teacher Education for requirements regarding admission to teacher education and eligibility for certification.

### English

1301 and 1302

### Literature

Three hours of English or foreign language literature at the sophomore level or above.

### Liberal Arts Elective

Three hours above the freshman level of literature, or social and cultural studies designated as taught in the College of Liberal Arts, or fine arts or philosophy, or technical writing.

### History

1311 and 1312.

### Mathematics

Six hours (college algebra or higher).

### Political Science

2311 and 2312.

### Fine Arts and Philosophy

Three hours from architecture, art, dance, music, philosophy, or theatre arts.

### Social/Cultural Studies

Three hours from anthropology, economics, psychology, sociology, social/political/cultural geography, classical studies, or linguistics.

**Science**

11 hours from chemistry, biology, geology, or physics. Eight hours must be in a single lab science.

**Electives**

Sufficient hours to complete the total required for the degree. Students are encouraged to choose elective courses that will enhance and support their area of concentration.

**Area of Concentration**

The area of concentration for Interdisciplinary Studies/Elementary Education Certification consists of courses selected by the student in consultation with both the Interdisciplinary Studies advisor and the academic advisor for the discipline in which the student will certify.

A minimum of 48 undergraduate semester credit hours with a minimum of 21 semester credit hours at the upper division level is required in the area of concentration. **No more than 18 hours**, in addition to the general requirements, may be selected from any one discipline.

\*Students may elect to include a Delivery System (special area of preparation) as part of the area of concentration. Undergraduate academic courses (but not teaching methodology or pedagogy) that comprise Delivery Systems in reading, early childhood education, special education, bilingual education, and English as a second language may be included. However, no more than 18 of the 48 hours required for the area of concentration may be included from a Delivery System.

If a Delivery System is selected, then the remaining 30 additional semester credit hours must be taken in academic subject matter content courses from a combination of any three of the following: fine arts, mathematics, language arts, reading, science, or social science.

**Total**

128 academic hours (plus additional hours needed to meet certification requirements), at least 36 of which must be 3000/4000 level, plus four hours in exercise and sport activities (EXSA), ROTC or marching band.

\*Pending approval by the Texas Higher Education Coordinating Board and the Texas Education Agency.

# The Department of Mathematics

478 Pickard Hall • Box 19408 • 817-272-3261

## Bachelor Degrees in Mathematics

The Department of Mathematics offers programs leading to the Bachelor of Science Degree in Mathematics and the Bachelor of Arts Degree in Mathematics. The Bachelor of Science degree may also be acquired with the explicit addition of one of these options: computer science, statistics, and management science/operations research.

The Bachelor of Science (no option) is primarily intended for students wishing to pursue graduate work in mathematics. The computer science option is intended for those students who wish to seek employment relating to mathematical computing. The statistics and management science/operations research options are intended for students with an interest in a career involving various applications of mathematics to the world of business. The Bachelor of Arts is intended for those students desiring to teach mathematics at the elementary and secondary school level and for those seeking a traditional liberal arts education with an emphasis on mathematics.

All students seeking a bachelor's degree in mathematics must take at least two mathematics sequences. A sequence is defined as a 3300-level course followed by a 4300-level course in the same general area of mathematics. The approved sequences are as follows: MATH 3421-4421 (Abstract Algebra), MATH 3435 and 4435 or 4334 (Analysis), MATH 3345 and 4335 (Numerical Analysis), MATH 3313-4313 (Probability and Statistics), MATH 3313-4311 (Probability and Random Processes), MATH 3314-4314 (Discrete Mathematics), MATH 3318-4320 or MATH 3318-4324 (Differential Equations), MATH 3318-4318 (Mathematical Methods for Sciences), and MATH 3306-4342 (Contemporary Geometry). All mathematics majors must take one of the sequences MATH 3421-4421 or MATH 3435 and (4435 or 4334). For the computer science option, the second sequence must be MATH 3345-4345. For the statistics option, the second sequence must be MATH 3313-4313.

It is strongly recommended that mathematics majors take MATH 3330 (Intro to Matrices and Linear Algebra) as early as possible, since this course is a prerequisite for many other 3000/4000-level courses. It is suggested to take MATH 3330 simultaneously with Calculus III. Mathematics majors may want to consider taking MATH 3300 (Intro to Proofs) before attempting the required courses MATH 3421 and MATH 3435. It is also strongly recommended that mathematics majors with little or no computer programming experience satisfy the computer literacy requirements as early as possible with CSE 1310, 1315, or 1306.

## Teacher Certification

Students interested in earning a Bachelor of Arts or Bachelor of Science degree with a major in mathematics with secondary or elementary teacher certification or in mathematics as a second teaching field should refer to the Center for Professional Teacher Education section of this catalog for teacher certification requirements.

## Requirements for a Bachelor of Science Degree in Mathematics

### English

Six hours of composition.

### Literature

Three hours of English or foreign language literature or other approved substitute.

### Liberal Arts Elective

Three hours above the freshman level of literature (required option for teacher certification), or social and cultural studies designated as taught in the College of Liberal Arts, or fine arts or philosophy, or technical writing.

### History

Six hours from 1311, 1312, and 3364.

### Political Science

2311, 2312.

### Social/Cultural Studies

Three hours of designated courses in social or cultural anthropology, archaeology, social/political/cultural geography, economics, sociology, classical studies, or linguistics.

### Fine Arts and Philosophy

Three hours from architecture, art, dance, music, philosophy, or theatre arts.

### Foreign Language

Eight hours (Levels I and II or higher) in one language.

### Science

PHYS 1443, 1444, and three hours from 2311, 3313, 3445. Eight hours in one other science; the choices are: CHEM 1301, 1302, and 1284, or BIOL 1441 and 1442, or GEOL 1445 and 1446. Each course may be replaced by another course in the same field that requires the original course as a prerequisite.

### Computer Literacy

Three hours from CSE 1306, 1310, 1315, 2310, or MATH 3345, 4342.

### Major

MATH 1325, 1426, 2325, 2326, 3314, 3318, 3330, 3421, 3435.

One course from 4421, 4435, 4334.

15 additional advanced hours (3300 or above, except 3301 and 3319), including a second sequence (see paragraph three on this page).

### Minor

Either a Departmental Minor or an Area Minor.  
**Departmental Minor:** 18 hours in one department, including at least six hours of 3000/4000-level courses. The department must be in the College of Science or the College of Engineering.  
**Area Minor:** 24 hours including at least nine hours of 3000/4000 level courses. The areas permitted are natural sciences (biology, chemistry, geology, physics), and engineering (all courses).

### Electives

Sufficient number of hours to complete the total hours required for a degree.

**Total**

A minimum of 120 hours, of which at least 39 must be 3000/4000 level, plus exercise and sport activities (EXSA) or ROTC or marching band as required.

**Suggested Course Sequence****Freshman Year**

**First Semester:** MATH 1325; MATH 1426; Computer Literacy, 3 hours; ENGL 1301; HIST 1311; EXSA or ROTC or Marching Band—Total Credit 17 hours.

**Second Semester:** MATH 2325; MATH 3314; PHYS 1443; ENGL 1302; HIST 1312; EXSA or ROTC—Total Credit 17 hours.

**Sophomore Year**

**First Semester:** MATH 2326; MATH 3330; PHYS 1444; English Literature, 3 hours; Social and Cultural Studies, 3 hours; EXSA or ROTC or Marching Band—Total Credit 17 hours.

**Second Semester:** MATH 3318; Mathematics, 3 hours; Physics, 3 hours; Liberal Arts Elective, 3 hours; Fine Arts/Philosophy, 3 hours; EXSA or ROTC—Total Credit 16 hours.

**Junior Year**

**First Semester:** MATH 3435; Minor, 3 hours; Science, 3 hours; POLS 2311; Elective, 3 hours—Total Credit 16 hours.

**Second Semester:** MATH 4435; Mathematics, 3 hours; Minor, 3 hours; Science, 3 hours; POLS 2312—Total Credit 16 hours.

**Senior Year**

**First Semester:** MATH 3421; Mathematics, 3 hours; Minor, 3 hours; Foreign Language I, 4 hours—Total Credit 14 hours.

**Second Semester:** Mathematics, 6 hours; Minor, 3 hours; Foreign Language II, 4 hours—Total Credit 13 hours.

## Requirements for a Bachelor of Arts Degree in Mathematics

**English**

Six hours of composition.

**Literature**

Three hours of English or foreign language literature or other approved substitute.

**Liberal Arts Elective**

Three hours above the freshman level of literature (required option for teacher certification), or social and cultural studies designated as taught in the College of Liberal Arts, or fine arts or philosophy, or technical writing.

**History**

Six hours from 1311, 1312, and 3364.

**Political Science**

2311, 2312.

**Social/Cultural Studies**

Three hours of designated courses in social or cultural anthropology, archaeology, social/political/cultural geography, economics, sociology, classical studies, or linguistics.

**Fine Arts and Philosophy**

Three hours from architecture, art, dance, music, philosophy, or theatre arts.

**Foreign Language**

14 hours (Level I, II, III, and IV) in one language.

**Science**

A total of 14 hours is required. Eight hours including laboratory in one science; the choices are: PHYS 1443 and 1444; or CHEM 1301, 1302, and 1284; or BIOL 1441 and 1442; or GEOL 1445 and 1446. Each course may be replaced by another course in the same field that requires the original course as a prerequisite.

Six additional hours of science from the above science courses or from science courses that have above science courses as prerequisites.

**Computer Literacy**

Three hours from CSE 1306, 1310, 1315, 2310, or MATH 3345, 4342.

**Major**

MATH 1325, 1426, 2325, 2326, 3314, 3330, 3421, 3435.

One course from 4421, 4435, 4334

12 additional advanced hours (3300 or above, except 3301 and 3319), including a second sequence (see page 256, paragraph three).

**Minor**

Either a Departmental Minor or an Area Minor.

**Departmental Minor:** 18 hours in one department, including at least six advanced (3000 or above) hours.

**Area Minor:** 24 hours, including at least nine advanced (3000/4000) hours. Areas permitted are natural sciences (biology, chemistry, geology, physics), engineering, business administration, fine arts (architecture, art, music, and theatre arts) and social sciences (anthropology, economics, history, political science, psychology, sociology, and social work).

**Electives**

Sufficient number of hours to complete the total hours required for a degree.

**Total**

A minimum of 120 hours, of which at least 39 must be 3000/4000 level, plus exercise and sport activities (EXSA) or ROTC or marching band as required.

**Suggested Course Sequence****Freshman Year**

**First Semester:** MATH 1325; ENGL 1301; HIST 1311; Computer Literacy, 3 hours; Foreign Language I, 4 hours; EXSA or ROTC or Marching Band—Total Credit 17 hours.

**Second Semester:** MATH 1426; ENGL 1302; HIST 1312; Science, 3 or 4 hours; Foreign Language II, 4 hours; EXSA or ROTC—Total Credit 18 or 19 hours.

**Sophomore Year**

**First Semester:** MATH 2325; MATH 3314; English Literature, 3 hours; Science, 3 or 4 hours; Foreign Language III, 3 hours; EXSA or ROTC or Marching Band—Total Credit 16 or 17 hours.

**Second Semester:** MATH 2326; MATH 3330; Liberal Arts Elective, 3 hours; Science, 3 or 4 hours; Foreign Language IV, 3 hours; EXSA or ROTC—Total Credit 16 or 17 hours.

**Junior Year**

**First Semester:** MATH 3321; Mathematics, 3 hours; Minor 3 hours; Science, 2 to 4 hours; Social and Cultural Studies, 3 hours—Total Credit 14 to 16 hours.

**Second Semester:** MATH 4421; Mathematics, 3 hours; Minor, 3 hours; Fine Arts/Philosophy, 3 hours; Elective, 3 hours—Total Credit 16 hours.

**Senior Year**

**First Semester:** MATH 3435; Mathematics, 3 hours; Minor, 3 hours; POLS 2311; Elective, 3 hours—Total Credit 16 hours.

**Second Semester:** Mathematics, 3 hours; Minor, 3 hours; Elective, 3 hours; POLS 2312—Total Credit 12 hours.

## Requirements for a Bachelor of Science Degree in Mathematics

### (Computer Science Option)

**English**

Six hours of composition.

**Literature**

Three hours of English or foreign language literature or other approved substitute.

**Liberal Arts Elective**

Three hours above the freshman level of literature (required option for teacher certification), or social and cultural studies designated as taught in the College of Liberal Arts, or fine arts or philosophy, or technical writing.

**History**

Six hours from 1311, 1312, and 3364.

**Political Science**

2311, 2312.

**Social/Cultural Studies**

Three hours of designated courses in social or cultural anthropology, archaeology, social/political/cultural geography, economics, sociology, classical studies, or linguistics.

**Fine Arts and Philosophy**

Three hours from architecture, art, dance, music, philosophy, or theatre arts.

**Foreign Language**

Eight hours (Levels I and II or higher) in one language.

**Science**

A total of 14 hours is required. Eight hours including laboratory in one science; the choices are: PHYS 1443 and 1444; or CHEM 1301, 1302, and 1284; or BIOL 1441 and 1442; or GEOL 1445 and 1446. Each course may be replaced by another course in the same field that requires the original course as a prerequisite.

Six additional hours of science from the above science courses or from science courses that have above science courses as prerequisites.

**Major**

1325, 1426, 2325, 2326, 3313, 3314, 3318, 3330, 3345, 3421, 3435, 4342, 4345.

One course from 4421, 4435, 4334.

**Option**

CSE 1306, 1310, 1315, 2310, 2320.

Six other advanced (3000/4000) hours in computer science (except CSE 4301).

**Choice**

Six additional advanced hours (3300 or above, except 3301 and 3319) in mathematics or computer science (except CSE 4301). MATH 4314 recommended.

**Electives**

Sufficient to give the total number of hours required for a degree.

**Total**

A minimum of 120 hours, of which at least 39 must be 3000/4000 level, plus exercise and sport activities (EXSA) or ROTC or marching band as required.

### Suggested Course Sequence

**Freshman Year**

**First Semester:** MATH 1325; MATH 1426; CSE 1306; ENGL 1301; HIST 1311; EXSA or ROTC or Marching Band—Total Credit 17 hours.

**Second Semester:** MATH 2325; MATH 3314; CSE 1310; ENGL 1302; HIST 1312; EXSA or ROTC—Total Credit 16 hours.

**Sophomore Year**

**First Semester:** MATH 2326; MATH 3330; CSE 2310; English Literature, 3 hours; Social and Cultural Studies, 3 hours; EXSA or ROTC or Marching Band—Total Credit 16 hours.

**Second Semester:** MATH 3318; Elective, 3 hours; CSE 1315; Liberal Arts Elective, 3 hours; Fine Arts/Philosophy, 3 hours; EXSA or ROTC—Total Credit 16 hours.

**Junior Year**

**First Semester:** MATH 3345; MATH 3435; CSE 2320; Science, 4 hours; POLS 2311—Total Credit 17 hours.

**Second Semester:** MATH 4345; MATH 4435; CSE 4303; Science, 4 hours; POLS 2312—Total Credit 17 hours.

**Senior Year**

**First Semester:** MATH 4342; MATH 3421; CSE, 3 hours; Science, 3 hours; Foreign Language I, 4 hours—Total Credit 17 hours.

**Second Semester:** MATH 3313; Mathematics or CSE, 3 hours; Science, 3 hours; Foreign Language II, 4 hours—Total Credit 13 hours.

## Requirements for a Bachelor of Science Degree in Mathematics

### (Statistics Option)

**English**

Six hours of composition.

**Literature**

Three hours of English or foreign language literature or other approved substitute.

**Liberal Arts Elective**

Three hours above the freshman level of literature (required option for teacher certification), or social and cultural studies designated as taught in the College of Liberal Arts, or fine arts or philosophy, or technical writing.

**History**

Six hours from 1311, 1312, and 3364.

**Political Science**

2311, 2312.

**Social/Cultural Studies**

Three hours of designated courses in social or cultural anthropology, archaeology, social/political/cultural geography, economics, sociology, classical studies, or linguistics.

**Fine Arts and Philosophy**

Three hours in architecture, art, dance, music, philosophy, or theatre arts.

**Foreign Language**

Eight hours (Levels I and II or higher) in one language.

**Science**

A total of 14 hours is required. Eight hours including laboratory in one science; the choices are: PHYS 1443 and 1444; or CHEM 1301, 1302, and 1284; or BIOL 1441 and 1442; or GEOL 1445 and 1446. Each course may be replaced by another course in the same field that requires the original course as a prerequisite.

Six additional hours of science from the above science courses or from science courses that have above science courses as prerequisites.

**Major**

MATH 1325, 1426, 2325, 2326, 3302, 3303, 3313, 3314, 3316, 3330, 3345, 3421, 3435, 4313.

One course from 4421, 4435, 4334

Three additional advanced hours (3300 or above, except 3301 and 3319) in mathematics.

**Option**

CSE 1306, BUSA 3322, IE 4308, and either IE 3315 or MATH 3304.

**Electives**

Sufficient to give the total number of hours required for a degree.

**Total**

A minimum of 120 hours, of which at least 39 must be 3000/4000 level, plus exercise and sport activities (EXSA) or ROTC or marching band as required.

**Suggested Course Sequence**

**Freshman Year**

**First Semester:** MATH 1325; MATH 1426; CSE 1306; ENGL 1301; HIST 1311; EXSA or ROTC or Marching Band—Total Credit 17 hours.

**Second Semester:** MATH 2325; MATH 3314; Science, 4 hours; ENGL 1302; HIST 1312; EXSA or ROTC—Total Credit 17 hours.

**Sophomore Year**

**First Semester:** MATH 2326; MATH 3330; English Literature, 3 hours; Social and Cultural Studies, 3 hours; Science, 4 hours; EXSA or ROTC or Marching Band—Total Credit 17 hours.

**Second Semester:** MATH 3313; MATH 3316; Science, 3 hours; Liberal Arts Elective, 3 hours; Fine Arts/Philosophy, 3 hours; EXSA or ROTC—Total Credit 16 hours.

**Junior Year**

**First Semester:** MATH 3435; MATH 3302; CSE 4319; Science, 3 hours; POLS 2311—Total Credit 16 hours.

**Second Semester:** MATH 4435; MATH 4313; MATH 3303; Elective, 3 hours; POLS 2312—Total Credit 16 hours.

**Senior Year**

**First Semester:** MATH 3345; Mathematics, 3 hours; BUSA 3322; Foreign Language I, 4 hours; Elective, 3 hours—Total Credit 16 hours.

**Second Semester:** MATH 3421; MATH 3304 or IE 3315; IE 4308; Foreign Language II, 4 hours—Total Credit 14 hours.

**Requirements for a Bachelor of Science Degree in Mathematics**

**(Management Science/Operations Research Option)**

**English**

Six hours of composition.

**Literature**

Three hours of English or foreign language literature or other approved substitute.

**Liberal Arts Elective**

Three hours above the freshman level of literature (required option for teacher certification), or social and cultural studies designated as taught in the College of Liberal Arts, or fine arts or philosophy, or technical writing.

**History**

Six hours from 1311, 1312, and 3364.

**Political Science**

2311, 2312.

**Social/Cultural Studies**

Three hours of designated courses in social or cultural anthropology, archaeology, social/political/cultural geography, economics, sociology, classical studies, or linguistics.

**Fine Arts and Philosophy**

Three hours from architecture, art, dance, music, philosophy, or theatre arts.

**Foreign Language**

Eight hours (Levels I and II or higher) in one language.

**Science**

A total of 14 hours is required. Eight hours including laboratory in one science; the choices are: PHYS 1443 and 1444; or CHEM 1301, 1302, and 1284; or BIOL 1441 and 1442; or GEOL 1445 and 1446. Each course may be replaced by another course in the same field that requires the original course as a prerequisite.

Six additional hours of science from the above science courses or from science courses that have above science courses as prerequisites.

**Computer Literacy**

CSE 1306.

**Major**

1325, 1426, 2325, 2326, 3303, 3304, 3313, 3314, 3330, 3421, 3435.

One course from 4421, 4435, 4334.

Nine additional advanced hours (3300 or above, except 3301 and 3319), including a second sequence (see page 256, paragraph three).

**Option**

BUSA 3306, POMA 3308, and three additional hours in Production/Operations Management, ECON 2305, 2306, and ACCT 2301, 2302. Six additional hours of 3000/4000-level courses in the College of Business Administration (except BUSA 3321).

**Electives**

Sufficient hours to complete the total hours required for a degree.

**Total**

A minimum of 120 hours, of which at least 39 must be 3000/4000 level, plus exercise and sport activities (EXSA) or ROTC or marching band as required.

**Suggested Course Sequence**

**Freshman Year**

**First Semester:** MATH 1425; MATH 1326; CSE 1306; ENGL 1301; HIST 1311; EXSA or ROTC or Marching Band—Total Credit 17 hours.

**Second Semester:** MATH 2325; MATH 3314; Science, 4 hours; ENGL 1302; HIST 1312; EXSA or ROTC—Total Credit 17 hours.

**Sophomore Year**

**First Semester:** MATH 2326; MATH 3330; English Literature, 3 hours; ECON 2305; Science, 4 hours; EXSA or ROTC or Marching Band—Total Credit 17 hours.

**Second Semester:** MATH 3313; MATH 3304; Science, 3 hours; Liberal Arts Elective, 3 hours; ECON 2306; EXSA or ROTC—Total Credit 16 hours.

**Junior Year**

**First Semester:** MATH 3435; MATH 3303; ACCT 2301; Science, 3 hours; POLS 2311—Total Credit 16 hours.

**Second Semester:** MATH 4435; BUSA 3306; ACCT 2302; Fine Arts/Philosophy, 3 hours; POLS 2312—Total Credit 16 hours.

**Senior Year**

**First Semester:** MATH 3421; Mathematics, 3 hours; POMA 3308; Advanced Bus., 3 hours; Foreign Language I, 4 hours—Total Credit 17 hours.

**Second Semester:** Mathematics, 6 hours; POMA, 3 hours; Advanced Bus., 3 hours; Foreign Language II, 4 hours—Total Credit 16 hours.

**Second Major**

A student who satisfies the requirements for any other baccalaureate degree qualifies for having mathematics named as a second major upon completion of nine mathematics courses at 3000/4000 level except MATH 3301 and 3319. The following courses are required: 3314, 3330, 3421, 3435, and one from 4421, 4435, 4334. Besides the sequence 3421-4421 or the sequence 3435 and (4435 or 4334), a second sequence must be part of the second major. The GPA requirements on the mathematics courses for a second major are identical to those listed below under the heading Graduation Requirements.

**Admission Requirements**

Students who wish to apply for major status in mathematics must first complete the University and College of Science requirements and the specific requirements of the Department of Mathematics listed below.

- Minimum GPA of 2.25 in at least nine hours of mathematics courses in residence at the level of MATH 1325 or above.
- At least six hours from the science or computer science courses listed in the mathematics degree plans.
- Twelve hours of courses of the University core curriculum in disciplines other than science and mathematics.

Students currently enrolled at the University may qualify to change their major to mathematics by meeting the requirements listed above depending on their current status.

**Academic Probation (College of Science):** Majors whose overall GPA or GPA in major courses falls below 2.0 will be placed on probation and, in addition to counseling by the University's Academic Advising Office, must consult with the Department Advisor prior to enrolling in additional courses.

**Satisfactory Academic Standard Requirement**

In addition to all U.T. Arlington university-wide scholastic probation policies, the Mathematics Department requires that a mathematics major whose GPA is below 2.0 for all mathematics courses attempted at U.T. Arlington with course numbers MATH 1325 or higher, must change his/her major program.

To re-enter as a mathematics major, the student needs to follow the procedure as stated in the Change of Major section.

**Graduation Requirement**

In addition to all U.T. Arlington university-wide graduation requirements, and in addition to the requirements for the specific bachelor degree programs offered by the Mathematics Department, the Mathematics Department requires that, in order to graduate, the candidate must have a GPA of at least 2.0 in all mathematics courses attempted at U.T. Arlington with course numbers above MATH 3000.



## Transitional Graduation Requirement

Students enrolled at U.T. Arlington prior to Fall 1991 and who have not received credit for any mathematics course numbered MATH 3000 or above as of September 1, 1991, must, in order to graduate, have a GPA of at least 2.0 in all mathematics courses attempted at U.T. Arlington with course number MATH 3000 or above.

## Non-Credit Courses

The following courses will not be counted for credit (as mathematics or electives) toward a bachelor's degree in mathematics: MATH 1308, 1315, 1316, 3319, BUSA 3321, and CSE 4301. MATH 3301 will not count as mathematics credit toward a mathematics degree, but can be counted as elective credit.

## Pre-Actuarial Program

U.T. Arlington offers a number of courses containing background material for Society of Actuaries tests 100, 110, 120, 130 and 135. For a suggested program of study, see an advisor in the mathematics department.

## Department of Mathematics Faculty

### Chair

Professor Kannan

### Professors

Bernfeld, Dragan, Dyer, Eisenfeld, Fix, Greenspan, Han, Ladde, Nestell

### Associate Professors

Chen, Gillespie, Harvey, Hawkins, Heath, Korzeniowski, Levine, Liao, Luo, Moore, Su, Warren

### Assistant Professors

Bochev, Hu, Little, Shilling, Ye

### Lecturers

Baker, McDonald

## Mathematics (MATH)

Prefix and number in parenthesis following the U.T. Arlington course number and title is the Common Course Number designation.

Students must take and pass the Math Placement Test prior to registering for MATH 1302, 1303, 1308 or 1315.

**0300. FUNDAMENTALS OF ALGEBRA (3-0) 3 hours credit.** Basic algebraic operations, linear equations and inequalities, polynomials, rational expressions, factoring, exponents and radicals, and quadratic equations. Credit in this course does not fulfill any degree requirement. \$15 special fee.

**1302. COLLEGE ALGEBRA (3-0) 3 hours credit (MATH 1314).** Linear, quadratic and higher order polynomial equations and inequalities solved algebraically, graphically and numerically; graphs and operations on relations and functions; real and complex zeros of polynomials and rational functions; exponential and logarithmic functions; compound interest and annuities; systems of linear equations; matrices; permutations, combinations and probability. Prerequisite: passing score on the mathematics placement test (for details, contact the Mathematics Department). Credit cannot be received for both MATH 1302 and MATH 1315. \$15 special fee.

**1303. TRIGONOMETRY (3-0) 3 hours credit (MATH 1316).** Trigonometric functions, radian measure, solution of triangles, graphs of trigonometric functions, trigonometric identities and equations, and complex numbers. Prerequisite: passing score on the mathematics placement test (for details, contact the Mathematics Department). \$15 special fee.

**1308. ELEMENTARY STATISTICAL ANALYSIS (3-0) 3 hours credit (MATH 1342).** Descriptive statistics, relationships between variables, interpretation of data and graphs, rudiments of probability, elementary statistical models, hypothesis testing, inference, and estimation. Prerequisites: MATH 1302 or MATH 1315 or equivalent and passing score on the mathematics placement test (for details, contact the Mathematics Department). \$15 special fee.

**1315. COLLEGE ALGEBRA FOR ECONOMICS AND BUSINESS ANALYSIS (3-0) 3 hours credit (MATH 1324).** Presents material covered in a traditional algebra course but with emphasis toward business applications. Linear equations, systems of linear equations, systems of linear inequalities, elements of matrix algebra and probability. Prerequisite: passing score on the mathematics placement test (for details, contact the Mathematics Department). Credit cannot be received for both MATH 1302 and MATH 1315. \$15 special fee.

**1316. MATHEMATICS FOR ECONOMICS AND BUSINESS ANALYSIS (3-0) 3 hours credit (MATH 1325).** Presents some of the mathematical tools that are useful in the analysis of business and economic problems. Topics are: compound interest, annuities, differential and integral calculus. Prerequisite: MATH 1315 or equivalent. \$15 special fee.

**1324. ALGEBRA AND TRIGONOMETRY (3-0) 3 hours credit.** A fast-paced summary study of the topics of MATH 1302 and 1303 and intended for calculus-track students. Credit cannot be received for MATH 1324 and MATH 1302 or 1303. Prerequisite: Equivalent of at least two years high school algebra and trigonometry. \$15 special fee.

**1325. ANALYTIC GEOMETRY (3-0) 3 hours credit (MATH 1348).** Vectors, lines in two dimensions, circles, conics, transformation of coordinates, polar coordinates, parametric equations, and the solid analytic geometry of vectors, lines, planes, cylinders, spherical and

cylindrical coordinates. Prerequisite: MATH 1324, or MATH 1302 and MATH 1303, or two years of high school algebra and one-half year of high school trigonometry. \$15 special fee.

**1426. CALCULUS I (3-2) 4 hours credit (MATH 2413).** Concepts of limit, continuity, differentiation, Mean Value Theorem, Taylor Polynomials, and integration; applications of these concepts to various problems. Prerequisite: MATH 1325 or concurrent registration with major advisor's approval.

**2325. CALCULUS II (3-0) 3 hours credit (MATH 2314).** Inverse functions, logarithmic and exponential functions, techniques of integration, parametric equations, polar coordinates, vector-valued functions, motion in space, curvature. Prerequisite: MATH 1426.

**2326. CALCULUS III (3-0) 3 hours credit (MATH 2315).** Sequences and series. Taylor's Theorem, partial differentiation, Lagrange multipliers, multiple integrals (with applications), line integrals, Green's Theorem, surface integrals, Stokes' Theorem, divergence theorem. Prerequisite: MATH 2325.

**2524. HONORS CALCULUS I (5-0) 5 hours credit.** Limits, continuity, and differentiability of real valued functions with applications to maximum-minimum problems, curve sketching, and motion of particles. Integrals and their applications to areas and volumes of particular geometries, and to work. Logarithms and exponential functions. Stress is on concepts, rigor, and applications. Prerequisite: consent of instructor. Credit will not be given for MATH 1426 and/or MATH 2325 after a student has received credit for MATH 2524.

**2525. HONORS CALCULUS II (5-0) 5 hours credit.** A continuation of MATH 2524. Trigonometric and hyperbolic functions, techniques of integration, indeterminate forms, infinite series, parametric curves and polar coordinates in two-dimensions, vectors, curves and surfaces in three-dimensional space. Prerequisite: MATH 2524. Credit will not be given for MATH 2326 after a student has received credit for MATH 2525.

**3300. INTRODUCTION TO PROOFS (3-0) 3 hours credit.** Techniques for constructing proofs for various propositions. The propositions chosen exhibit properties of functions, relations, sets, cardinality, and other ideas in mathematics. An axiomatic approach to some areas in mathematics. Prerequisite: MATH 1426.

**3301. INTRODUCTION TO THE FOUNDATIONS OF GEOMETRY (3-0) 3 hours credit.** A development of the foundations of geometry. Prerequisite: MATH 1426. Cannot be counted for major credit toward a degree in mathematics.

**3302. MULTIVARIATE STATISTICAL METHODS (3-0) 3 hours credit.** Topics in multivariate data analysis with applications in various areas of interest including business research. Multiple regression, introduction to econometric models, discriminant analysis, cluster analysis, factor analysis, and the use of standard multivariate statistical packages. Prerequisite: MATH 3313 or MATH 3316.

**3303. MATHEMATICAL GAME THEORY (3-0) 3 hours credit.** Two-person zero-sum games, solving matrix games by linear programming, two-person non-zero sum games, noncooperative n-person games, Nash equilibrium points and refinements, cooperative n-person games, core, Shapley value, and other concepts of solution. Applications to cost allocation, fair division, and voting power. Prerequisite: MATH 3330.

**3304. LINEAR OPTIMIZATION APPLICATIONS (3-0) 3 hours credit.** An introduction to basic methods of optimization with applications to optimal resource application, minimal cost allocation and interpersonal decision making in noncooperative and coopera-

tive environments. Includes simplex method, duality, zero sum games, transportation and assignment. Prerequisite: MATH 3330.

**3306. INTRODUCTION TO GEOMETRY (3-0) 3 hours credit.** An introduction to the geometry of affine space. Theorems of Menelaus, Ceva, and Desargues. Mappings of affine space including translations, rotations, and glide reflections. Applications include Fermat's problem and other constructional problems. Projective geometry with application to conics and quadratic surfaces. Prerequisite: MATH 2326.

**3307. ELEMENTARY NUMBER THEORY (3-0) 3 hours credit.** Various topics in elementary number theory. Divisibility, congruences, quadratic reciprocity, and multiplicative functions. Prerequisite: nine hours of college mathematics.

**3313. INTRODUCTION TO PROBABILITY AND MATHEMATICAL STATISTICS (3-0) 3 hours credit.** Permutations, combinations, events and their probabilities, Bayes formula, random variables, probability distributions, expected value, functions of random variables, moment generating functions, central limit theorem and its role in statistics. Prerequisite: MATH 2326.

**3314. DISCRETE MATHEMATICS (3-0) 3 hours credit.** An introduction into discrete structures. Propositional calculus, sets and operations, functions, induction, counting, relations and matrices, equivalences and partial orders, graphs and shortest path algorithms, trees and minimal spanning trees, tree traversal, elements of boolean algebra. Prerequisite: MATH 1426.

**3315. MATHEMATICAL MODELS (3-0) 3 hours credit.** Methods for solving, by means of mathematics, problems which occur in other disciplines such as physics, engineering, biology, and economics. Basic mathematical tools are chosen from areas such as optimization, probability, differential equations, and computer-oriented mathematics. Problems arising in other disciplines or industrial applications are emphasized. Subject matter will depend on the instructor. Prerequisite: MATH 2326 or permission of the instructor.

**3316. STATISTICAL INFERENCE (3-0) 3 hours credit.** A comprehensive treatment of statistical methodology in various areas of applications. Elementary probability, descriptive statistics, discrete and continuous distributions, estimation, testing hypothesis, linear regression, and analysis of variance. Prerequisite: six hours of mathematics.

**3318. DIFFERENTIAL EQUATIONS (3-0) 3 hours credit.** Ordinary differential equations with emphasis on the solutions and analysis of first and higher order differential equations drawn from fields of physics, chemistry, geometry, and engineering. Prerequisite: MATH 2326 or concurrent registration.

**3319. DIFFERENTIAL EQUATIONS AND LINEAR ALGEBRA (3-0) 3 hours credit.** Introductory course with emphasis on solution techniques. Ordinary differential equations, vector spaces, linear transformations, matrix/vector algebra, Eigenvectors, Laplace Transform, and systems of equations. Prerequisite: MATH 2326 or concurrent registration. Cannot be counted for credit toward a degree in mathematics.

**3330. INTRODUCTION TO MATRICES AND LINEAR ALGEBRA (3-0) 3 hours credit.** Solving systems of linear equations, matrix operations, determinants, vector spaces, linear transformation, orthogonality, Gram-Schmidt process, projections, and eigenvalues and eigenvectors. Prerequisite: MATH 2326 or concurrent registration with MATH 2326.

**3345. NUMERICAL ANALYSIS AND COMPUTER APPLICATIONS (2-2) 3 hours credit.** Elementary error analysis, numerical solutions of nonlinear equations, numerical integration and differentiation, polynomial interpolation, solutions of linear systems, and an introduction to spline functions. The laboratory work will include use of the computer in solving the problems. Prerequisites: MATH 2326, MATH 3330, and a knowledge of FORTRAN, C, or PASCAL.

**3421. INTRODUCTION TO ABSTRACT ALGEBRA I (3-2) 4 hours credit.** Groups including Lagrange's Theorem, Cauchy's Theorem, the homomorphism theorems, and symmetric groups. Prerequisite: MATH 3330.

**3435. INTRODUCTION TO ANALYSIS I (3-2) 4 hours credit.** A rigorous study of the real number system, sequences and series, continuous functions, and differentiation. Prerequisite: MATH 2326.

**3525. HONORS CALCULUS III AND DIFFERENTIAL EQUATIONS (5-0) 5 hours credit.** A continuation of MATH 2525. Curves, vectors, and surfaces in  $R^3$ , differential and integral calculus in  $R^3$ , first-order non-linear differential equations,  $n$ th order linear differential equations. Credit will not be given for MATH 2326 or MATH 3318 after receiving credit for MATH 3525. Prerequisite: MATH 2525 or consent of instructor.

**4191, 4291, 4391. SPECIAL TOPICS IN MATHEMATICS (variable credit from 1 to 3 semester hours as arranged).** Special topics in mathematics are assigned to individuals or small groups. Faculty members closely supervise the projects and assign library reference material. Small groups will hold seminars at suitable intervals. May be repeated for credit. Prerequisites: senior standing and written permission of the instructor and chair.

**4303. INTRODUCTION TO TOPOLOGY (3-0) 3 hours credit.** A first course in topology from the axiomatic point of view. Prerequisite: MATH 3435.

**4311. ELEMENTARY RANDOM PROCESSES (3-0) 3 hours credit.** A continuation of MATH 3313. Topics: Markov chains, Poisson process, birth and death processes, Brownian motion. Has applications to physics, biology, engineering, business. Prerequisite: MATH 3313 or equivalent.

**4313. APPLICATIONS OF MATHEMATICAL STATISTICS (3-0) 3 hours credit.** A continuation of MATH 3313. Sampling distributions, estimation of parameters, confidence intervals, testing of hypotheses, regression, correlation, and selected topics. Prerequisite: MATH 3313.

**4314. ADVANCED DISCRETE MATHEMATICS (3-0) 3 hours credit.** Finite automata, Turing machines, formal languages, graph theory, combinatorial optimization, complexity of algorithms, P versus NP, and decidable versus undecidable problems. Prerequisite: MATH 3314.

**4318. MATHEMATICAL METHODS FOR SCIENCES (3-0) 3 hours credit.** Infinite series; complex variables; determinants; matrix; and tensor analysis; Fourier analysis; differential equations; special functions. Prerequisites: MATH 3318 and eight hours in the discipline of appropriate department.

**4320. ADVANCED DIFFERENTIAL EQUATIONS (3-0) 3 hours credit.** The existence and properties of solution of differential equations. Prerequisite: MATH 3318.

**4322. INTRODUCTION TO COMPLEX VARIABLES (3-0) 3 hours credit.** An introduction to the theory of functions of a complex vari-

able and also an introduction to applications including uses of the residue theory, contour integration and conformal mapping. Prerequisite: MATH 2326.

**4324. INTRODUCTION TO PARTIAL DIFFERENTIAL EQUATIONS (3-0) 3 hours credit.** Methods of solutions of selected elliptic, parabolic, and hyperbolic partial differential equations with reference to physical applications. Prerequisite: MATH 3318.

**4334. ADVANCED MULTIVARIABLE CALCULUS (3-0) 3 hours credit.** The properties of continuous mappings from  $N$ -dimensional Euclidean space to  $M$ -dimensional Euclidean space; an introduction to differential forms and vector calculus, based upon line integrals, surface integrals, and the general Stokes theorem. Prerequisite: MATH 3435.

**4342. COMPUTATIONAL GEOMETRY (2-2) 3 hours credit.** A survey of the mathematical elements for computer graphics. Topics included are: affine, perspective and projective transformations, Bezier and B-spline curves and surfaces. Prerequisites: MATH 3306 or permission of instructor and a knowledge of a technical programming language.

**4345. NUMERICAL ANALYSIS AND COMPUTER APPLICATIONS II (2-2) 3 hours credit.** Numerical solutions for ordinary differential equations, boundary value problems, minimizations of multivariate functions, and methods of least squares. Prerequisites: MATH 3345 and 3318.

**4381. MATHEMATICS RESEARCH (3-0) 3 hours credit.** Formulation and definition of research problems, the formulation and execution of strategies of solution, and the presentation of results. Prerequisite: consent of instructor. Recommendation by other faculty encouraged.

**4191, 4291, 4391. SPECIAL TOPICS IN MATHEMATICS (Variable credit from 1 to 3 semester hours as arranged).** Special topics in mathematics are assigned to individuals or small groups. Faculty members closely supervise the projects and assign library reference material. Small groups will hold seminars at suitable intervals. May be repeated for credit. Prerequisites: senior standing and written permission of the instructor.

**4392. ADVANCED TOPICS IN MATHEMATICS (3-0) 3 hours credit.** Varies from semester to semester. New developments in mathematics, in-depth study of a topic not covered in other courses, or a special faculty expertise made available to undergraduates. May be repeated for credit as topic varies. Prerequisite: permission of instructor.

**4393. HONORS THESIS/SENIOR PROJECT (3-0) 3 hours credit.** Required of all students in the University Honors Program. During the senior year the student must complete a thesis or a project under the direction of a faculty member in the math department. prerequisite: Enrollment in the University Honors Program and written permission of the instructor and chair.

**4421. INTRODUCTION TO ABSTRACT ALGEBRA II (3-2) 4 hours credit.** An introduction to ring and field theory, including polynomial rings and field extensions. Prerequisite: MATH 3421.

**4435. INTRODUCTION TO ANALYSIS II (3-2) 4 hours credit.** Rigorous development of differentiation, Riemann integration, sequences and series of functions, and metric spaces. Prerequisite: MATH 3435.

# The Department of Physics

108 Science Hall • Box 19059 • 817-272-2266

The Department of Physics offers two Bachelors of Science Degree programs and a Bachelor of Arts Degree program.

The Bachelor of Science Degree programs include one which prepares students for careers in science and technology and another for medical school preparation. The Bachelor of Arts Degree in physics is intended for those students who seek a broader education while retaining a firm foundation in physics. When combined with the required education courses, the Bachelor of Arts program is also appropriate for students interested in becoming school teachers.\*

Physics majors are encouraged to take advantage of the many opportunities to participate in research projects under research faculty guidance. Students participating in these projects can gain extensive hands-on experience in a variety of research environments including condensed matter, optics, and high energy physics. Undergraduate research assistants frequently receive financial awards.

Scholarships may be offered every year to new students majoring in physics.

\* Students desiring certification for teaching at the secondary level must fulfill the requirements for a second teaching field and must take certain education courses as prescribed in the Education section of this catalog.

## Requirements for a Bachelor of Science Degree in Physics

### English

Six hours of composition.

### Literature

Three hours of English or foreign language literature or other approved substitute.

### Liberal Arts Elective

Three hours above the freshman level of literature, or social and cultural studies designated as taught in the College of Liberal Arts, or fine arts or philosophy, or technical writing.

### Political Science

2311, 2312.

### History

1311, 1312 (one of which may be replaced by 3363 or 3364).

### Fine Arts and Philosophy

Three hours from architecture, art, dance, music, philosophy, or theatre arts.

### Social/Cultural Studies

Three hours of designated courses in social or cultural anthropology, archaeology, social/political/cultural geography, economics, sociology, classical studies, or linguistics.

### Electives

Three hours outside engineering, mathematics, and the sciences.

### Other Electives

Sufficient to give the total number of hours required for the degree, six of which must be 3000/4000-level courses in science or mathematics.

Note: A second minor may be developed from this group of electives.

### Computer Sciences

Six hours from PHYS 2321, CSE 1306, 1310, 2310, or MATH 3345.

### Science other than Physics

CHEM 1301, 1302, 1284, and a minimum of six hours from courses offered in the Departments of Biology and Geology.

### Major

45 hours of physics including 1443, 1444, 2311, 3183, 3313, 3321, 4117, 4185, 4315, 4319, 4324, and 4326; 13 hours from 2321, 2445, 3315, 3445, 3446, 4171, 4172, 4181, 4191, 4281, 4291, 4391, 4393, and 4325.

### Minor

MATH 1325\*, 1426, 2325, 2326, 3318, and a 4000 course.

### Total

129 hours, of which at least 36 must be 3000/4000 level, plus exercise and sport activities (EXSA) or ROTC or marching band as required.

\* If the student is not qualified to take MATH 1325 when he/she enters, he/she must complete the prerequisites for the course. This may add three to six hours to the total required for the degree. No course prerequisite for MATH 1325 will be counted as credit toward graduation.

## Suggested Course Sequence

### Freshman Year

**First Semester:** ENGL 1301; MATH 1325; Biology or Geology, 3 or 4 hours; HIST 1311; CHEM 1301—Total Credit 15 or 16 hours.

**Second Semester:** ENGL 1302; MATH 1426; PHYS 1443; CHEM 1302; CHEM 1284; EXSA or ROTC—Total Credit 17 hours.

### Sophomore Year

**First Semester:** English (literature), 3 hours; HIST 1312; PHYS 1444; CSE Requirement, 3 hours; MATH 2325; EXSA or ROTC or Marching Band—Total Credit 17 hours.

**Second Semester:** ENGL 2334 or SPCH 3302 or English (literature), 3 hours; Biology or Geology, 3 or 4 hours; PHYS 2311; MATH 2326; PHYS 2321; EXSA or ROTC—Total Credit 16 or 17 hours.

### Junior Year

**First Semester:** MATH 3318; POLS 2311; PHYS 3313; PHYS 3183; PHYS 3321; Required Physics, 3 or 4 hours—Total Credit 16 or 17 hours.

**Second Semester:** POLS 2312; Social Science, 3 hours; PHYS 4315; PHYS 4324; PHYS 4185; Required Physics, 3 or 4 hours—Total Credit 16 or 17 hours.

### Senior Year

**First Semester:** Mathematics (4000 course), 3 hours; PHYS 4319; PHYS 4117; Required Physics, 3 or 4 hours; Electives, 6 hours; EXSA or ROTC or Marching Band—Total Credit 17 or 18 hours.

**Second Semester:** PHYS 4326; Required Physics Courses, 1 to 3 hours; Electives, 7 to 9 hours; Fine Arts/Philosophy, 3 hours—Total Credit 14 to 18 hours.

## Requirements for a Bachelor of Science Degree in Physics with Medical School Preparation

A physics degree program designed to provide preparation for medical school appropriate for students with an aptitude for mathematical science. This program offers the broad background in fundamental science and strong problem solving ability of a physics degree as well as specific biology and chemistry medical school requirements. A seminar course covering medical applications of modern physics including radiology, magnetic resonance imaging, positron emission tomography, (et cetera) is an integral part of this program. The combination of skills developed in this program is designed to provide the intellectual foundation necessary for excellence in the practice of medicine.

### English

Six hours of composition.

### Literature

Three hours of English or foreign language literature or approved substitute.

### Liberal Arts Elective

Three hours above the freshman level of literature, or social and cultural studies designated as taught in the College of Liberal Arts, or fine arts or philosophy, or technical writing.

### Political Science

2311, 2312

### History

1311, 1312 (one of which may be replaced by 3363 or 3364).

### Fine Arts and Philosophy

Three hours from architecture, art, dance, music, philosophy, or theatre arts.

### Social/Cultural Studies

Three hours of designated courses in social or cultural anthropology, archaeology, social/political/cultural geography, economics, sociology, classical studies, or linguistics.

### Electives

Three hours outside engineering, mathematics, and the sciences.

### Other Electives

Sufficient to give the total number of hours required for the degree.

### Biology

Core courses 1441 and 1442 or 2451; Advanced courses 3315 and 3442;

One course from: 3301, 3333, or 4315; any other 3000/4000 level course.

### Chemistry

General Chemistry with lab: 1301, 1302, and 1284.

Organic Chemistry with lab: 2321, 2181, 2322, 2182.

### Mathematics

1325, 1426, 2325, 2326, and 3318.

### Physics

36 hours including 1443, 1444, 2311, 3183, 3313, 3321, 4117, 4185, 4315, 4319, 4324, and 4326.

## Requirements for a Bachelor of Arts Degree in Physics

### English

Six hours of composition.

### Literature

Three hours of English or foreign language literature or other approved substitute.

### Liberal Arts Elective

Three hours above the freshman level of literature, or social and cultural studies designated as taught in the College of Liberal Arts, or fine arts or philosophy, or technical writing.

### Foreign Language

14 hours in a single foreign language or eight hours in a language, plus six hours from one area cluster (see substitution list in introductory information for the College of Science).

### Political Science

2311, 2312.

### History

1311, 1312 (one of which may be replaced by 3363 or 3364).

### Mathematics

Ten hours including 2326.

### Fine Arts and Philosophy

Three hours from architecture, art, dance, music, philosophy, or theatre arts.

### Social/Cultural Studies

Three hours of designated courses in social or cultural anthropology, archaeology, social/political/cultural geography, economics, sociology, classical studies, or linguistics.

### Science other than Physics

12 hours from courses offered in the Departments of Biology, Chemistry, or Geology.

### Computer Science

Three hours from PHYS 2321 or CSE 1301 or above.

### Electives

Sufficient to give the total number of hours required for the degree.

### Major

PHYS 2311, 3183, 3313, 4117, plus 18 additional hours, of which a minimum of seven must be 3000/4000-level courses.

### Minor

18 hours, of which a minimum of six must be 3000/4000 level.

### Total

125, of which at least 36 must be 3000/4000 level, plus exercise and sport activities (EXSA), ROTC, or marching band as required.

## Suggested Course Sequence

### Freshman Year

**First Semester:** ENGL 1301; Mathematics, 3 hours; HIST 1311; Fine Arts/Philosophy, 3 hours; Other Science, 3 or 4 hours; EXSA or ROTC or Marching Band—Total Credit 16 or 17 hours.

**Second Semester:** ENGL 1302; Mathematics, 4 hours; HIST 1312; Other Science, 3 or 4 hours; Social Science, 3 hours; EXSA or ROTC—Total Credit 17 or 18 hours.

**Sophomore Year**

**First Semester:** English, 3 hours; PHYS 1443; Mathematics, 3 hours; Other Science, 3 or 4 hours; POLS 2311; EXSA or ROTC or Marching Band—Total Credit 17 or 18 hours.

**Second Semester:** English, 3 hours; POLS 2312; PHYS 1444; MATH 2326; Other Science, 3 or 4 hours; EXSA or ROTC—Total Credit 17 or 18 hours.

**Junior Year**

**First Semester:** PHYS 3313; PHYS 3183; PHYS 2321; Foreign Language, 4 hours; Electives, 5 hours—Total Credit 16 hours.

**Second Semester:** PHYS 2311; Physics Elective, 3 or 4 hours; Foreign Language, 4 hours; Electives, 5 or 6 hours—Total Credit 15 or 17 hours.

**Senior Year**

**First Semester:** PHYS 4117; Physics Electives, 7 or 8 hours; Foreign Language, 3 hours; Electives, 4 or 5 hours—Total Credit 15 to 17 hours.

**Second Semester:** Physics Electives, 7 or 8 hours; Foreign Language, 3 hours; Electives, 8 or 9 hours—Total Credit 18 to 20 hours.

**Second Major**

A person who satisfies the requirements for any other baccalaureate degree qualifies for having physics named as a second major upon completion of 26 semester hours from among PHYS 2311 and physics courses with higher numbers. The specific courses to be used must be approved by the undergraduate advisor and the chair of the Department of Physics.

**Teacher Certification**

Students interested in earning a Bachelor of Arts or Bachelor of Science degree with a major in Physics with secondary teacher certification, or in Physics as a second teaching field should refer to the Center for Professional Teacher Education section of this catalog for teacher certification requirements.

**Department of Physics Faculty****Chair**

Professor West

**Professors**

Black, Fry, Ray, Rubins, Sharma, Weiss, White

**Associate Professors**

Howard, Koymen, Terrell, Thompson

**Assistant Professors**

De, Draper, Gelb, Stephens, Zhang

**Adjunct Professors**

Bagus, Clayton, Couchman, Kim, Kueny, Schachar, Yang

**Adjunct Assistant Professor**

Torti

**Physics (PHYS)**

Prefix and number in parentheses following the U.T. Arlington course number and title is the Common Course Number designation.

**1188, 1288.# SPECIAL PROBLEMS IN GENERAL PHYSICS (1 or 2 hours credit).** Primarily laboratory work and/or problem-solving in general technical physics. The objective is to prepare the student whose background in physics is of a non-technical nature to do advanced study in technical physics. Prerequisites: six hours of physics and concurrent enrollment in MATH 1325. \$5 lab fee.

**1300. INTRODUCTION TO MUSICAL ACOUSTICS (3-0) 3 hours credit.** An introduction, for the music major, to the nature of periodic motion and its relation to music, characteristics of sound waves, sources of sound used in music, musical scales and temperament, mechanics of hearing, recording and reproduction of sound. May not be used to satisfy any of the requirements for the Bachelor of Science degree in physics.

**1401. PHYSICS FOR NON-SPECIALISTS (3-2) 4 hours credit (PHYS 1405).** PHYS 1401 and 1402 constitute a one-year introductory course for liberal arts and business majors. How physics plays a role in everyday life; explanations of how things work. Helps develop analytical thinking. The first semester explains motion and forces and heat. Formerly 1447; both 1447 and 1401 cannot be counted for credit. \$8 lab fee.

**1402. PHYSICS FOR NON-SPECIALISTS (3-2) 4 hours credit (PHYS 1407).** Follows PHYS 1401 and explains sound, light, electricity, and magnetism. Prerequisite: PHYS 1401 or permission of instructor. Formerly 1448; both 1448 and 1402 cannot be counted for credit. \$8 lab fee.

**1441. GENERAL COLLEGE PHYSICS (3-3) 4 hours credit (PHYS 1401).** The first half of a one-year course required for premedical, pre dental, architectural, and certain other students. May be elected as the science requirement by general liberal arts students. The class work is accompanied by laboratory experiments in the study of mechanics, heat, and waves. Proficiency in high school trigonometry is expected. \$8 lab fee.

**1442. GENERAL COLLEGE PHYSICS (3-3) 4 hours credit (PHYS 1402).** The second half of a one-year course. Subject matter includes electricity and magnetism, light and optics, and modern physics. Prerequisites: PHYS 1441 or equivalent, or consent of instructor. \$8 lab fee.

**1443. GENERAL TECHNICAL PHYSICS (3-3) 4 hours credit (PHYS 2425).** The first half of a one-year technical course. Required for many science and engineering majors, exceeds premedical requirement. The study of physical phenomena in the fields of mechanics, heat, and waves. Prerequisite: MATH 1426 or concurrent enrollment. \$8 lab fee.

**1444. GENERAL TECHNICAL PHYSICS (3-3) 4 hours credit (PHYS 2426).** The second half of a one-year technical course. The study of physical phenomena including electricity, magnetism, circuit theory, light, and optics. Prerequisites: PHYS 1443 and MATH 2325 or concurrent enrollment. \$8 lab fee.

**1445. INTRODUCTORY ASTRONOMY I (3-2) 4 hours credit (PHYS 1411).** PHYS 1445 and 1446 constitute a one-year sequence for any student who is interested in learning his/her place within the astronomical universe. These two courses satisfy eight hours of the 11-hour science requirement in the core curriculum and are designed for students in the Colleges of Liberal Arts or Business Administration. The first semester consists of an essentially descriptive treatment of the apparent motions and properties of members of the solar system including the sun, the planets and their moons, comets

and rockets, and satellites as well as the mechanics and evolution of the solar system. The laboratory work includes the use of astronomical telescopes for observation. \$6 lab fee.

**1446. INTRODUCTORY ASTRONOMY II (3-2) 4 hours credit (PHYS 1412).** Follows PHYS 1445 and focuses on the science of stars and galaxies. Properties of light are applied to the understanding and classification of stars and to determining their distances. Topics include nuclear reactions, binary stars, variable stars, exploding stars, black holes, and star clusters. The course concludes with the structure of the Milky Way and the role galaxies play in modern cosmological theories. The laboratory work includes telescopic observations. \$6 lab fee.

**2311. MATHEMATICAL METHODS OF PHYSICS (3-0) 3 hours credit.** Harmonic oscillators, waves, vector description of particles and fields, coordinate transformations, eigenvalue problems, and systems of linear equations. Prerequisites: MATH 2325 or 2425 and PHYS 1288 or 1444.

**2321. COMPUTATIONAL PHYSICS (3-0) 3 hours credit.** Development of computational techniques, including simulation, through applications to physical problems. A survey of topics including the multi-body problem, celestial mechanics, scattering, chaos, percolation, fractals, random processes, Fourier techniques in wave phenomena, Monte Carlo methods, and image reconstruction techniques. Prerequisite: PHYS 1444.

**2445. ELECTRONICS (3-3) 4 hours credit.** A study of electronic devices and components and their application to circuits and instrumentation of interest to science students. Prerequisites: PHYS 1288 or 1444 and MATH 2325 or 2425. \$15 lab fee.

**3183. MODERN PHYSICS LABORATORY (0-3) 1 hour credit.** Supplements the topics covered in PHYS 3313. Prerequisite: PHYS 3313 or concurrent enrollment. \$5 lab fee.

**3313. INTRODUCTION TO MODERN PHYSICS (3-0) 3 hours credit.** A brief introduction to the theories of quantum mechanics and statistical mechanics followed by a survey of atomic physics, conductors, semiconductors and modern electronic devices, nuclear and sub-nuclear physics. Prerequisites: PHYS 1288 or 1444, and MATH 2325 or 2425.

**3315. ASTROPHYSICS AND COSMOLOGY (3-0) 3 hours credit.** Diverse concepts in theoretical physics are applied to a wide range of astrophysical problems. Topics include stellar properties, spectra, and evolution, radiation transport, nuclear reactions, degenerate matter, orbital mechanics, galactic dynamics, introductory general relativity and cosmology. No prior astronomy background is assumed. Prerequisites: PHYS 3313 and MATH 3318.

**3321. INTERMEDIATE ELECTRICITY AND MAGNETISM (3-0) 3 hours credit.** Vector algebra and vector calculus applied to electrostatics, magnetostatics, the study of dielectric materials, and boundary value problems. Prerequisites: PHYS 2311 and MATH 3318.

**3366. SPECIAL TOPICS IN PRE-COLLEGE PHYSICAL SCIENCE INSTRUCTION (1-6) 3 hours credit.** A laboratory-oriented curriculum for teaching physical science and/or physics is developed and experienced. The developed curriculum is particularly appropriate for pre-college instruction. May be repeated for credit as the subject matter changes, but not more than six hours credit may be accumulated. Prerequisites: junior standing, six hours of science, three hours of education and consent of the instructor. \$2 lab fee.

**3445. OPTICS (3-3) 4 hours credit.** Fundamental principles of physical and geometric optics, absorption and scattering, Planck's quantum theory of radiation, diffraction, interference, light sources, and spectra. Prerequisites: PHYS 1288 or 1444, and MATH 2325 or 2425. \$5 lab fee.

**3446. NUCLEAR AND PARTICLE PHYSICS (3-3) 4 hours credit.** The study of atomic nuclei and the fundamental constituents of matter. Topics include nuclear structure, radioactivity, nuclear reactions, fission, fusion, particles and their interactions, the standard model of particle physics, experimental methods, accelerators, and examples from current research topics. Prerequisite: PHYS 3313. \$5 lab fee.

**4117.# INDIVIDUAL LEARNING BY SEMINAR (1 hour credit).** Individual instruction on using the seminar as a model of learning current topics in physics. An individual report is required. Prerequisites: 18 hours of physics and senior standing.

**4171, 4271. ADVANCED OPTICS LABORATORY (1 or 2 hours credit).** Special laboratory projects in advanced optics. Prerequisites: PHYS 3445 or permission of the instructor. \$10 lab fee.

**4181, 4281.# SPECIAL PROBLEMS (1 or 2 hours credit as arranged).** Special laboratory problems. Credit will be given appropriate to work assigned. May be repeated in any order for a total credit not to exceed four hours. Prerequisites: junior standing and permission of the chair of the department. \$5 lab fee.

**4185. ADVANCED ELECTRICITY AND MAGNETISM LABORATORY (0-3) 1 hour credit.** Supplements the topics covered in PHYS 3321 and 4324. Prerequisite: PHYS 4324 or concurrent enrollment. \$5 lab fee.

**4191, 4291, 4391. # SPECIAL TOPICS IN PHYSICS (1, 2 or 3 hours credit).** Special topics in physics, arranged for individuals or small groups. May be repeated for credit up to a maximum of three hours. Prerequisite: permission of the instructor.

**4315. THERMODYNAMICS AND STATISTICAL MECHANICS (3-0) 3 hours credit.** Temperature, heat transfer, specific heat, and phase changes. The laws of thermodynamics and Maxwellian gases and their distribution functions. An introduction to statistical mechanics and low temperature phenomena. Prerequisites: PHYS 2311 and MATH 2326.

**4319. ADVANCED MECHANICS (3-0) 3 hours credit.** Coupled oscillators, central forces, Lagrange's equations, Hamilton's canonical equations, the moment of inertia tensor, and the application of Euler's angles to rotational motion. Prerequisites: PHYS 2311, PHYS 3321, and MATH 3318 or permission of the instructor.

**4324. ADVANCED ELECTRICITY AND MAGNETISM (3-0) 3 hours credit.** Electromagnetic phenomena based on Maxwell's equations and particle-field interactions. Prerequisite: PHYS 3321.

**4325. SOLID STATE PHYSICS (3-0) 3 hours credit.** Classification of crystalline solids and elastic and thermal properties, electric and magnetic properties, and electronic properties of solids. An introduction to current research problems. Prerequisite: PHYS 4315 or permission of the instructor.

**4326. INTRODUCTION TO QUANTUM MECHANICS (3-0) 3 hours credit.** The need for quantum mechanics to describe modern experiments adequately. Schrödinger's equation and implications, the free particle, the one-electron atom, the potential barrier, and perturbation theory. Prerequisite: PHYS 4319 or permission of the instructor.

**4393. HONORS THESIS IN PHYSICS (3-0) 3 hours credit.** Required of all students in the University Honors Program. During the senior year the honors physics major will perform a research project under the direction of a Physics Department faculty member.

# Academic credit will be given for these courses unless the student files a pass-fail request at the beginning of the semester.

# The Department of Psychology

313 Life Science Bldg. • Box 19528 • 817-272-2281

The Department of Psychology offers two programs of study leading to the bachelor's degree. It also offers courses of interest to the academic community.

The Bachelor of Science degree in psychology is intended for those students who wish to pursue graduate work in fields requiring more mathematics and sciences. This program is also suitable for premedical and pre dental students. These students should meet the requirements of the corresponding professional schools.\*

The Bachelor of Arts degree in psychology is for those students who wish to obtain a broad liberal arts education with a concentration in psychology or for those who wish to teach psychology in secondary schools. Students interested in teaching certification should see the Center for Professional Teacher Education section of this catalog.

Courses in psychology may also be included in an area of concentration for the Bachelor of Arts degree in interdisciplinary studies.

The Department of Psychology also offers the following courses of general interest to the academic community. These courses have no prerequisites.

- 1315.** Introduction to Psychology
- 2317.** Basic Concepts in Human Sexuality
- 3301.** Psychology of Human Relations
- 3303.** Drugs and Behavior

**Restrictions:** Psychology courses, except those cross-listed with biology, cannot be used to fulfill any of the science requirements.

\* Premedical and pre dental students should take BIOL 1441, 2451, 1442, 3452; CHEM 1301, 1302, 1284, 2181, 2321, 2182, 2322; PHYS 1441, 1442.

## Requirements for a Bachelor of Science Degree in Psychology

### English

Six hours of composition.

### Literature

Three hours from English or a foreign language.

### Liberal Arts Elective

Three hours above the freshman level of literature, or social and cultural studies designated as taught in the College of Liberal Arts, or fine arts or philosophy, or technical writing.\*\*

### History

Six hours of American history, or three hours of American history and three hours of Texas history.

### Computer Literacy\*

PSYC 2351 or three hours from CSE 1301, 1306, BUSA 2303, GEOL 1490, or any equivalent course. Alternatively, the requirement may be met by taking a departmental computer literacy examination.

### Foreign Language\*

Six hours from the Cultural Studies List posted in the Psychology Department Office and in the Handbook for Psychology Majors or levels III and IV of a foreign language.

### Mathematics\*

1325 and 1426, plus three hours above the freshman level.

### Political Science

2311 and 2312 or any six hours meeting the legislative requirement.

### Fine Arts and Philosophy

Three hours from architecture, art, dance, music, philosophy, or theatre arts.

### Social/Cultural Studies

Three hours of designated courses in social or cultural anthropology, archaeology, social/political/cultural geography, sociology, classical studies, or linguistics.\*\*

### Other Science

A total of 15 hours including two of the following sequences, or one of these sequences plus an additional seven hours in the same discipline: BIOL 1441 and 1442, or CHEM 1301, 1302, and 1284, or GEOL 1435 and 1436, or PHYS 1401 and 1402.

### Major

35 hours to include 1315 or equivalent; 2441; 2442; one four-hour lab/lecture from each of the Groups I, II, and III; one three-hour lecture course from each of the Groups I, II, III; (4355 may be substituted for one of the lectures in Groups I, II, III).

#### Lab/Lectures (four hours)

- I. 3315 + 3144.
- II. 3326 + 3146; 3420, 4322 + 3142.
- III. 3431, 4334 + 3145.

#### Lectures (three hours)

- I. 3310, 3311, 3312, 3313, 3314, 3315, 3316, 3317, 3318, 4310.
- II. 3320, 3324, 3326, 3328, 4322, 4325, 4327, 4329.
- III. 4332, 4334, 4336, 4337, 4338, 4339, 4433.

### Minor

18 hours, including six hours of 3000/4000-level courses.

### Electives\*\*\*

Sufficient hours to complete the total required for the degree.

### Total

128 hours, of which at least 36 must be 3000/4000 level, plus exercise and sport activities (EXSA), ROTC, or marching band as required.

\* Prerequisites may add hours to the total required for the degree.

\*\* Psychology majors may not use psychology courses to meet this requirement.

\*\*\* A science minor releases 15 additional hours for electives.

## Suggested Course Distribution

**First Two Years:** PSYC 1315, 2441, 2442, 6 hours at 3000/4000 level; ENGL 1301, 1302, 3 hours literature; Political Science, 6 hours; American History, 6 hours; Mathematics, 9 hours; Science, 8 hours; Minor and Electives, 9 hours; Computer Literacy, 3 hours; EXSA or ROTC or Marching Band.

**Second Two Years:** Psychology, 18 hours at 3000/4000 level; Liberal Arts Elective, 3 hours; Social/Cultural Studies, 3 hours; Fine Arts/Philosophy, 3 hours; Science, 7 hours; Minor and Electives, 30 hours.



## Requirements for a Bachelor of Arts Degree in Psychology

### English

Six hours of composition.

### Literature

Three hours from English or a foreign language.

### Liberal Arts Elective

Three hours above the freshman level of literature, or social and cultural studies designated as taught in the College of Liberal Arts, or fine arts or philosophy, or technical writing.\*\*

### Foreign Language

14 hours in a single foreign language or eight hours in a language plus six hours from one area cluster (see substitution list in introductory information for the College of Science).

### History

Six hours of American history, or three hours of American history and three hours of Texas history.

### Computer Literacy\*

PSYC 2351 or three hours from CSE 1301, 1306, BUSA 2303, GEOL 1490, or any equivalent course. Alternatively, the requirement may be met by taking a departmental computer literacy examination.

### Mathematics\*

1302 or 1315, and 1303 or 1316 or 3316; or 1324 and 1325.

### Political Science

2311 and 2312 or any six hours meeting the legislative requirement.

### Fine Arts and Philosophy

Three hours from architecture, art, dance, music, philosophy, or theatre arts.

### Social/Cultural Studies

Three hours of designated courses in social or cultural anthropology, archaeology, social/political/cultural geography, sociology, classical studies, or linguistics.\*\*

### Science

Eight hours from one of BIOL 1333, 1334, 1282; GEOL 1435, 1436; PHYS 1447, 1448; or any sequence listed in Other Science in the Bachelor of Science degree in psychology, plus three hours in Science or approved Social Science or other designated courses.\*\*

### Major

31 hours to include 1315 or equivalent; 2441; 2442; two four-hour lab/lecture courses; one three-hour lecture course from each of the Groups I, II, III; (4355 may be substituted for one of the lectures in Groups I, II, III). For the definition of Groups I, II, III, see the Bachelor of Science degree in psychology.

### Minor

18 hours including six hours of 3000/4000-level courses.

### Electives

Sufficient hours to complete the total required for the degree.

### Total

120 hours, of which at least 36 must be 3000/4000 level, plus exercise and sport activities (EXSA), ROTC, or marching band as required.

\* Prerequisites may add hours to the total required for the degree.

\*\* Psychology majors may not use psychology courses to meet this requirement.

## Suggested Course Distribution

**First Two Years:** PSYC 1315, 2441, 2442, 3 hours at 3000/4000 level; ENGL 1301, 1302, 3 hours literature; Political Science, 6 hours; American History, 6 hours; Foreign Language, 8 hours; Mathematics, 6 hours; Science, 4 hours; Minor, 6 hours; Computer Literacy, 3 hours; EXSA or ROTC or Marching Band.

**Second Two Years:** Psychology, 17 hours at 3000/4000 level; Liberal Arts Elective, 3 hours; Foreign Language or substitutes, 6 hours; Social/Cultural Studies, 3 hours; Fine Arts/Philosophy, 3 hours; Science, 7 hours; Minor and Electives, 21 hours.

## Teacher Certification

Psychology majors who desire certification for teaching at the secondary level must fulfill the requirements for a second teaching field and complete the certification program as prescribed in the Education section of the Catalog.

Students majoring in other subjects who select psychology as a second teaching field should complete the Psychology Teaching Field. Interested students should refer to the Center for Professional Teacher Education section of this catalog for teacher certification requirements.

## Multiple Majors

To qualify psychology as part of a multiple major, it is only necessary to complete the requirements for a B.S. major or a B.A. major in psychology, plus the requirements for another major. The specified requirements in another major B.A. or B.S. field will stand in lieu of a minor. Both majors must be either B.A. or B.S. The diploma and transcript will reflect both majors.

## Honors Program in Psychology

The Department of Psychology offers an Honors Program for students who qualify. Admission to the Honors Program is by faculty invitation. To qualify, the student must have completed 30 hours in residence at U.T. Arlington, including 10 hours in psychology, with demonstrated academic excellence.

The Honors Student will complete the requirements for a B.A. or B.S. degree in psychology, plus PSYC 4361 and 4398.

## Psychology Course Numbering

The Department of Psychology has numbered its advanced (3000/4000 level) courses so that the third digit of the course number gives its distribution cluster. If the third digit of the course number is 1, 2, or 3, it indicates a Group I, II, or III course, respectively.

## Department of Psychology Faculty

### Chair

Professor Mellgren

### Professors

Amster, Bernstein, Cox, Erickson, Ickes, Paulus

### Associate Professors

Jackson, Kopp, Levine, Mann

### Assistant Professors

Brown, Harmon-Jones, Wilcox

### Adjunct Professor

Gorfein

## Psychology (PSYC)

Prefix and number in parenthesis following the U.T. Arlington course number and title is the Common Course Number designation.

**1315. INTRODUCTION TO PSYCHOLOGY (3-0) 3 hours credit (PSYC 2301).** The fundamental methods and content of scientific psychology. Concentration on the understanding of basic principles.

**2310. BEHAVIOR ANALYSIS AND MODIFICATION (3-0) 3 hours credit (PSYC 2320).** Behavioral control techniques for remediation and prevention of problem behaviors and for optimization of normal behaviors in real life settings. Contrasting therapeutic approaches, the ethics of behavior control, and the impact of behaviorism on 20th century society. Prerequisite: PSYC 1315 or permission of the instructor.

**2317. BASIC CONCEPTS IN HUMAN SEXUALITY (3-0) 3 hours credit (PSYC 2306).** The physiological, psychological, and sociological aspects of human sexuality. Also offered as BIOL 2317 and HEED 2317; credit will be granted for only one of these three courses. Students seeking Certification in Health must enroll in HEED 2317. Students seeking credit toward the science requirement must enroll in BIOL 2317.

**2351. COMPUTER LITERACY FOR THE BEHAVIORAL SCIENCES (3-0) 3 hours credit.** Exposure to contemporary PC microcomputers. Topics include: computer architecture, operating systems, ASCII editors, word processors, spreadsheets, graphics, data bases, presentation graphics, programming languages, statistical programming, using library resources, networking, the Internet, e-mail, ftp, and Telnet. Prerequisite PSYC 2441.

**2441. PSYCHOLOGICAL STATISTICS (3-2) 4 hours credit.** Scientific sampling, measures of central tendency and dispersion, time series, reliability and validity, testing of hypotheses, and linear correlation. Major emphasis on statistical inference and interpretation. Prerequisite: MATH 1302 or equivalent.

**2442. EXPERIMENTAL PSYCHOLOGY: RESEARCH METHODOLOGY (3-2) 4 hours credit.** Theoretical and practical problems of research methodology and techniques of reporting research. Prerequisites: PSYC 1315, 2441. \$5 lab fee.

**Admission to Upper-Level Laboratory Courses:** To enroll in the upper-level laboratory courses, (PSYC 3142, 3144, 3145, 3146, and 3420, 3431), the student must have a grade point average of 2.0 in PSYC 2441 and 2442 or equivalent courses.

**Renumbered Courses:** Many junior/senior level courses have been renumbered. Any course which has a former course number shown in the description may not be re-taken under the new number for credit toward a degree.

**3142. LABORATORY IN PHYSIOLOGICAL PSYCHOLOGY (0-3) 1 hour credit.** Research methodologies employed in the study of the biological bases of behavior. Must have completed or be concurrently enrolled in PSYC 4322. Prerequisite: PSYC 2442. \$10 lab fee.

**3144. SOCIAL PROCESSES LABORATORY (0-3) 1 hour credit.** Laboratory study and field research of social behavior and critical evaluation of methodologies. Prerequisite: PSYC 2442, and PSYC 3315 or concurrent registration. \$10 lab fee.

**3145. COGNITIVE PROCESSES LABORATORY (0-3) 1 hour credit.** Laboratory study of cognitive processes and on critical evaluation of methodologies. Prerequisites: concurrent registration in, or prior completion of, PSYC 4334. \$5 lab fee.

**3146. LABORATORY IN ANIMAL BEHAVIOR (0-3) 1 hour credit.** An introduction to methods in animal behavior used in field, semi-natural, and laboratory settings. In order to enroll, students must have completed or be concurrently enrolled in PSYC 3326. Prerequisite PSYC 2442. \$20 lab fee.

**3301. PSYCHOLOGY OF HUMAN RELATIONS (3-0) 3 hours credit.** Topics of conflict resolution, interpersonal relations, psychological aspects of criminology and law, influence and attitude change. Prerequisite: junior standing.

**3303. DRUGS AND BEHAVIOR (3-0) 3 hours credit.** Psychoactive agents, their therapeutic uses, and social abuses. Alcohol, nicotine, caffeine, narcotics, hallucinogens, stimulants, and tranquilizers. Also listed as HEED 3303 and BIOL 3303; credit will be granted only once under present and former numbers. Students seeking Certification in Health Education must enroll in HEED 3303.

**3306. PSYCHOLOGY OF CREATIVITY AND CREATIVE THINKING (3-0) 3 hours credit.** Research and theory relevant to the traits, attitudes, and abilities which are related to creative functioning with emphasis on the conceptual-cognitive components of creative formation and problem solving. Methods of stimulating creative behavior in individuals and in groups. Relevant research findings provide the substance of the course. Prerequisite: PSYC 1315.

**3310. DEVELOPMENTAL PSYCHOLOGY (3-0) 3 hours credit.** Human development and growth from conception through old age, concerned with the physical, behavioral, and social aspects. Prerequisite: PSYC 1315.

**3311. ADULTHOOD AND AGING (3-0) 3 hours credit.** Developmental changes in the major psychological processes related to health, sex, ethnicity, socio-economic status, and lifestyle. Models of psychobiological changes with age are compared to theories which postulate stages as distinct periods of adulthood. Prerequisite: PSYC 1315.

**3312. INFANCY AND EARLY CHILDHOOD (3-0) 3 hours credit.** A survey of physical, cognitive, and socioemotional development from conception through early childhood. Prominent developmental theories, and how they attempt to describe and explain developmental changes, will be discussed. Prerequisite: PSYC 1315.

**3313. PSYCHOLOGY OF WOMEN (3-0) 3 hours credit.** The roles, abilities, and personality characteristics of women in our society and how they change with age. Empirically-measured traits and conditions which are associated with women and which might con-

tribute to change in those characteristics. Both normal and abnormal characteristics are considered. This course is of interest to both men and women. Prerequisite: PSYC 1315.

**3314. PSYCHOLOGY OF PERSONALITY (3-0) 3 hours credit.** The major theories, assessment methods, and research in the field of personality. Prerequisite: PSYC 1315.

**3315. SOCIAL PSYCHOLOGY (3-0) 3 hours credit.** The theories and research dealing with individual behavior in the social environment. Social influence processes, interpersonal attraction, group behavior, aggression, conformity, and attitude formation and change. PSYC 3144 is an optional laboratory which, when added to PSYC 3315, satisfies a portion of the laboratory requirement. Prerequisite: PSYC 1315.

**3316. ENVIRONMENTAL PSYCHOLOGY (3-0) 3 hours credit.** The effect of the social, physical, and ecological features of the environment on human behavior. The effects of crowding, noise, architecture, urban design, and climate. Prerequisite: PSYC 1315.

**3317. INTRODUCTION TO CLINICAL AND COUNSELING PSYCHOLOGY (3-0) 3 hours credit.** The student is introduced to psychodiagnostic procedures and the basic approaches of counseling and psychotherapy. Prerequisite: PSYC 1315.

**3318. ABNORMAL PSYCHOLOGY (3-0) 3 hours credit.** Major forms of psychopathology. Classification, etiology, and treatment of major disorders. Prerequisite: PSYC 1315.

**3320. BEHAVIOR AND MOTIVATION (3-0) 3 hours credit.** Theory and research involving relation of motivation and emotion to learning theory, social behavior, personality, and development. Prerequisites: PSYC 1315.

**3324. AGGRESSION AND VIOLENCE (3-0) 3 hours credit.** Critical analysis of the major theoretical perspectives regarding the occurrence of aggressive behavior, and the relationship of anger to aggression. Child and spouse abuse, violence in the mass media, and ways of reducing aggressive behavior. Prerequisite: nine hours of psychology or permission of instructor.

**3326. ANIMAL BEHAVIOR (3-0) 3 hours credit.** Research and theory comparing behavior at various phyletic levels. Also listed as BIOL 3326. Credit will be granted for only one of these courses. PSYC 3146 is an optional laboratory, which, when taken concurrently with or after completion of PSYC 3326, satisfies a portion of the laboratory requirement in Psychology. Prerequisite: PSYC 1315.

**3328. BEHAVIORAL ENDOCRINOLOGY (3-0) 3 hours credit.** The effects of hormones on behavior and the physiological mechanisms which mediate these effects. Principles of brain-hormone interaction, sexual and aggressive behavior, parental care, ingestion, activity, motivation, learning and memory, behavioral disorders, environmental, and experiential influences on hormone production. Prerequisite: PSYC 1315, or BIOL 4315.

**3420. EXPERIMENTAL ANALYSIS OF BEHAVIOR (3-3) 4 hours credit.** A laboratory course examining basic principles of behavior control and analysis with single animals and automated testing apparatus. Emphasis is placed on individualized, self-paced instruction and creative experimentation. Prerequisite: PSYC 2442. \$20 lab fee.

**3431. SENSORY AND PERCEPTUAL PROCESSES (3-3) 4 hours credit.** Major phenomena in sensation, perception, and human performance. Laboratory experiments in signal detection, visual masking, memory search, absolute judgments, reaction time, pattern recognition, and division of attention. Prerequisite: PSYC 2442.

**4310. APPLIED BEHAVIOR ANALYSIS (3-0) 3 hours credit.** A systematic review of techniques for dealing with human problems using the methodology of behaviorism. Developmental disabilities, personal adjustment, social learning, human competence, political control, and economic and ecological problem-solving. Prerequisites: PSYC 1315 and junior standing.

**4322. PHYSIOLOGICAL PSYCHOLOGY (3-0) 3 hours credit.** A comprehensive survey of physiological processes and structures underlying human and animal behavior. PSYC 3142 is an optional laboratory which, when taken concurrently with or after completion of PSYC 4332, satisfies a portion of the laboratory requirement. Prerequisite: PSYC 1315.

**4325. DEVELOPMENTAL PSYCHOBIOLOGY (3-0) 3 hours credit.** The biological basis of behavioral development. A survey of the influences of maternal factors, genes, hormones, teratogens, early nutrition, and environmental change upon the maturation of the central nervous system. Basic concepts such as critical periods, the organization of behavioral systems, neural plasticity, and the ontogeny of consciousness. Prerequisite: PSYC 3310 or 4322, or BIOL 3346.

**4327. BEHAVIORAL GENETICS (3-0) 3 hours credit.** Genetic influences on behavioral phenotypes. Research strategies, quantitative methods, and pharmacogenetic approaches to the brain; sociality and altruism; the personality, emotionality and intelligence; psychopathology; chromosomal abnormalities; forensic implications of genetic counseling. Prerequisite: PSYC 2441 or BIOL 3315.

**4329. ANIMAL LEARNING AND COGNITION (3-0) 3 hours credit.** A comprehensive survey of psychological, biological, and ethological perspectives on learning, memory, and cognition in animals. Prerequisite: PSYC 2442.

**4332. THEORIES OF HUMAN LEARNING AND MEMORY (3-0) 3 hours credit.** The processes and the mechanisms of learning and memory in the human species from both associative and cognitive viewpoints. Prerequisite: PSYC 2442.

**4334. COGNITIVE PROCESSES (3-0) 3 hours credit.** Current theory and research in cognitive processes such as memory, information processing, concept formation, and problem solving. Prerequisite: PSYC 2442.

**4336. PSYCHOLOGY OF LANGUAGE (3-0) 3 hours credit.** Psychological research and theories of language, verbal behavior, and linguistic and non-linguistic communication. Prerequisite: nine hours of psychology or permission of instructor.

**4337. PSYCHOLOGY OF TESTING (3-0) 3 hours credit.** The student will become familiar with a wide variety of both group and individual tests, through the experiences of actually constructing, taking, scoring, and interpreting tests. Statistical interpretation will be emphasized in terms of validity, reliability, objectivity, item analysis, correlation, and other pertinent criteria. Prerequisites: PSYC 1315 and 2441.

**4338. COGNITIVE NEUROPSYCHOLOGY (3-0) 3 hours credit.** Theory and research on the relationship between the brain and human cognition. Normal functioning and comparisons between normal and disordered states (e.g., Alzheimer's disease, amnesia, localized brain injury, age changes). Prerequisite: PSYC 3431, 4332, or 4334.

**4339. PSYCHOLOGY OF JUDGMENT AND CHOICE (3-0) 3 hours credit.** Research and theory on the errors of intuitive judgment and how formal decision methods improve choices. Prerequisite: PSYC 2441.

**4355. THE HISTORY OF PSYCHOLOGY (3-0) 3 hours credit.** The evolution of psychology as a science, up to and including contemporary developments. Prerequisite: nine hours of psychology.

**4359. SELECTED TOPICS IN PSYCHOLOGY (3-0) 3 hours credit.** Topics pertinent to the field of psychology. Topic, format, and prerequisites to be determined by the instructor. May be repeated for credit as different topics are offered.

**4433. ARTIFICIAL INTELLIGENCE (3-3) 4 hours credit.** Research and theory on the use of computers to model and simulate cognitive processes. Prerequisites: PSYC 3431 or 4334 and computer literacy, or permission of the instructor. \$10 computer fee.

**Individual Study Courses**

**3351. PRACTICUM IN APPLIED BEHAVIOR 3 hours credit.** Students receive supervised experience in the application of behavior modification procedures to real-life problems. Practicum students serve as volunteer staff, working off-campus in a community setting. Provides an opportunity to develop skills in setting behavior objectives, analyzing contingencies of reinforcement, and designing, writ-

ing, and implementing practical behavior change programs. Prerequisites: PSYC 2310, 3440, or equivalent, plus permission of instructor.

**4398. HONORS THESIS (3-0) 3 hours credit.** Students may take this course only at the invitation of the department. Consists of a research project of a type and level which would be publishable in one of the psychological journals. Particular emphasis is placed on independent work by the student.

**4161, 4261, 4361. READINGS IN PSYCHOLOGY (Variable credit from 1 to 3 semester hours as arranged).** Topics arranged on an individual basis. Performance may be assessed by oral exam, written test, or review paper as arranged. Prerequisite: permission of the instructor.

**4181, 4281, 4381. RESEARCH IN PSYCHOLOGY (Variable credit 1 to 3 semester hours as arranged).** Research problems arranged on an individual basis, to be conducted by the student, and written in publishable journal format. Prerequisite: permission of instructor.

# The School of Social Work

211 S. Cooper St., Social Work Complex • Box 19129 • 817-272-3647

Undergraduate social work education at The University of Texas at Arlington is based on a set of premises including: Responsible citizenship and professional social work practice both recognize and respond positively to the realities of a complex society that is diverse, rapidly changing, and in continual need of constructive social change predicated on social justice and humanitarian philosophy. To this end, social work students are expected to demonstrate the capacity to critically evaluate their cultural environment and, in so doing, to demonstrate analytical skills and understanding both orally and in writing. Students are required to adhere to the Codes of Ethics as currently published by the National Association of Social Workers and the Texas State Board of Social Worker Examiners in their professional practice and in their coursework. The faculty of the School of Social Work enhances this process through its commitment to teaching excellence, scholarly activities, research, and community and professional service.

The Bachelor of Social Work degree program of the School of Social Work is fully accredited by the Council on Social Work Education. Its primary educational objective is to prepare students for beginning professional social work practice. The sequence of courses, designed to include academic social work and field experience requirements in a liberal arts context, enables the student, upon graduation, to work in a variety of social service agencies and settings. A secondary purpose of the program is preparation for graduate study in social work or another profession or discipline for which baccalaureate social work education would be appropriate.

## Requirements for a Bachelor of Social Work Degree

### English Composition

ENGL 1301 and 1302.

### Literature

English literature course, 2000 level or above.

### Liberal Arts Elective

English literature course, 2000 level or above.

### History

HIST 1311 and 1312 (or three hours of American history and three hours of Texas history).

### Political Science

POLS 2311 and 2312.

### Mathematics

Six hours (level of college algebra or higher). Usually MATH 1302 and 1308 (or 1303).

### Science

BIOL 1333, 1334, and 1282, plus a science elective. (Usually BIOL 1301, 2317, or ANTH 2307).

### Social/Cultural Studies

ANTH 1306 or 2322.

### Philosophy

PHIL 1301 or 1310.

### Foreign Language

SPAN 1441, 1442, 2313, 2314. A substitute can be made for SPAN 2314 (though SPAN 2314 is preferred). The substitute must have multicultural content at the 3000 or 4000 level from ANTH, ENGL, HIST, SOCI (or SOCW 3317).

### Economics

ECON 2305 or 2337 (2337 is suggested).

### Psychology

PSYC 1315, and an upper division course such as 3318 (or some other), but not 3310.

### Sociology

SOCI 1311, 3305, and 3352.

### Social Work

SOCW 2311, 2313, 3301, 3302, 3303, 3304, 3306, 4251, 4451, 4252, 4452.

### Electives

Sufficient to give the total number of hours required for the degree.

### Total

126 hours, at least 36 of which must be upper division courses (3000/4000 level). In addition to the 126 hours, four semesters of exercise and sport activities (EXSA) are required (ROTC or marching band may be substituted).

## Suggested Course Sequence

Please refer to the BSW Degree Plan for more specific information.

### First Year

**First Semester:** ENGL 1301; HIST 1311; BIOL 1333; SOCI 1311; MATH 1302; EXSA, ROTC or Marching Band—Total Credit 16 hours.

**Second Semester:** ENGL 1302; HIST 1312; BIOL 1334 and 1282; PSYC 1315; MATH 1308 (or 1303)—Total Credit 17 hours.

### Second Year

**First Semester:** English, 3 hours; POLS 2311; SPAN 1441; Philosophy, 3 hours; SOCW 2311; EXSA, ROTC or Marching Band—Total Credit 17 hours.

**Second Semester:** English, 3 hours; POLS 2312; SPAN 1442; SOCW 2313; SOCW 3301; EXSA, ROTC or Marching Band—Total Credit 17 hours.

### Third Year

**First Semester:** SOCW 3302; SOCW 3304; SPAN 2313; Science Elective; SOCI 3305; PSYC 3318—Total Credit 18 hours.

**Second Semester:** Anthropology, 3 hours; SOCW 3303; SPAN 2314; ECON 2337 (or 2305); SOCI 3352; EXSA, ROTC or Marching Band—Total Credit 16 hours.

### Fourth Year

**First Semester:** SOCW 4251 and 4451; SOCW 3306; Electives, 6 hours—Total Credit 15 hours.

**Second Semester:** SOCW 4252 and 4452; Electives, 8 hours—Total Credit 14 hours.

## Continuation in the BSW Program

In addition to general requirements of the undergraduate division of the University, each student in the undergraduate Social Work program must:

- Maintain at least a 2.0 GPA in all coursework
- Maintain at least a C or above in all courses with a SOCW prefix
- Maintain at least a 2.5 GPA in courses with a SOCW prefix
- Demonstrate suitability for professional social work practice
- Demonstrate knowledge of and adherence to the Code of Ethics as currently published by the National Association of Social Workers and the Texas State Board of Social Worker Examiners

At such time as questions are raised by the Social Work faculty or field instructors regarding ethics or suitability for the profession, a professional standards committee in the School of Social Work will review the student's performance relative to these areas. It will report its findings, along with a recommendation, to the Dean of Social Work who will determine whether the student shall be allowed to continue in the program and, if so, under what conditions.

Specific information on requirements, criteria and other aspects of the program may be obtained in the BSW Program Office.

## Requirement for Liability Insurance

All social work students enrolling in Field Instruction courses (SOCW 4251, SOCW 4451, SOCW 4252, and SOCW 4452) will be assessed a fee in order to include them in the school's group professional liability insurance policy. Coverage is for a \$250,000 limit each claim and \$500,000 limit aggregate. Students enrolling in SOCW 2313 are also assessed a fee for coverage by a group malpractice insurance policy while they are completing the 25 hours of required volunteer work.

## Field Work Experience

Refer to the BSW Field Policies and Procedures Manual for specific information on the objectives of the Field Program and other more detailed information. The BSW degree requires two semesters of field experience, 240 clock hours each (SOCW 4251, 4451, and 4252, 4452). The field experience consists of working in a human service agency as a social work intern and enrollment in an on-campus seminar. All BSW students would have one field placement over two consecutive semesters at one agency. The two field seminars, SOCW 4251 and 4252 (requiring concurrent enrollment in SOCW 4451 and 4452, respectively), are a critical part of the learning experience and help students in integrating curriculum and the field experience. It is in these two-hour weekly seminars that students dis-

cuss and explore their efforts in field to make use of the knowledge which they have acquired throughout the curriculum. The field seminars (SOCW 4251 and 4252) receive letter grades and the field practica (SOCW 4451 and 4452) receive a pass/fail grade. A student must enroll in both the field seminar and the field practicum concurrently, e.g., SOCW 4251 and 4451, and SOCW 4252 and 4452. SOCW 4452 is a continuation of SOCW 4451 and must be taken in the semester immediately following SOCW 4451. Should a student fail either the field seminar or the field practicum, then they must repeat both. Those students wishing to begin a field placement in the summer or fall semester will begin the placement process during the previous spring semester. Spring placements are arranged during the fall semester.

The assignment of students to field agencies is the responsibility of the director of field instruction and shall be based on agency instructional offerings and student educational needs. The final decision of whether a particular student is placed in a particular agency rests with the agency. Although every possible effort is made to involve students in the placement process, students do not make the final decision as to where they are placed. All student assignments are tentative and contingent on a professional interview with an agency.

## Application for Field

A Field advisory meeting is held early each semester. Students planning to start a field placement the following semester are provided a "Student Application for Field Placement" form, and students are oriented to the placement process and deadlines. Field eligibility requirements are discussed, and other information is shared on the field application process. The application form is used to determine the student's assignment to field and is also used as a means of informing the potential field instructor of the student's background and interest prior to the field placement interview. Prior to submitting the application for field and registering for field, the student is responsible for being advised as to field eligibility by one of the undergraduate Social Work Program (BSW) advisors. Students are asked to come in for advising during the regularly scheduled BSW advising times. The advisor's signature on the form will document the completion of this process. An original and one copy of the application must be submitted to the Department of Field Instruction. Any exceptions to policy in relation to field eligibility or arrangements will be handled through a petition process.

## Volunteer Experience

A requirement of Social Work Practice I (SOCW 2313) is 25 hours of volunteer experience in a human service agency. Arrangements for these volunteer experiences are made with the course instructor.

## School of Social Work Faculty

### Acting Dean

Professor Cole

### Undergraduate Program Director

Professor Watts

### Professors

Callicutt, Dangel, Duehn, Elliott, Granvold, Hunter, Jordan, Mayadas, Mindel, Schoech

### Associate Professors

Barrett, Berry, Cobb, Hegar, Hofer, Quinn, Scannapieco, Shannon, Soufl e, Watkins, Yu

### Assistant Professors

Corcoran, Lehmann, Manchapura, Martin, Molidor, Rycraft, Simon

### Specialists

Benavides, Murphy, Tuck

### Adjunct Professor

Beaty

## Social Work (SOCW)

Prefix and number in parentheses following the U.T. Arlington course number and title is the Common Course Number designation.

**2311. INTRODUCTION TO SOCIAL WORK (3-0) 3 hours credit (SOCW 2361).** An overview of the social work profession, its fields of practice, methods of social intervention, its historical context, and its relationship to the social welfare system.

**2313. SOCIAL WORK PRACTICE I (3-0) 3 hours credit.** Critical evaluation of the value base of the social work profession and basic practice concepts in a framework for understanding a variety of intervention models. Requires a 25-hour volunteer placement in a human service agency. Prerequisite: SOCW 2311. Prospective BSW majors only. \$15.50 special fee.

**3301. HUMAN BEHAVIOR AND THE SOCIAL ENVIRONMENT I (3-0) 3 hours credit.** Examination and analysis of cognitive, affective, behavioral, and moral functioning through the life cycle, using functional vs. dysfunctional adaptation as a framework for analysis.

**3302. HUMAN BEHAVIOR AND THE SOCIAL ENVIRONMENT II (3-0) 3 hours credit.** A systems theory perspective on the person-in-situation configuration, demonstrating the impact of the various levels of social systems on one's orientation to self and others, opportunities for growth, and behavioral adaptations.

**3303. SOCIAL WELFARE POLICY AND SERVICES (3-0) 3 hours credit.** A critical, analytical examination of policy choices in selected social welfare institutions, programs, and proposals with respect to benefits provided, beneficiaries, delivery strategies, and finances. The significance of social welfare policy for social work practitioners. Prerequisite: SOCW 2311.

**3304. SOCIAL WORK PRACTICE II (3-0) 3 hours credit.** Theories and methodologies of social work assessment and intervention at the individual, family, and group levels in diverse settings. Prerequisites: SOCW 2311, SOCW 2313, and SOCW 3301. BSW majors only.

**3306. SOCIAL WORK PRACTICE III (3-0) 3 hours credit.** The theory and practice of social change at the community level, including a sociological analysis of bureaucracies as collectivities of power, and of the community as a social phenomenon. Three models of community organization—community development, social action, and social planning—will be emphasized including methods of resource delivery and redistribution. Prerequisites: SOCW 2311, SOCW 2313, and SOCW 3304. BSW majors only.

**3317. SOCIAL WORK WITH WOMEN AND MINORITIES (3-0) 3 hours credit.** Using history of women and selected minorities in the U.S. to facilitate understanding and development of social work practice. Prerequisites: SOCW 2311 and SOCW 2313.

**4251. SOCIAL WORK FIELD SEMINAR I (2-0) 2 hours credit.** Integration of theory and practice, based primarily on field instruction experiences. Prerequisite: concurrent enrollment in SOCW 4451. See the prerequisites listed under SOCW 4451.

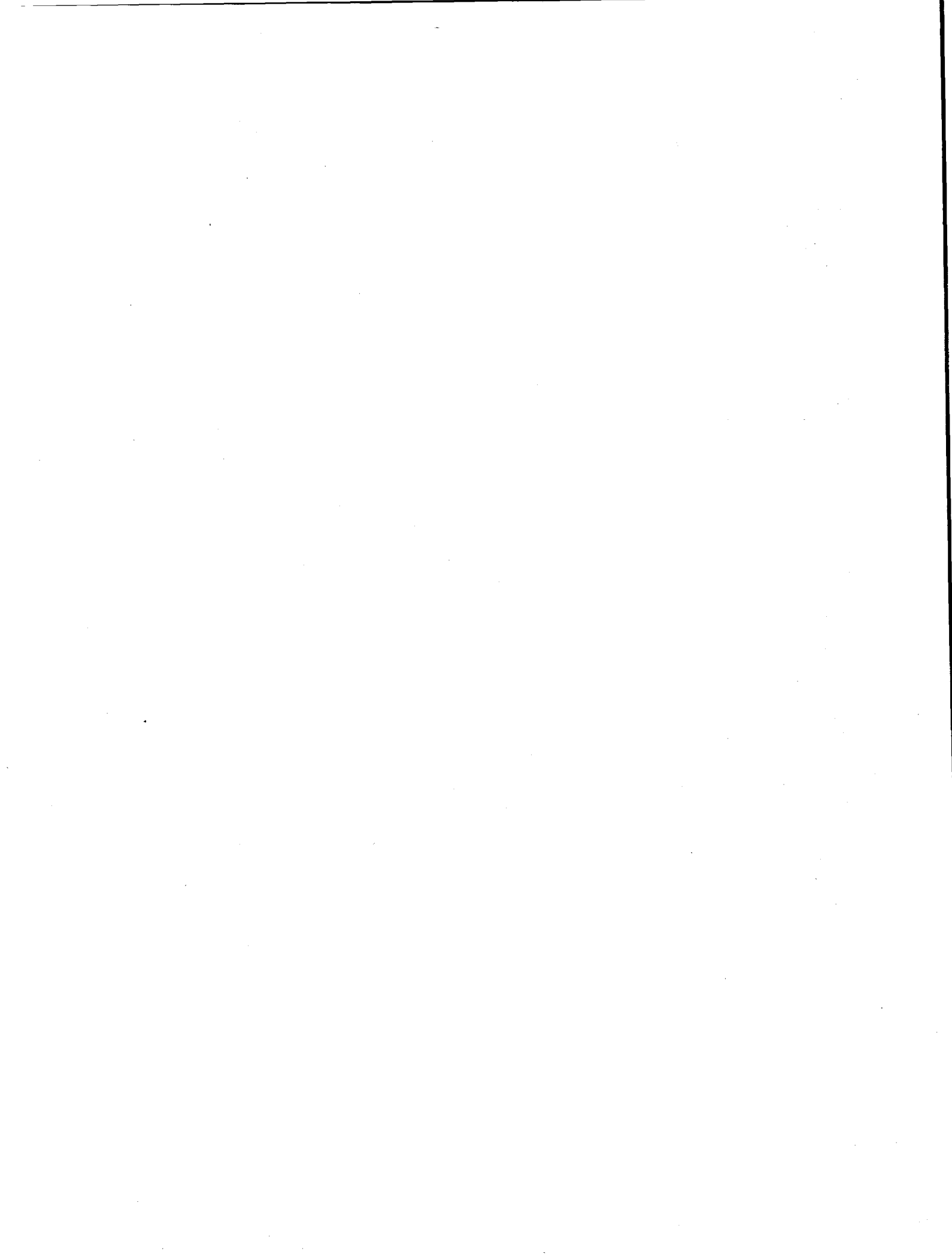
**4252. SOCIAL WORK FIELD SEMINAR II (2-0) 2 hours credit.** Integration of theory and practice, based primarily on field instruction experiences. Prerequisite: concurrent enrollment in SOCW 4452. See the prerequisites listed under SOCW 4452.

**4350. SPECIAL ISSUES IN SOCIAL WORK (3-0) 3 hours credit.** Relevant social work topics generated and explored in depth according to student and professional needs. The topic will be determined prior to registration. Prerequisite: permission of the instructor.

**4191, 4291, 4391. CONFERENCE COURSE (Variable credit from 1 to 3 semester hours as arranged).** Topics assigned on an individual basis covering personal research or study in designated areas. Prerequisite: permission of the instructor.

**4451. SOCIAL WORK FIELD INSTRUCTION I (0-16) 4 hours credit.** Supervised social work experience in a local human service agency. Integration of generalist practice concepts into professional practice experiences. The field placement requires a minimum of 240 clock hours in the agency. Prerequisites: SOCW 2311, 2313, 3301, 3302, 3304, and concurrent enrollment in SOCW 4251. P/F grading. BSW majors only. For additional information and requirements, see the BSW Field Policies and Procedures Manual. \$15.50 special fee.

**4452. SOCIAL WORK FIELD INSTRUCTION II (0-16) 4 hours credit.** Supervised social work experience in a local human service agency. Integration of generalist practice concepts into professional practice experiences. The field placement requires a minimum of 240 clock hours in the agency. Prerequisites: SOCW 3303, 3306, 4251, 4451; SOCI 3305, and concurrent enrollment in SOCW 4252. SOCW 4452 is a continuation of SOCW 4451 and must be taken in the semester immediately following SOCW 4451. P/F grading. BSW majors only. For additional information and requirements, see the BSW Field Policies and Procedures Manual. \$15.50 special fee.





# The School of Urban and Public Affairs

501C University Hall • Box 19588 • 817-272-3071

The activities of the School of Urban and Public Affairs include graduate instruction in urban and regional affairs, policy issues, administration, and city and regional planning, as well as applied research, service, and training provided to public and private groups and officials. Through participation in the applied research activities of the School, students may be involved in a wide range of projects that are relevant to contemporary urban problems. A wide variety of research materials from current and past research projects as well as state-of-the-art computer hardware and software equipment are available to students and faculty for both instruction and research purposes. The numerous contacts of faculty and staff with public officials, agencies, and private groups is extremely helpful in arranging internships and job placements upon program completion.

## City and Regional Planning

The City and Regional Planning Division offers eight upper division courses.\* Students in other degree programs, such as economics, journalism, history, political science, geology, and others, may minor in city and regional planning by selecting any combination of courses to meet their credit hour requirements. Also, students may enroll in these courses for elective credit.

## City and Regional Planning Faculty

### Professors

Anjomani, Cornehl, Geisel, Goldsteen

### Associate Professors

Bright, Wegner

### Assistant Professors

Arvidson

## City and Regional Planning (CIRP)

### 3301. SOCIAL AND CULTURAL ASPECTS OF PLANNING (3-0)

**3 hours credit.** The partitioning of cities into social and cultural sectors in relation to how to plan for life cycle, lifespan, and social class differences. Study of people's values, concepts of neighborhood, social-psychology and sociology of group processes, cultural differences between groups, etc., will be related to the physical dimensions of cities.

**3302. INTERNATIONAL PLANNING AND REGIONAL DEVELOPMENT (3-0) 3 hours credit.** Planning in developing countries will be studied in relation to concepts of regional development, social change, and national policy-making.

**4304. VISUAL COMMUNICATION AND GRAPHIC PRESENTATION (2-3) 3 hours credit.** A laboratory course in physical-spatial design, and exercise in mapping, charting, graphing, and information displays. The planning design process and the impact of project scale patterns and physical form will be emphasized. \$2 lab fee.

**4391. STUDIES IN CITY AND REGIONAL PLANNING (3-0) 3 hours credit.** Advanced studies, on an individual basis, in various subjects of city and regional planning. May be repeated for credit. Prerequisite: consent of the instructor.

### 4393. GENDER, SPACE, AND PLANNING (3-0) 3 hours credit.

Considers both theoretical and professional issues. Topics include: the expression and reinforcement of gender roles in and through urban spatial organization; critiques of rational technical planning; contributions of women to the urban planning profession; threats and opportunities facing women planners today. Also offered as WOMS 4393. Credit will be granted only once.

### 4395. SEMINAR IN CITY AND REGIONAL PLANNING (3-0)

**3 hours credit.** Readings and discussions of special topics in city and regional planning. May be repeated for credit. Prerequisite: consent of the instructor.

\* In addition to the City and Regional Planning courses listed above, ARCH 4306, URBAN DESIGN THEORY, and ARCH 4307, THEORY OF CITY PLANNING may be used toward the minor.

Undergraduate students who are contemplating pursuing a master's degree in city and regional planning, particularly those majoring in interdisciplinary studies who select city and regional planning as their area of concentration, should consider selecting courses from:

**BIOL 2311.** Man and Environment

**CIRP 4391.** Studies in City and Regional Planning

(May be repeated for Credit. See graduate advisor)

**COMM 4330.** Political Communication

**ECON 2305.** Principles of Macroeconomics

**ECON 2306.** Principles of Microeconomics

**ECON 3310.** Microeconomics

**GEOG 3343.** Ecological and Cultural Geography

**MATH 3313.** Introduction to Probability and

Mathematical Statistics

**MATH 3316.** Statistical Inference

**SOCI 3353.** The Urban Community

**SOCI 3354.** Population and Urban Society

**SOCI 3355.** Computer Applications in Social Sciences

**SOCI 4318.** Social Change

**POLS 3312.** Introduction to Public Policy Analysis

**POLS 4303.** Public Administration and the Political Process

**POLS 4329.** Research Methods and Designs in Political Science

Students interested in the Environmental and Land Development Planning emphasis in city and regional planning should consider electives from:

**ARCH 4308.** History of Urban Form

**ECON 3312.** Macroeconomics

**ECON 3318.** Introduction to Econometrics

**ECON 4325.** Economic Fluctuations and Forecasting

**HIST 3351.** History of the Dallas/Fort Worth Metroplex

**POLS 3309.** Government and Environmental Protection

**REAE 3325.** Real Estate Principles and Practices

**REAE 4310.** Real Estate Investment Management

**REAE 4311.** Land Development Regulations

**REAE 4319.** Real Estate Finance

**REAE 4332.** Contemporary Real Estate Issues

Students interested in the Policy Planning emphasis in city and regional planning should consider these for electives:

- ECON 3312.** Macroeconomics
- ECON 3328.** Principles of Transportation
- HIST 3351.** History of the Dallas/Fort Worth Metroplex
- MANA 3319.** Management Process Theory
- MANA 4324.** Organizational Behavior
- POLS 3305.** Government and Urban America
- SOCI 3305.** Introduction to Social Research
- SOCI 3352.** Social Statistics
- SOCI 4362.** Research Practicum

Students interested in the Urban Analysis, Regional, and Transportation Planning emphasis in city and regional planning should consider electives from:

- ECON 3312.** Macroeconomics
- ECON 3318.** Introduction to Econometrics
- ECON 3328.** Principles of Transportation
- ECON 4320.** Urban Economic Analysis
- ECON 4325.** Economic Fluctuations and Forecasting
- HIST 3373.** U.S. Business and Economic History 1986-Present
- HIST 3351.** History of the Dallas/Fort Worth Metroplex
- SOCI 4361.** Cities and Urban Regions

## Urban and Regional Affairs

The Urban and Regional Affairs Division offers one upper division course. Students may enroll in this course for elective credit.

## Urban and Regional Affairs Faculty

### Professors

Cole, Cornehlis, Geisel, Taebel

### Associate Professors

Barrett, Hissong, Tees, Wyman

### Assistant Professors

Gordon, Salazar

## Urban and Regional Affairs (URPA)

**3300. AN INTERDISCIPLINARY APPROACH (3-0) 3 hours credit.** An overview of urban studies, surveying the major features of cities as political, economic, and social entities. The analysis of social policies as these affect the city.

# Faculty

(Year in parentheses indicates year of initial appointment to the faculty of The University of Texas at Arlington.)

- ACKER, BERTIE N.**, Professor Emeritus of Foreign Languages (1965). B.A., Texas Woman's University, 1943; M.A., Southern Methodist University, 1957; Ph.D., University of Texas at Austin, 1971.
- ADAMS, PHYLLIS**, Assistant Professor of Nursing (1995). B.S.N., Dillard University, 1969; M.S.N., Ohio State University, 1972; Ed.D., Texas Southern University, 1989. Registered Nurse.
- ADAMS, SALLY**, Adjunct Clinical Instructor in Nursing (1995). B.A., Trinity University, 1975; B.S.N., Emory University, 1977; M.S., University of Wisconsin, 1981. Registered Nurse.
- AGGER, BEN**, Professor of Sociology and Dean of the College of Liberal Arts (1994). B.A., York University, 1973; M.A., 1974; Ph.D., University of Toronto, 1976.
- ALAIMO, STACY**, Assistant Professor of English (1994). B.A., Gustavus Adolphus College, 1985; M.A., University of Wisconsin, 1986; Ph.D., University of Illinois, 1994.
- ALAVI, KAMBIZ**, Professor in Electrical Engineering Department (1988). B.S., Massachusetts Institute of Technology, 1972; M.S., 1977; Ph.D., 1981.
- ALDRIDGE, CHERYL**, Specialist in Nursing (1989). B.S.N., Michigan State University, 1968; M.S.N., University of Kansas, 1983. Registered Nurse.
- ALFARO, OVIDIO**, Captain, U.S. Army, Assistant Professor of Military Science (1996). B.S., U.S. Military Academy, 1991.
- ALFORD, DOLORES**, Adjunct Assistant Professor of Nursing (1989). B.S.N., Louisiana State University, 1957; M.S.N., University of Texas at Austin, 1961; Ph.D., Columbia Pacific University, 1989. Registered Nurse.
- ALLEN, JANE**, Adjunct Clinical Instructor in Nursing (1991). B.S., Texas Woman's University, 1980; M.S., 1985. Registered Nurse.
- ALMORE, MARY G.**, Associate Professor of Social Psychology (1973). B.S., Florida State University, 1955; M.A., 1956; M.S., 1958; Ph.D., Texas Christian University, 1971.
- AMACHER, RYAN C.**, Professor of Economics (1992). A.B., Ripon College, 1967; Ph.D., University of Virginia, 1971.
- AMSTER, HARRIETT**, Professor of Psychology (1973). A.B., Bryn Mawr College, 1950; M.A., Clark University, 1954; Ph.D., 1957.
- ANDERS, EVAN M.**, Associate Professor of History (1982). B.A., University of Texas at Austin, 1968; M.A., 1970; Ph.D., 1978.
- ANDERSON, ANDY**, Professor of Art (1991). B.A., Florida State University, 1968; M.A., 1971.
- ANDERSON, CHERYL**, Assistant Professor of Nursing (1991). B.S.N., San Diego State University, 1974; M.S.N., University of California at Los Angeles, 1976; Ph.D., Texas Woman's University, 1985. Registered Nurse.
- ANDERSON, DALE A.**, Professor of Aerospace Engineering and Associate Dean of the College of Engineering (1984). B.S., St. Louis University, 1957; M.S., Iowa State University, 1959; Ph.D., 1964. Professional Engineer.
- ANDERSON, EUGENE W.**, Professor of Exercise, Sport and Health Studies (1978). B.S., Fort Hays Kansas State University, 1954; M.S., 1959; Ed.D., Arizona State University, 1970.
- ANDERSON, R. BRUCE W.**, Associate Professor of Sociology (1973). A.B., Stanford University, 1961; M.A., Northwestern University, 1965; Ph.D., Duke University, 1970.
- ANDRESEN, EARL**, Professor of Communication (1991). A.B., Columbia College, 1969; A.M., University of Illinois, 1972; Ph.D., Texas A&M University, 1988.
- ANDREWS, JENNIFER**, Adjunct Assistant Professor of Nursing (1989). B.S.N., Vanderbilt University, 1981; J.D., Baylor University School of Law, 1987. Registered Nurse.
- ANJOMANI, ARDESHIR**, Professor of City and Regional Planning (1979). M.Arch., University of Tehran, Iran, 1968; M. Planning, University of Southern California, 1976; Ph.D., 1979.
- ANTAI-OTONG, DEBORAH**, Adjunct Clinical Instructor in Nursing (1996). B.S.N., Texas Woman's University, 1977; M.S., 1981. Registered Nurse.
- APILADO, VINCENT P.**, Professor of Finance and Real Estate (1980). B.S., University of Portland, 1959; M.B.A., University of Oregon, 1966; Ph.D., University of Michigan, 1970.
- ARDAY, DONALD**, Associate Professor of Art (1988). B.F.A., Cleveland Institute of Art, 1978; M.F.A., Syracuse University, 1980.
- ARDEKANI, SIAMAK A.**, Professor of Civil and Environmental Engineering (1989). B.S., University of Texas at Austin, 1980; M.S., 1981; Ph.D., 1984. Professional Engineer.
- ARGENTO, VITTORIO K.**, Associate Professor of Civil and Environmental Engineering (1977). B.S., San Diego State College, 1964; M.S., University of Texas at Dallas, 1976; Ph.D., 1989. Professional Engineer.
- ARNOTT, HOWARD J.**, Jenkins Garrett Professor of Biology (1974). A.B., University of Southern California, 1952; M.S., 1953; Ph.D., University of California at Berkeley, 1958.
- ARVIDSON, ENID**, Assistant Professor of City and Regional Planning (1994). B.A., University of California at Santa Barbara, 1979; M.R.P., University of Massachusetts, 1985; Ph.D., 1995.
- ASHWILL, REGINA**, Specialist in Nursing (1996). B.S.N., University of Texas at Arlington, 1980; M.S.N., 1982. Registered Nurse.
- ASWATH, PRANESH B.**, Associate Professor in Mechanical Engineering Department (1990). B.S., St. Joseph's College, Bangalore University, 1982; B.E., Indian Institute of Science, Bangalore, India, 1985; M.S., Brown University, 1987; Ph.D., 1990.

- BACON, JOHN D.**, Professor of Biology (1975). B.S., Sul Ross State University, 1966; M.S., Texas A&M University, 1970; Ph.D., University of Texas at Austin, 1975.
- BAGUS, PAUL**, Adjunct Professor of Physics (1996). B.S., University of Chicago, 1959; M.S., 1959; Ph.D., 1965.
- BAILEY, J. RONALD**, Professor of Mechanical Engineering and Dean of the College of Engineering (1994). B.S., North Carolina State University, 1966; M.S., 1968; Ph.D., University of Southampton, England, 1971. Professional Engineer.
- BAIRD, BECKY**, Adjunct Clinical Instructor in Nursing (1995). B.S.N., Baylor University School of Nursing, 1990; M.S., East Texas State University, 1986; M.S., Texas Woman's University, 1995. Registered Nurse.
- BAKER, DOROTHY D.**, Assistant Professor of Music (1972). B.A., Tulane University, 1955; M.M., Southern Methodist University, 1964.
- BAKER, HARVEY**, Lecturer in Mathematics (1986). B.A., University of Texas at Austin, 1960; Ph.D., 1965.
- BAKER, JULIE**, Assistant Professor of Marketing (1992). B.A., Iowa State University, 1973; M.A., University of Nebraska, 1984; Ph.D., Texas A&M University, 1990.
- BAKER, LEWIS T.**, Associate Professor of Humanities (1985). B.A., University of Texas at Austin, 1975; M.A., Louisiana State University, 1977; Ph.D., 1981.
- BAKER, R.C.**, Professor of Information Systems and Management Sciences (1972). B.A., University of Texas at Austin, 1964; Ph.D., Texas A&M University, 1971.
- BALSAM, WILLIAM L.**, Professor of Geology (1984). B.S., Saint Lawrence University, 1967; M.S., Brown University, 1969; Ph.D., 1973.
- BANKS, J. CAROLYN**, Adjunct Clinical Instructor in Nursing (1988). B.S.N., Texas Christian University, 1969; M.S., Texas Woman's University, 1977; Ph.D., 1989. Registered Nurse.
- BARKER, CALVIN L.R.**, Professor Emeritus of Mechanical Engineering (1960). B.S. University of Texas at Austin, 1953; M.S., California Institute of Technology, 1954; Ph.D., 1958, Professional Engineer.
- BARNICK-BEN-EZRA, BARBARA A.**, Assistant Professor of Exercise, Sport and Health Studies (1992). B.S., Miami University, 1980; M.A., 1981.
- BARR, WENDY J.**, Assistant Professor of Nursing (1986). B.S., Loyola University, 1969; M.S., University of Massachusetts, 1976; Ph.D., Texas Woman's University, 1985. Registered Nurse.
- BARRETT, EDITH J.**, Associate Professor of Urban Affairs (1996). B.S., Baylor University, 1981; M.S., Northwestern University, 1984; Ph.D., 1987.
- BARRETT, MARJIE C.**, Associate Professor of Social Work (1978). B.A., Texas Christian University, 1959; M.S.S.W., University of Texas at Austin, 1962; Ph.D., Texas Woman's University, 1978.
- BARROS, CAROLYN A.**, Associate Professor of English (1977). B.A., University of Texas at Arlington, 1973; M.A., Texas Christian University, 1978; Ph.D., University of Texas at Dallas, 1984.
- BARTOS, JUSTIN**, Adjunct Clinical Instructor in Nursing (1990). B.S., University of Texas at Austin, 1978; M.D., University of Texas at Galveston, 1982.
- BASTIEN, JOSEPH W.**, Professor of Anthropology (1977). B.A., Maryknoll College, 1958; M.E., State University of New York, 1963; M.D., 1963; M.A., Cornell University, 1971; Ph.D., 1973.
- BAUM, EDWARD M.**, Professor and Dean of the School of Architecture (1987). A.B., Harvard College, 1960; M.Arch., Harvard University, 1964. Registered Architect.
- BAZE, MARTHA K.**, Lecturer in Management (1982). B.A., Mankato State University, 1963; M.B.A., Indiana University, 1965.
- BEATY, CHERYL D.**, Adjunct Professor of Social Work (1980). B.A., Midwestern State University, 1968; M.S.S.W., University of Texas at Arlington, 1985.
- BECKHAM, SUSAN G.**, Assistant Professor of Exercise, Sport and Health Studies (1995). B.S., Southwest Missouri State University, 1980; M.S., Oklahoma State University, 1984; Ph.D., 1991.
- BEEHLER, JOHN**, Associate Professor of Accounting and Associate Dean of the College of Business Administration (1988). B.S., Pennsylvania State University, 1977; M.B.A., Indiana University, 1982; Ph.D., 1985. CPA.
- BEEHLER, PAMELA J.**, Associate Professor of Exercise, Sport and Health Studies (1985). B.S., Pennsylvania State University, 1977; M.Ed., East Stroudsburg University, 1980; Ph.D., Indiana University, 1986.
- BEHBEHANI, KHOSROW**, Associate Professor in Biomedical Engineering (1985). B.S., Louisiana State University, 1973; M.S., Georgia Institute of Technology, 1975; Ph.D., University of Toledo, 1979.
- BELL, MYRTLE**, Assistant Professor of Management (1996). B.B.A., University of Notre Dame, 1981; M.B.A., Louisiana State University, 1982; Ph.D., University of Texas at Arlington, 1996.
- BELLION, EDWARD**, Professor of Biochemistry and Associate Dean of the College of Science (1970). B.Sc., University of Leeds, 1965; Ph.D., 1968.
- BENAVIDES, NORMA A.**, Specialist in Social Work (1993). B.A., University of Texas at Austin, 1972; M.S.W., University of Houston, 1976.
- BENEFIELD, LAZELLE**, Adjunct Associate Professor of Nursing (1993). B.S.N., University of Florida at Gainesville, 1976; M.S.N., University of Alabama at Birmingham, 1978; Ph.D., Old Dominion University, 1989. Registered Nurse.
- BENHAM, ANN H.**, Professor Emeritus of Chemistry (1960). B.S., University of Michigan, 1945; M.S., 1947.
- BENNETT, JEFFERSON F.**, Adjunct Associate Professor of Linguistics (1996). A.B., Duke University, 1986; M.A., University of Illinois, 1988; Ph.D., 1995.

- BENTLEY, GAIL**, Adjunct Assistant Professor of Nursing (1989). B.S.N., East Carolina University, 1969; M.S.N., Vanderbilt University, 1976; Ph.D., University of Mississippi, 1988. Registered Nurse.
- BERNARD, DAVID G.**, Assistant Professor of Biology (1995). B.S., Howard University, 1984; Ph.D., Howard University College of Medicine, 1992.
- BERNFELD, STEPHEN R.**, Professor of Mathematics (1975). B.S., Rensselaer Polytechnic Institute, 1965; Ph.D., University of Maryland, 1969.
- BERNSTEIN, IRA H.**, Professor of Psychology (1964). B.A., University of Michigan, 1959; M.A., Vanderbilt University, 1961; Ph.D., 1963.
- BERRY, MARIANNE**, Associate Professor of Social Work (1990). B.A., University of Chicago, 1981; M.A., 1982; Ph.D., University of California at Berkeley, 1990.
- BIGGINS, LILLIE**, Adjunct Assistant Professor of Nursing (1991). B.S.N., University of Texas at Arlington, 1974; M.S., Texas Woman's University, 1981. Registered Nurse.
- BING, ROBERT L., III**, Associate Professor of Criminology and Criminal Justice and Director of Criminology and Criminal Justice Program (1991). B.A., College of the Holy Cross, 1975; M.S., Florida State University, 1976; Ph.D., 1987.
- BIRKA, ANN**, Adjunct Clinical Instructor in Nursing (1996). B.S.N., College of St. Teresa, 1981; M.S.N., University of Utah, 1990. Registered Nurse.
- BLACK, TRUMAN D.**, Professor of Physics (1965). B.S., University of Houston, 1959; M.A., Rice University, 1962; Ph.D., 1964.
- BLUMBERG, CHARNA**, Lecturer in Management (1984). B.S.Ed., Boston University, 1979; M.B.A., University of Texas at Austin, 1981.
- BOCHEV, PAVEL**, Assistant Professor of Mathematics (1994). M.S., University of Sofia, 1987; Ph.D., Virginia Polytechnic Institute and State University, 1994.
- BOGLE, JAMES M.**, Assistant Professor of Music (1995). B.M., University of North Texas, 1986; M.M., 1989.
- BOLEY, ROBERT B.**, Associate Professor of Biology (1965). B.S., Sam Houston State University, 1949; M.S., Texas A&M University, 1960; Ph.D., Ohio State University, 1963.
- BOND, MARY LOU**, Professor of Nursing (1989). B.S.N., Texas Christian University, 1962; M.S.N., University of Pittsburgh, 1973; Ph.D., University of Texas at Austin, 1984. Registered Nurse.
- BOND, SUSAN**, Adjunct Clinical Instructor in Nursing (1996). B.S.N., University of Texas at Arlington, 1989; M.S.N., 1991. Registered Nurse.
- BOONE, THOMAS D.**, Assistant Professor of Exercise, Sport and Health Studies (1970). B.S., University of North Texas, 1964; M.Ed., 1968.
- BOOTHE, KENNETH A.**, Adjunct Assistant Professor of Linguistics (1995). B.A., University of Akron, 1975; M.A., University of Texas at Arlington, 1987.
- BORDOLOI, BIJOY**, Associate Professor of Information Systems and Management Sciences (1991). M.A., Jawaharlal Nehru University, New Delhi, 1976; Ph.D., Indiana University, 1988.
- BOSWELL, BILL W.**, Associate Professor of Architecture (1975). B.Arch., University of Texas at Austin, 1969; M.Arch and Urban Design, University of Colorado, 1972. Registered Architect.
- BOURNE, BARBARA**, Adjunct Clinical Instructor in Nursing (1987). B.A., University of Colorado, 1974; M.Ed., University of Florida, 1976; E.D.S., 1976; Ph.D., 1979.
- BOYKIN, HUBERT**, Lecturer in Finance and Real Estate (1988). B.A., University of Mississippi, 1959; J.D., 1961; LL.M., Southern Methodist University, 1986.
- BRADSHAW, DENNY**, Assistant Professor of Philosophy (1992). B.A., Mankato State University, 1982; Ph.D., University of Iowa, 1988.
- BREDOW, JONATHAN W.**, Associate Professor in Electrical Engineering Department (1989). B.S., Kansas State University, 1977; M.S., Iowa State University, 1980; Ph.D., University of Kansas, 1989.
- BRIGHT, ELISE M.**, Associate Professor of Urban Affairs (1988). B.A., University of Arizona, 1972; M.A., Harvard University, 1975; Ph.D., Texas A&M University, 1980.
- BROWN, VINCENT**, Assistant Professor of Psychology (1991). B.A., Carleton College, 1984; Ph.D., University of California at Irvine, 1991.
- BRUCE, LES P.**, Adjunct Assistant Professor of Linguistics (1994). B.A., John Brown University, 1967; M.A., Columbia International University, 1970; Ph.D., Australian National University, 1980.
- BRUGGEMAN, CARL T.**, Assistant Professor in Computer Science and Engineering (1996). H.A.B., Xavier University, 1982; M.S., Indiana University, 1987; Ph.D., 1995.
- BRUNO, VINCENT J.**, Professor Emeritus of Art (1976). B.A., Kenyon College, 1951; M.A., Columbia University, 1962; Ph.D., 1969.
- BUISSERET, DAVID**, Jenkins and Virginia Garrett Endowed Professor in Southwestern Studies and the History of Cartography (1995). B.A., Cambridge University, 1958; Ph.D., 1961.
- BURGESS-JACKSON, KEITH**, Associate Professor of Philosophy (1989). A.B., University of Michigan, 1979; M.A., Wayne State University, 1983; J.D., 1983; M.A., University of Arizona, 1985; Ph.D., 1989.
- BURKART, BURKE**, Professor of Geology (1970). B.S., University of Texas at Austin, 1954; M.A., 1960; Ph.D., Rice University, 1965.
- BURLESON, MARK L.**, Assistant Professor of Biology (1997). B.S., University of Texas at Arlington, 1986; Ph.D., University of British Columbia, 1991.
- BURMAN, HAROLD G.**, Professor Emeritus of Chemistry (1944). B.S., Dakota Wesleyan University, 1931; Ph.D., Johns Hopkins University, 1935.
- BURNS, NANCY**, Jenkins Garrett Professor of Nursing (1976). B.S., Texas Christian University, 1957; M.S.N., Texas Woman's University, 1974; Ph.D., 1981. Registered Nurse.

- BURQUEST, DONALD A.**, Associate Professor of Linguistics (1975). B.A., Wheaton College, 1961; M.A., University of California at Los Angeles, 1965; Ph.D., 1973.
- BUTTNER, RICHARD J., JR.**, Assistant Professor of Finance and Real Estate (1993). B.B.A., University of Georgia, 1987; Ph.D., 1993.
- BYRNE, ERIC J.**, Assistant Professor in Computer Science and Engineering Department (1993). B.S., University of Nebraska, 1983; M.S., Kansas State University, 1988; Ph.D., 1993.
- CALLICUTT, JAMES W.**, Professor and Acting Associate Dean of the School of Social Work (1968). B.S., Memphis State College, 1951; M.S.S.W., University of Tennessee, 1958; Ph.D., Brandeis University, 1969.
- CALLIGARO, DEBRA**, Specialist in Nursing (1996). B.S.N., Texas Woman's University, 1984; M.S.N., 1989. Registered Nurse.
- CAMERON, MARGARET A.**, Professor Emeritus of Communication (1939). B.A., Texas Christian University, 1928; M.A., 1941.
- CAMPBELL, CLAIRE**, Specialist in Nursing (1976). B.S.N., University of Texas at Austin, 1959; M.S.N., Texas Woman's University, 1971. Registered Nurse.
- CAMPBELL, JONATHAN A.**, Professor of Biology (1983). B.A., University of Mississippi, 1969; M.A., University of Texas at Arlington, 1977; Ph.D., University of Kansas, 1982.
- CANTWELL, DONALD W.**, Associate Professor of Finance and Real Estate (1959). B.B.A., Southern Methodist University, 1953; M.B.A., 1959; J.D., 1962. State Bar, 1962.
- CAPOTE, MARIA**, Associate Professor of Foreign Languages (1968). B.A., Southwestern State College, 1964; M.A., Texas Christian University, 1965; Ph.D., La Laguna University, Spain, 1981.
- CARLSON, SUSAN**, Specialist in Nursing (1997). B.S.N., Loretta Heights College; 1982; M.S.N., Mississippi University for Women, 1984. Registered Nurse.
- CARPENTER, GALEN**, Lecturer in Accounting (1982). B.B.A., University of Texas at Arlington, 1971; M.P.A., 1975. CPA.
- CARROLL, BILL D.**, Professor and Chair of the Department of Computer Science and Engineering (1981). B.S., University of Texas at Austin, 1964; M.S., 1966; Ph.D., 1969. Professional Engineer.
- CARTER, RONALD L.**, Professor in Electrical Engineering Department (1979). B.S., Iowa State University, 1962; M.S., 1964; Ph.D., Michigan State University, 1971.
- CASH, FLOYD L.**, Professor of Electrical Engineering (1959). B.S., University of Oklahoma, 1946; M.S., University of Texas at Austin, 1951; Ph.D., 1955. Professional Engineer.
- CASON, CAROLYN**, Professor and Associate Dean of the School of Nursing (1997). B.S.N., University of Texas Medical Branch, 1967; M.S.N., University of Texas System School of Nursing, 1972; Ph.D., University of Texas at Austin, 1972. Registered Nurse.
- CAWTHON, ELISABETH A.**, Associate Professor of History (1988). B.A., Louisiana Tech University, 1978; M.A., University of Virginia, 1981; Ph.D., 1985.
- CHAN, WEN S.**, Professor in Mechanical Engineering (1988). B.S., National Cheng Kung University, 1969; M.S., Tennessee Technological University, 1972; Ph.D., Purdue University, 1979.
- CHAPA, JOE, JR.**, Assistant Professor of Theatre Arts (1993). B.A., University of Texas at Arlington, 1985; M.F.A., University of Mississippi, 1991.
- CHAPPELL, SUSAN**, Specialist in Nursing (1991). B.S.N., Stephen F. Austin State University, 1986; M.S.N., University of Texas at Arlington, 1991. Registered Nurse.
- CHAVE, GEORGE B.**, Assistant Professor of Music (1992). B.M., Syracuse University, 1981; M.M., State University of New York at Binghamton, 1983; Ph.D., Washington University (St. Louis), 1988.
- CHEAVENS, FRANK**, Professor Emeritus of Psychology (1957). B.A., Baylor University, 1927; M.A., University of Texas at Austin, 1946; Ph.D., 1957.
- CHEN, MO-SHING**, Professor of Electrical Engineering (1962). B.S., National Taiwan University, 1954; M.S., University of Texas at Austin, 1958; Ph.D., 1962. Professional Engineer.
- CHEN, TSU-FEN**, Associate Professor of Mathematics (1987). B.A., National Tsinghua University, 1978; M.S., Carnegie-Mellon University, 1979; Ph.D., 1984.
- CHIASSON, CHARLES C.**, Associate Professor of Classical Studies (1983). B.A., Yale University, 1974; Ph.D., 1979.
- CHIPPINDALE, PAUL T.**, Assistant Professor of Biology (1996). B.S., University of Guelph, 1986; M.S., University of Toronto, 1990; Ph.D., University of Texas at Austin, 1995.
- CHRZANOWSKI, THOMAS H.**, Professor of Biology (1981). B.A., Bloomfield College, 1974; M.S., University of South Carolina, 1976; Ph.D., 1981.
- CHUONG, CHARLES**, Professor in Biomedical Engineering Program (1985). B.S., Cheng-Kung University, 1972; M.S., University of California at San Diego, 1977; Ph.D., 1981.
- CHWIALKOWSKI, MICHAEL P.**, Associate Professor in Electrical Engineering Department (1986). M.S., Warsaw Technical University, 1978; Ph.D., 1982.
- CICHOCK, MARK A.**, Associate Professor of Political Science (1985). B.S., University of Wisconsin at Stevens Point, 1976; M.A., University of South Carolina, 1979; Ph.D., 1983.
- CLARK, DAYLE M.**, Associate Professor of Civil and Environmental Engineering (1964). B.S., Texas Tech University, 1955; M.S., Southern Methodist University, 1967. Professional Engineer. FASCE.
- CLARK, DOLORES**, Specialist in Nursing (1976). B.S.N., Incarnate Word College, 1954; M.S., Texas Woman's University, 1974. Registered Nurse.
- CLARK, JILL**, Associate Professor of Political Science (1978). B.S., Iowa State University, 1965; M.S., University of Wisconsin in Milwaukee, 1971; Ph.D., 1974.
- CLARKE, JAMES G.**, Lecturer in Information Systems and Management Sciences (1981). B.A., Southern Methodist University, 1972; M.A., 1974; M.A.S., 1978.

- CLAYTOR, R. N.**, Adjunct Professor of Physics (1990). B.A., Rice Institute, 1957; M.A., 1959; Ph.D., 1961.
- CLEMENTS, PHILLIP L.**, Assistant Professor of Music (1994). B.M.E., University of North Texas, 1990; M.M.E., 1993.
- CLINE, JEANNEANE**, Specialist in Nursing (1994). B.S.N., Texas Christian University, 1972; M.S., Texas Woman's University, 1974; M.S., Trinity University, 1987. Registered Nurse.
- COBB, NORMAN H.**, Associate Professor of Social Work (1989). B.A., Texas Tech, 1967; M.Div., St. Paul School of Theology, 1970; M.S.S.W., University of Texas at Arlington, 1979; Ph.D., University of California at Berkeley, 1986.
- COCHRAN, PAT**, Specialist in Nursing (1991). B.S.N., State University of New York at Albany, 1978; M.S.N., University of Texas Medical Branch at Galveston, 1984. Registered Nurse.
- COGDELL, THOMAS J.**, Associate Professor of Chemistry (1966). B.A., Midwestern University, 1955; M.A., University of Texas at Austin, 1962; Ph.D., Harvard University, 1965.
- COHEN, PHILIP G.**, Associate Professor and Acting Chair of the Department of English (1986). B.S., American University, 1976; M.A., University of Southern California, 1978; Ph.D., University of Delaware, 1984.
- COLE, RICHARD L.**, Professor of Urban Affairs, Dean of the School of Urban and Public Affairs and Interim Dean of the School of Social Work (1980). B.A., University of North Texas, 1967; M.A., 1968; Ph.D., Purdue University, 1973.
- COLE, STEPHANIE**, Assistant Professor of History (1996). B.A., The University of the South, 1984; M.A., University of Florida, 1988; Ph.D. 1994.
- CONWAY, CHRISTOPHER**, Assistant Professor of Foreign Languages (1996). B.A., University of California, Santa Cruz, 1991; M.A., University of California, San Diego, 1994; Ph.D., 1996.
- COOK, DIANE**, Adjunct Clinical Instructor in Nursing (1992). B.S.N., Jacksonville State University, 1983; University of Texas at Arlington, 1991. Registered Nurse.
- COOK, DIANE J.**, Associate Professor in Computer Science and Engineering Department (1992). B.S., Wheaton College, 1985; M.S., University of Illinois at Urbana, 1987; Ph.D., 1990.
- COOK, NANCY G.**, Adjunct Clinical Instructor in Nursing (1986). B.A., Austin College, 1977; B.S.N., University of Texas at Arlington, 1979; M.S.N., 1981. Registered Nurse.
- COOPER, JAMES E.**, Adjunct Associate Professor of Geology (1974). B.S., University of North Texas, 1954; M.S., 1955; Ph.D., Rice University, 1959.
- CORCORAN, JACQUELINE**, Assistant Professor of Social Work (1996). B.A., University of Michigan, 1985; M.S.S.W., University of Texas at Austin, 1989; Ph.D., 1996.
- CORDUNEANU, CONSTANTIN C.**, Professor Emeritus of Mathematics (1979). Ph.D., University of Iasi, Romania, 1956.
- CORLEY, HERBERT W., JR.**, Professor of Industrial Engineering (1971). B.S., Georgia Institute of Technology, 1966; M.S., 1968; Ph.D., University of Florida, 1971. Professional Engineer.
- CORNEHLS, JAMES V.**, Professor of Urban Affairs (1970). B.A., University of the Americas, 1961; Ph.D., University of Texas at Austin, 1965; J.D., Southern Methodist University, 1982.
- COUCHMAN, JAMES**, Adjunct Professor of Physics (1993). B.A., Central University of Iowa, 1953; M.A., Vanderbilt University, 1955; Ph.D., Texas Christian University, 1965.
- COURTNEY, HARLEY M.**, Professor of Accounting (1970). B.B.A., Lamar University, 1955; M.B.A., Texas A&M University, 1961; Ph.D., University of Illinois, 1966. CPA.
- COURTNEY, MAUREEN**, Assistant Professor of Nursing (1980). B.S., Texas Woman's University, 1971; M.S., 1974; Ph.D., 1978. Registered Nurse.
- COWAN, CONNIE**, Specialist in Nursing (1997). B.S.N., University of Kentucky, 1973; M.S.N., Medical College of Georgia, 1987. Registered Nurse.
- COWAN, EDWARD A.**, Assistant Professor of Foreign Languages (1964). B.A., University of Texas at Austin, 1961; M.A., 1964; Ph.D., University of Pennsylvania, 1982.
- COX, NITA F.**, Professor Emeritus of Communication (1947). B.F.A., University of Texas at Austin, 1946; M.F.A., Texas Christian University, 1961.
- COX, VERNE**, Professor of Psychology and Interim Dean of the College of Science (1970). B.A., University of Texas at Austin, 1960; Ph.D., University of Houston, 1964.
- CRICK, REX E.**, Professor of Geology (1979). B.A., University of Kansas, 1973; M.S., 1976; Ph.D., University of Rochester, 1978.
- CROSBY, ERNEST C.**, Associate Professor of Civil and Environmental Engineering (1979). B.E., Memphis State University, 1969; M.S., 1974; Ph.D., University of Tennessee, 1979. Professional Engineer.
- CROW, MARY LYNN**, Professor and Interim Director of the Center for Professional Teacher Education (1970). B.A., Texas Christian University, 1956; M.Ed., 1967; Ph.D., University of North Texas, 1970.
- CROWDER, WILLIAM J.**, Assistant Professor of Economics (1992). B.S., Arizona State University, 1987; Ph.D., 1992.
- DALE, JUANITA**, Adjunct Clinical Instructor in Nursing (1989). B.S.N., Texas Woman's University, 1971; M.S.N., University of Texas at Arlington, 1981; Ph.D., University of Kansas, 1986. Registered Nurse.
- DALLEY, JOSEPH W.**, Professor Emeritus of Aerospace Engineering and Engineering Mechanics (1960). B.S., University of Texas at Austin, 1947; M.S., 1951; Ph.D., 1959. Professional Engineer. FSESA.
- DAMUTH, JOHN E.**, Adjunct Professor of Geology (1996). B.S., Ohio State University, 1965; M.A., Columbia University, 1968; Ph.D., 1973.
- DANAHAY, MARTIN A.**, Associate Professor of English (1994). B.A., Cambridge University, 1981; M.A., Brandeis University, 1983; M.A., Cambridge University, 1985; Ph.D., Brandeis University, 1987.
- DANGEL, RICHARD F.**, Professor of Social Work (1977). B.A., Michigan State University, 1971; M.S.W., University of Michigan, 1973; Ph.D., University of Kansas, 1978.

FACULTY

**DANGELMAIER, BRIAN S.**, Specialist in Exercise, Sport and Health Studies (1995). B.A., University of Texas at Arlington, 1992; M.S., University of North Texas, 1994.

**DASCH, VENITA**, Adjunct Clinical Instructor in Nursing (1992). B.S.N., University of Texas at Austin, 1973. Registered Nurse.

**DAVIS, ALAN W.**, Associate Professor in Electrical Engineering Department (1983). B.S., University of Michigan, 1963; M.S., 1964; Ph.D., 1971.

**DAWKINS, VIVIAN**, Adjunct Clinical Instructor in Nursing (1996). B.S.N., University of Colorado, 1971; M.S.N., 1976. Registered Nurse.

**DE, KAUSHIK**, Assistant Professor of Physics (1993). B.A., M.A., City University of New York, 1981; Sc.M., Brown University, 1982; Ph.D., 1988.

**DEL AGUILA, WALTER**, Adjunct Assistant Professor of Linguistics (1992). B.A., Shelton College, 1959; M.A., New York University, 1961; M.A., Columbia University, 1971; Ph.D., Pennsylvania State University, 1981.

**DEL CASTILLO, ENRIQUE**, Assistant Professor in Industrial Engineering (1993). B.S., Universidad Panamericana, 1986; M. Eng., Cornell University, 1988; Ph.D., Arizona State University, 1993.

**DEMEYER, ELAINE**, Adjunct Clinical Instructor in Nursing (1992). B.A., Southern Illinois University, 1985; B.S.N., St. Louis University, 1986; M.S.N., 1990. Registered Nurse.

**DENISON, R.E.**, Adjunct Professor of Geology (1974). B.S., University of Oklahoma, 1954; M.S., 1959; Ph.D., University of Texas at Austin, 1966.

**DEPKEN, CRAIG A., II**, Assistant Professor of Economics (1996). A.B., University of Georgia, 1991; Ph.D., 1996.

**DEVARAJAN, VENKAT**, Associate Professor in Electrical Engineering Department (1990). B.S., Indian Institute of Technology, 1973; M.S., 1975; Ph.D., University of Texas at Arlington, 1979.

**DHAWAN, ATAM**, Professor in Electrical Engineering Department (1996). B.S., University of Roorkee, India, 1977; M.S., 1979; Ph.D., University of Manitoba, 1985.

**DIANA, LEONARD M.**, Professor Emeritus of Physics (1965). B.S., Georgia Institute of Technology, 1948; Ph.D., University of Pittsburgh, 1953.

**DIAS, RASIKA**, Associate Professor of Chemistry (1992). B.S., University of Peradeniya, Sri Lanka, 1983; Ph.D., University of California at Davis, 1988.

**DICKINSON, ROGER A.**, Professor of Marketing (1975). A.B., Williams College, 1951; M.B.A., University of California at Los Angeles, 1955; Ph.D., Columbia University, 1967.

**DIEBENOW, ANITA**, Specialist in Nursing (1995). B.S.N., University of Texas System School of Nursing, 1975; M.S.N., Texas Woman's University, 1977. Registered Nurse.

**DILLION, LINDA**, Adjunct Clinical Instructor in Nursing (1987). B.S., Texas Woman's University, 1972, M.S., 1980. Registered Nurse.

**DILLON, WILLIAM E.**, Associate Professor of Electrical Engineering (1971). B.S., Texas A&M University, 1965; M.S., University of Texas at Arlington, 1969; Ph.D., 1972. Professional Engineer.

**DILTZ, DAVID J.**, Professor and Acting Chair of the Department of Finance and Real Estate (1987). B.S., Purdue University, 1976; M.S., University of Illinois, 1978; Ph.D., 1980.

**DISHON, NEIL**, Adjunct Associate Professor of Nursing (1996). B.S., Ohio State University, 1951; M.A., 1952; M.D., 1956.

**DOWDY, JOHN V., JR.**, Senior Lecturer in Finance and Real Estate (1973). B.S., Baylor University, 1966; J.D., 1968.

**DOWNING, JOHN H.**, Assistant Professor of Exercise, Sport and Health Studies (1992). B.S., Springfield College, 1970; M.S., 1973; Ph.D., University of Oregon, 1985.

**DRAGAN, IRINEL**, Professor of Mathematics (1984). M.S., University of Iasi, Romania, 1954; Ph.D., 1961.

**DRAPER, PAUL A.**, Assistant Professor of Physics (1991). B.A., University of Kansas, 1978; M.S., 1980; Ph.D., Indiana University, 1987.

**DUDLEY, RICHARD**, Adjunct Clinical Instructor in Nursing (1996). B.S., Oral Roberts University, 1986; M.H.A., Texas Woman's University, 1994. Registered Nurse.

**DUHNN, WAYNE D.**, Professor of Social Work (1970). B.A., North Central College, 1961; M.S.W., Loyola University, 1964; Ph.D., Washington University, 1970.

**DUKE, B. WAYNE**, Associate Professor of Education and Vice President for Student Affairs (1989). B.S., Louisiana Tech University, 1960; M.A., 1963; Ed.D., University of Missouri at Columbia, 1970.

**DUNCAN, CHESTER I., JR.**, Professor of Architecture (1976). B.M.E., Villanova College, 1946; M.S., University of Pennsylvania, 1950. Professional Engineer. FASCE.

**DUNHAM-HAKALA, KATHY LEE**, Adjunct Clinical Instructor in Nursing (1993). B.S.N., Baylor University, 1972; M.A.R.E., Southwestern Baptist Theological Seminary, 1988; M.S.N., University of Texas at Arlington, 1992. Registered Nurse.

**DUNN, DANA L.**, Associate Professor of Sociology and Associate Dean of the College of Liberal Arts (1987). B.A., University of Texas at Dallas, 1980; M.A., 1981; Ph.D., University of North Texas, 1987.

**DUNN, W. MARCUS**, Professor of Accounting (1979). B.B.A., University of Texas at Arlington, 1968; M.B.A., 1970; Ph.D., University of Florida, 1976. CPA.

**DUWAJI, GHAZI**, Associate Professor of Economics (1966). B.A., American University of Beirut, Lebanon, 1959; Ph.D., Duke University, 1966.

**DVORAK, CAROL**, Adjunct Clinical Instructor in Nursing (1988). B.S.N., University of Texas at Arlington, 1974. Registered Nurse.

**DYER, DANNY D.**, Professor of Mathematics (1963). B.S., University of Texas at Arlington, 1961; M.S., Southern Methodist University, 1963; Ph.D., 1970.



- DYSON, JULIA T.**, Assistant Professor of Classical Studies (1993). B.A., Princeton University, 1988; M.A., Harvard University, 1991; Ph.D., 1993.
- EAKIN, MARK E.**, Associate Professor of Information Systems and Management Sciences (1980). B.S., Tarleton State University, 1972; M.S., Texas A&M University, 1977; Ph.D., 1980.
- EBENSBERGER, GARY L.**, Professor and Chair of the Department of Music (1966). B.M., Sam Houston State University, 1960; M.A., 1962; D.M.A., University of Texas at Austin, 1970.
- EBERHART, ROBERT C.**, Adjunct Professor and Director of the Biomedical Engineering Program (1978). A.B., Harvard University, 1958; Ph.D., University of California at Berkeley, 1965.
- EDMONDSON, JEROLD A.**, Professor and Director of the Linguistics Program (1981). B.S., Purdue University, 1963; M.A., University of California at Los Angeles, 1969; Ph.D., 1973; Dr. phil. habil., Technical University, Berlin, 1979.
- EGHIGIAN, GREG A.**, Assistant Professor of History (1996). B.A., Bard College, 1983; M.A., 1985; Ph.D., University of Chicago, 1993.
- EICHELBERGER, CLAYTON L.**, Professor Emeritus of English (1956). B.A., University of Colorado, 1949; M.A., 1950; Ph.D., University of Texas at Austin, 1956.
- EIDELMAN, DAWN**, Assistant Professor of English (1994). A.B., University de Haute Bretagne, 1983; M.A., Emory University, 1985; Ph.D., 1990.
- EISENFELD, JEROME**, Professor of Mathematics (1972). B.S., City College of New York, 1960; M.S., University of Chicago, 1964; Ph.D., 1966.
- ELLIOTT, AUDLEY RAY**, Assistant Professor of Foreign Languages (1992). B.A., Heidelberg College, 1984; M.A., Purdue University, 1987; Ph.D., Indiana University, 1992.
- ELLIOTT, DOREEN**, Professor of Social Work (1988). B.A., University of London, 1963; Ph.D., University of Wales, 1986.
- ELLIOTT, SANDRA**, Lecturer in Accounting (1984). B.B.A., University of Texas at Arlington, 1978; M.P.A., 1979. CPA.
- ELLWOOD, BROOKS B.**, Professor of Geology (1983). B.S., Florida State University, 1970; M.S., University of Rhode Island, 1974; Ph.D., 1976.
- ELMASRI, RAMEZ A.**, Professor in Computer Science and Engineering (1990). B.S., Alexandria University, 1972; M.S., Stanford University, 1980; Ph.D., 1980.
- ELSENBAUMER, RONALD L.**, Professor and Chair of the Department of Chemistry and Biochemistry and Director of the Materials Science and Engineering Program (1991). B.S., Purdue University, 1973; Ph.D., Stanford University, 1978.
- ERICKSON, JAMES R.**, Professor of Psychology (1975). B.A., University of Minnesota, 1958; Ph.D., 1963.
- ESTEP, SONJA**, Adjunct Clinical Instructor in Nursing (1995). B.S., Texas Woman's University, 1974; M.S., 1988. Registered Nurse, Pediatric Nurse Practitioner.
- ESTES, EMORY D.**, Professor of English (1956). B.A., East Texas Baptist College, 1949; M.A., University of North Texas, 1956; Ph.D., Texas Christian University, 1970.
- EVANS, MICHAEL**, Adjunct Clinical Instructor in Nursing (1996). B.A., Texas Tech University, 1971; B.S.N., West Texas State University, 1974; M.S.N., University of Texas Health Center, 1978; Ph.D., University of Texas at Austin, 1992.
- EVANS, SALLY**, Adjunct Clinical Instructor in Nursing (1996). B.S., State University of New York at Plattsburgh, 1996; M.S.N., University of Texas at Arlington, 1985. Registered Nurse.
- EVE, RAYMOND A.**, Professor of Sociology (1976). B.A., University of North Carolina at Chapel Hill, 1969; Ph.D., 1975.
- EVERARD, NOEL J.**, Professor Emeritus of Civil Engineering (1960). B.S., Louisiana State University, 1948; M.S., 1957; Ph.D., Texas A&M University, 1962. Professional Engineer. FASCE, FACI.
- FABRE, TRINA**, Adjunct Clinical Instructor in Nursing (1996). B.S., Xavier University, 1989; D.Ph., University of Texas at Austin, 1992.
- FAIRBANKS, ROBERT B.**, Associate Professor of History (1981). B.A., Greenville College, 1972; M.A., Indiana State University, 1974; Ph.D., University of Cincinnati, 1981.
- FAIRCHILD, JACK E.**, Professor Emeritus of Aerospace Engineering (1964). B.S., University of Texas at Austin, 1953; M.S., University of Southern California, 1959; Ph.D., University of Oklahoma, 1964. Professional Engineer.
- FARIS, WENDY B.**, Professor of English (1985). B.A., Stanford University, 1967; M.A., Harvard University, 1970; Ph.D., 1975.
- FARNSWORTH, S. REGENA**, Assistant Professor of Management (1993). B.B.A., Chapman College, 1980; M.B.A., University of Texas at Arlington, 1989; Ph.D., Texas A&M University, 1993.
- FEGARAS, LEONIDAS**, Assistant Professor in Computer Science and Engineering (1996). B.E.E., National Technical University of Athens, 1985; M.S., University of Massachusetts (1987); Ph.D., 1993.
- FEIGENBAUM, IRWIN**, Associate Professor of Linguistics (1979). A.B., Duke University, 1959; M.A., Indiana University, 1961; Ph.D., University of Wisconsin-Milwaukee, 1978.
- FERRIER, RICHARD B.**, Professor of Architecture (1968). B.Arch., Texas Tech University, 1968; M.A., University of Dallas, 1972. Registered Architect.
- FITZER, JACK**, Professor and Chair of the Department of Electrical Engineering (1967). B.S., University of Missouri, 1951; M.S., Washington University, 1960; D.Sc., 1962.
- FIX, GEORGE J.**, Professor of Mathematics (1986). B.S., Texas A&M University, 1963; M.S., Rice University, 1965; Ph.D., Harvard University, 1968.
- FORGEY, FRED A.**, Assistant Professor of Finance and Real Estate (1996). B.B.A., University of Texas at Arlington, 1988; M.B.A., University of North Texas, 1989; Ph.D., Texas Tech University, 1992.

FACULTY

**FORMANOWICZ, DANIEL R., JR.**, Associate Professor of Biology (1985). B.S., State University of New York at Fredonia, 1976; M.S., Adelphi University, 1978; Ph.D., State University of New York at Albany, 1982.

**FOSTER, ELFRIEDE**, Instructor of Interior Design (1985). B.S., University of Texas at Arlington, 1981. Registered Interior Designer.

**FOWLER, RITA**, Adjunct Clinical Instructor in Nursing (1992). B.S.N., University of Nebraska Medical Center, 1982; M.S.N., University of Texas at Arlington, 1991. Registered Nurse.

**FRANCAVIGLIA, RICHARD V.**, Professor of History (1991). B.A., University of California at Riverside, 1967; M.A., University of Oregon, 1970; Ph.D., 1970.

**FRANCIS, ROBERT F.**, Professor of Chemistry (1955). B.S., East Texas State University, 1954; M.S., 1955; Ph.D., Texas Christian University, 1967.

**FRANK, LUANNE T.**, Associate Professor of English (1969). B.A., University of North Carolina, 1955; M.A., Emory University, 1959, 1963; Ph.D., University of Michigan, 1970.

**FRANKLIN, KARL J.**, Adjunct Professor of Linguistics (1977). A.B., King's College, 1950; M.A., Cornell University, 1965; Ph.D., Australian National University, 1969.

**FRIAS, CHRISTINA**, Adjunct Clinical Instructor in Nursing (1980). B.S.N., University of Texas at Austin, 1962; M.S.N., Texas Woman's University, 1973. Registered Nurse.

**FRY, JOHN L.**, Professor of Physics (1971). B.S., Baylor University, 1961; M.S., 1962; Ph.D., University of California at Riverside, 1966.

**FRYE, BERNARD L.**, Associate Professor of Biology (1962). B.S., Baylor University, 1960; M.S., 1961; Ph.D., University of Oklahoma, 1972.

**FUNG, ADRIAN K.**, Jenkins Garrett Professor of Electrical Engineering (1984). B.S., Taiwan Provincial Cheng Kung University, 1958; M.S., Brown University, 1961; Ph.D., University of Kansas, 1965.

**FUNKHOUSER, CHARLES W.**, Professor of Education (1976). B.S., University of Omaha, 1963; M.S., University of Nebraska at Omaha, 1969; Ed.D., University of Nebraska, 1972.

**GAINES, J.H.**, Professor of Aerospace Engineering and Engineering Mechanics (1966). B.S., University of Texas at Austin, 1957; M.S., 1959; Ph.D., 1966. Professional Engineer.

**GALLMAN, ANDREW F., JR.**, Adjunct Assistant Professor of Linguistics (1993). B.A. Millsaps College, 1970; M.A., University of Texas at Arlington, 1974; Ph.D., 1983.

**GATES, ROGER H.**, Professor of Marketing (1970). B.S., University of Florida, 1966; M.B.A., 1967; Ph.D., 1973.

**GAUPP, ANDREW C.**, Associate Professor of Theatre Arts (1991). B.A., Texas Tech University, 1976; M.F.A., Trinity University, 1980.

**GAUPP, PETER G.**, Professor Emeritus of Social Work (1968). A.B., Southwestern University, 1950; M.S.S.W., University of Texas at Austin, 1954; Ph.D., University of Pittsburgh, 1968.

**GAY, BRUCE**, Assistant Professor of Criminology and Criminal Justice (1996). B.A., Tennessee Temple University, 1979; M.A., University of Texas at Dallas, 1987; Ph.D., Sam Houston State University, 1993.

**GEISEL, PAUL N.**, Professor of Urban Affairs (1970). B.A., Willamette University, 1956; M.A., Vanderbilt University, 1958; Ph.D., 1962.

**GELB, JAMES M.**, Assistant Professor of Physics (1996). B.A., University of California at Los Angeles, 1985; Ph.D., Massachusetts Institute of Technology, 1992.

**GELLER, MITCH**, Assistant Professor of Art (1992). B.A., Colgate University, 1986; M.F.A., Syracuse University, 1989.

**GERLOFF, EDWIN A.**, Professor of Management (1970). B.B.A., University of Texas at Arlington, 1964; M.B.A., University of North Texas, 1966; Ph.D., University of Texas at Austin, 1971.

**GIBSON, LAURA**, Assistant Professor of Nursing (1992). B.S.N., Trenton State College, 1978; M.S.N., California State University-Long Beach, 1982; Ph.D., Texas Woman's University, 1992. Registered Nurse.

**GILLESPIE, ARTHUR A.**, Associate Professor of Mathematics (1960). B.A., University of North Texas, 1958; M.A., 1960.

**GILSTRAP, CLAUDE R.**, Professor Emeritus of Exercise, Sport and Health Studies (1953). B.A., University of Texas at Austin, 1938; M.H.P.E. & R., University of North Texas, 1957.

**GINTOLE, GEORGE**, Associate Professor of Architecture (1985). B.Arch., The Cooper Union, 1976; M.Arch., Princeton University, 1978.

**GIRARDOT, PETER R.**, Professor of Chemistry (1966). B.S., University of Detroit, 1944; M.S., University of Michigan, 1948; Ph.D., 1952.

**GMYTRASIEWICZ, PIOTR J.**, Assistant Professor in Computer Science and Engineering (1994). S.S.E., Technology University of Warsaw, 1983; M.S.E., University of Michigan, 1987; Ph.D., 1992.

**GOLDBERG, JOYCE S.**, Associate Professor of History (1982). B.A., Indiana University, 1972; M.A., 1974; Ph.D., 1981.

**GOLDSTEEN, JOEL B.**, Professor of City and Regional Planning (1976). B.Arch., University of Pennsylvania, 1963; M.Arch. and Urban Design, Washington University, 1969; Ph.D., Michigan State University, 1978. Registered Architect.

**GOLLER, PATRICIA**, Specialist in Nursing (1991). B.S.N., Dallas Baptist University, 1982; M.S.N., University of Texas at Arlington, 1988. Registered Nurse.

**GONZALEZ, DORA E.**, Assistant Professor in Mechanical and Aerospace Engineering Department (1994). B.S., Polytechnic Institute of Mexico, 1978; M.S., University of Tennessee, 1980; Ph.D., University of Alabama in Huntsville, 1994.

**GOOLSBY, ROGER D.**, Professor of Mechanical Engineering and Materials Science and Acting Chair of the Department of Mechanical and Aerospace Engineering (1980). B.S., University of Texas at Arlington, 1967; M.S., 1968; Ph.D., University of California at Berkeley, 1971. Professional Engineer.

- GORDON, EDWIN P.**, Assistant Professor of Urban Affairs (1994). A.B., Baylor University, 1985; M.A., 1989; Ph.D., Cornell University, 1993.
- GORDON, LLOYD B.**, Assistant Professor in Electrical Engineering (1991). B.S., Texas Tech University, 1974; M.S., 1977; Ph.D., 1983.
- GORFEIN, DAVID S.**, Adjunct Professor of Psychology (1996). B.A., City College of New York, 1956; M.A., Columbia University, 1957; Ph.D., Columbia University, 1962.
- GOVIND, SHEKHAR**, Assistant Professor in Civil and Environmental Engineering (1994). B.Tech., Indian Institute of Technology, 1979; M.S., University of Texas at Austin, 1984; Ph.D., 1988.
- GOYNE, ARLIE V., JR.**, Professor Emeritus of English (1957). B.A., University of Texas at Austin, 1942; M.A., 1948; Ph.D., 1954.
- GRAHAM, LISA**, Assistant Professor of Art (1992). B.F.A., University of Northern Iowa, 1989; M.F.A., Iowa State University, 1992.
- GRANVOLD, DONALD K.**, Professor of Social Work (1974). B.A., Graceland College, 1965; M.S.W., University of Iowa, 1970; Ph.D., 1975.
- GRAY, DAVID A.**, Associate Professor of Management (1973). B.B.A., University of Iowa, 1967; M.A., 1969; Ph.D., University of Massachusetts, 1974.
- GRAY, JENNIFER**, Specialist in Nursing (1989). B.S.N., Central State University, 1977; M.S.N., University of Texas at Arlington, 1989. Registered Nurse.
- GREEN, GEORGE N.**, Professor of History (1966). B.A., University of Texas at Austin, 1961; M.A., Florida State University, 1962; Ph.D., 1966.
- GREENSPAN, DONALD**, Professor of Mathematics (1978). B.S., New York University, 1948; M.S., University of Wisconsin, 1949; Ph.D., University of Maryland, 1956.
- GREGERSON, KENNETH J.**, Adjunct Professor of Linguistics (1977). B.A., Seattle Pacific College, 1961; M.A., University of Washington, 1963; Ph.D., 1971.
- GROSS, RUTH V.**, Professor and Chair of the Department of Foreign Languages (1991). B.A., Northwestern University, 1967; M.Phil., Yale University, 1970; Ph.D., 1975.
- GROVE, SUSAN**, Professor and Assistant Dean of the School of Nursing (1978). B.S.N., University of Iowa, 1972; M.S., University of Oklahoma, 1975; Ph.D., Texas Woman's University, 1981. Registered Nurse.
- GROVER, JAMES P.**, Assistant Professor of Biology (1993). B.A., State University of New York, 1982; Ph.D., University of Minnesota, 1988.
- GRUBB, GROVER C.**, Professor Emeritus of Design Graphics (1954). B.S., East Texas State University, 1950; M.S., 1950.
- GURICA, DONNA**, Specialist in Nursing (1994). B.S., Texas Woman's University, 1975; M.S., 1989. Registered Nurse.
- GUTIERREZ, JOSE A.**, Associate Professor of Political Science (1993). B.A., Texas A&I University, 1966; M.A., St. Mary's University, 1968; Ph.D., University of Texas at Austin, 1976; J.D., University of Houston, 1988.
- GUY, R. JOSEPH**, Associate Professor of Architecture (1979). B.F.A., Texas Christian University, 1977; M.F.A., 1979.
- GUYNES, JAN L.**, Associate Professor of Information Systems and Management Sciences (1985). B.S., University of Texas Southwestern Medical Center at Dallas, 1979; M.B.A., University of North Texas, 1981; Ph.D., 1985.
- GUZZETTA, CATHIE**, Adjunct Associate Professor of Nursing (1994). B.S.N., Marquette University, 1970; M.S., 1972; Ph.D., Texas Woman's University, 1977. Registered Nurse.
- HADAWAY, NANCY L.**, Associate Professor of Education (1989). B.A., Texas A&M University, 1972; M.S., American Technological University, 1982; Ph.D., Texas A&M University, 1987.
- HAGARD, LUTHER G., JR.**, Professor of Political Science (1960). B.A., Southern Methodist University, 1943; M.A., 1947; Ph.D., University of Minnesota, 1957.
- HAGERTY, ANGELA**, Adjunct Clinical Instructor in Nursing (1996). B.S.N., University of Texas at Arlington. Registered Nurse.
- HAJI-SHEIKH, A.**, Professor of Mechanical Engineering (1966). B.S., University of Tehran, Iran, 1956; M.S., University of Michigan, 1959; M.A., 1961; Ph.D., University of Minnesota, 1965. Professional Engineer.
- HALE-BROWN, VICKIE**, Specialist in Nursing (1993). B.S.N., University of Texas at Arlington, 1987; M.S., Texas Woman's University, 1992. Registered Nurse.
- HALL, BETHANE PIERCE**, Associate Professor of Accounting (1985). B.B.A., Texas A&M University, 1975; M.P.A., University of Texas at Arlington, 1978; Ph.D., University of North Texas, 1996. CPA.
- HALL, GEORGANNA**, Lecturer in Marketing (1987). B.B.A., University of Texas at Austin, 1976; M.B.A., North Texas State University, 1981.
- HALL, THOMAS W.**, Public Accounting Professor of Accounting (1981). B.B.A., University of Texas at Arlington, 1974; M.P.A., 1975; Ph.D., Oklahoma State University, 1981. CPA.
- HALVERSON, COLLEEN C.**, Adjunct Clinical Instructor in Nursing (1983). B.S., State University of New York at Buffalo, 1970; M.S., Texas Woman's University, 1973. Registered Nurse.
- HAMILTON, R. TODD**, Associate Professor of Architecture (1973). B.Arch., Carnegie-Mellon University, 1969; M.Arch., Massachusetts Institute of Technology, 1972. Registered Architect.
- HAMLETT, SAMUEL B.**, Professor Emeritus of Political Science (1956). B.A., University of Texas at Austin, 1947; M.A., 1949; Ph.D., 1966.
- HAMRIC, ROY D.**, Associate Professor of Communication (1972). B.A., University of North Texas, 1969; M.A., 1973.
- HAN, CHIEN-PAI**, Professor of Mathematics (1982). B.A., National Taiwan University, 1958; M.A., University of Minnesota, 1962; Ph.D., Harvard University, 1967.

FACULTY

**HANDY, NANCY**, Assistant Professor of Nursing (1992). B.S.N., Baylor University, 1967; M.S., Texas Woman's University, 1976; Ph.D., 1992. Registered Nurse.

**HANKS, HARRY S.**, Associate Professor of English (1960). B.A., University of North Texas, 1958; M.A., 1961.

**HANSON, JEFFREY R.**, Associate Professor of Anthropology (1986). B.S., University of Wisconsin, Stevens Point, 1972; M.A., Northern Illinois University, 1977; Ph.D., University of Missouri, Columbia, 1983.

**HARBISON, KARAN**, Associate Professor in Computer Science and Engineering (1987). B.S., University of Texas at Austin, 1972; M.A., 1976; M.S., University of Texas at Arlington, 1984; Ph.D., 1986.

**HARMON-JONES, EDDIE**, Assistant Professor of Psychology (1997). B.S., University of Alabama-Birmingham, 1990; M.A., University of Kansas, 1992; Ph.D., University of Arizona, 1995.

**HARPER, KEVIN M.**, Specialist in Exercise, Sport and Health Studies (1995). B.S., University of Colorado, 1991; M.A., University of Texas at Austin, 1994.

**HARRINGTON, LINDA**, Adjunct Assistant Professor of Nursing (1991). B.S.N., University of Texas Health Science Center at San Antonio, 1981; M.S.N., University of Texas at Arlington, 1984; Ph.D., Texas Woman's University, 1987. Registered Nurse.

**HARRIS, CECIL P.**, Instructor in Design Graphics (1983). B.S., Texas A&M University, 1961; M.Ed., 1968.

**HARRIS, KENDALL T.**, Assistant Professor in Mechanical Engineering (1996). B.S., University of Kansas, 1990; B.G.S., 1990; M.S., University of Mississippi, 1993; Ph.D., 1994.

**HARRISON, DAVID A.**, Associate Professor of Management (1989). B.S., Bowling Green State University, 1983; M.S., 1985; M.A., 1987; Ph.D., University of Illinois at Urbana-Champaign, 1988.

**HARROLD, FRANCIS B.**, Professor of Anthropology and Chair of the Department of Sociology and Anthropology (1980). B.A., Loyola University of Chicago, 1970; M.A., University of Chicago, 1974; Ph.D., 1978.

**HART, MARY**, Assistant Professor of Art (1993). B.A., University of Washington at Seattle, 1978; M.A., 1983; Ph.D., University of California at Los Angeles, 1992.

**HARVEY, JAMES R.**, Associate Professor of Mathematics (1964). B.S., B.A., University of Texas at Austin, 1953; M.S., Texas Christian University, 1959; Ph.D., 1969.

**HARWOOD, JOHN R.**, Assistant Professor of Landscape Architecture (1989). B.L.A., University of Guelph, 1987; M.L.A., University of Massachusetts, 1989.

**HASKEW, MARY JANE**, Specialist in Nursing (1995). B.S.N., San Diego State University, 1987; M.S.N., University of Texas at Arlington, 1991. Registered Nurse, Family Nurse Practitioner.

**HAWKINS, DOYLE L., JR.**, Associate Professor of Mathematics (1983). B.S., Lamar University, 1976; M.S., Texas A&M University, 1977; Ph.D., University of North Carolina, Chapel Hill, 1983.

**HAWLEY, LINDA**, Specialist in Nursing (1978). B.S.N., Baylor University, 1973; M.S., Texas Woman's University, 1978. Registered Nurse.

**HAYASHI, PAUL M.**, Professor of Economics (1965). B.A., Meiji Gakuin University, 1955; B.D., Western Theological Seminary, 1959; M.S., University of Wisconsin, 1962; M.A., Southern Methodist University, 1965; Ph.D., 1969.

**HAYNES, SAM W.**, Associate Professor of History (1993). B.A., Columbia University, 1978; M.A., University of Houston, 1984; Ph.D., 1988.

**HEADLAND, PAUL**, Adjunct Assistant Professor of Linguistics (1992). B.S., Whitworth College, 1960; M.A., Dallas Baptist College, 1992.

**HEADLAND, THOMAS N.**, Adjunct Professor of Linguistics (1986). B.A., Bethel College, 1960; M.A., University of Hawaii, 1981; Ph.D., 1986.

**HEARD, CHINITA A.**, Assistant Professor of Criminology and Criminal Justice (1993). B.S., Alabama State University, 1983; M.S., Florida State University, 1985; Ph.D., 1988.

**HEATH, LARRY F.**, Associate Professor of Mathematics (1965). B.S., Washburn University of Topeka, 1960; M.A., University of Kansas, 1962; Ph.D., 1965.

**HEGAR, REBECCA L.**, Associate Professor of Social Work (1997). B.A., University of Texas at Austin, 1972; M.S.S.W., 1975; D.S.W., Tulane University, 1986.

**HEGSTAD, JO LORRAINE**, Associate Professor in Nursing (1981). B.S.N., University of Texas Medical Branch at Galveston, 1969; M.S., University of Colorado, 1972; Ph.D., Arizona State University, 1981. Registered Nurse.

**HEKMAN, SUSAN J.**, Professor of Political Science and Associate Dean of the College of Liberal Arts (1977). B.A., Carleton College, 1971; M.A., University of Washington, 1973; Ph.D., 1976.

**HELLIER, THOMAS R., JR.**, Professor of Biology (1960). B.A., University of Florida, 1955; M.S., 1957; Ph.D., University of Texas at Austin, 1961.

**HENDERSON, JIM M.**, Associate Professor of Art (1970). B.S., Texas Tech University, 1966; M.Ed., 1969; Ed.D., University of Kansas, 1971.

**HENNES, JANELLE**, Specialist in Nursing (1996). B.S.N., Wichita State University, 1983; M.S.N., 1990. Registered Nurse.

**HENRY, JAY C.**, Professor of Architecture (1972). B.Arch., Catholic University of America, 1962; M.Arch., University of Washington, 1969; Ph.D., University of California at Berkeley, 1974.

**HENSEL, MARK**, Lecturer in Information Systems and Management Sciences (1990). B.A., University of Iowa, 1962; M.B.A., University of Georgia, 1971; Ph.D., University of Texas at Arlington, 1989.

**HENSLEY, DOUGLAS A.**, Assistant Professor of Finance and Real Estate (1991). B.S.E., Princeton University, 1969; M.B.A., University of Portland, 1981; Ph.D., University of Washington, 1989.

**HERRING, SUSAN C.**, Associate Professor of Linguistics (1992). B.A., State University College of New York, 1976; M.A., University of California at Berkeley, 1982; Ph.D., 1991.

- HEUSINKVELD, KAREN**, Associate Professor of Nursing (1983). B.S.N., South Dakota State University, 1967; M.S.N., University of Iowa, 1969; Dr.P.H., University of Texas School of Public Health, 1978. Registered Nurse.
- HICKEY, CARROLL E.**, Assistant Professor of Communication (1971). B.A., University of Texas at El Paso, 1957; M.A., West Texas State University, 1960; Ph.D., Louisiana State University, 1977.
- HIGH, ELIZABETH**, Specialist in Nursing (1995). B.S.N., Texas Christian University, 1973; M.S.N., University of Southern Mississippi, 1978. Registered Nurse.
- HILL, DEBRA**, Professor of Accounting (1987). B.F.A., Ohio University, 1971; M.B.A., 1974; Ph.D., Oklahoma State University, 1980.
- HIMARIOS, DANIEL D.**, Professor and Chair of the Department of Economics (1983). B.A., National and Kapodistrian University of Athens, Greece, 1978; M.A., Virginia Polytechnic Institute and State University, 1980; Ph.D., 1984.
- HIMARIOS, JANE S.**, Senior Lecturer in Economics (1986). B.A., Winthrop College, 1979; M.A., Virginia Polytechnic Institute and State University, 1982; Ph.D., 1988.
- HISSONG, RODNEY V.**, Associate Professor of Urban Affairs (1988). B.S., Iowa State University, 1974; M.S., 1978.
- HO, LI CHIN JENNIFER**, Associate Professor of Accounting (1990). B.B.A., National Taiwan University, 1981; M.P.A., University of Texas at Austin, 1984; Ph.D., 1990.
- HODGE, MARY LEE**, Lecturer in Accounting and Assistant Dean of the College of Business Administration. (1987). B.B.A., University of Texas at Arlington, 1983; M.S.T., 1986. CPA, CGFM.
- HOEFER, RICHARD A.**, Associate Professor of Social Work (1992). B.S.W., University of Kansas, 1979; M.S.W., 1981; M.A., University of Michigan, 1984; Ph.D., 1989.
- HOFFMANS, MARY ANN**, Specialist in Nursing (1996). B.S.N., University of Iowa, 1976; M.S.N., University of California at Los Angeles, 1979. Registered Nurse.
- HOLDER, DOLORES**, Associate Professor of Foreign Languages (1965). B.A., Houghton College, 1961; M.A., University of Michigan, 1964; Ph.D., Rice University, 1973.
- HOLDER, LAWRENCE B.**, Assistant Professor in Computer Science and Engineering Department (1991). B.S., University of Illinois at Urbana-Champaign, 1986; M.S., 1988; Ph.D., 1991.
- HOLTBERG, JAN**, Specialist in Nursing (1994). B.S.N., University of Connecticut, 1970; M.S.N., University of Louisville, 1991. Registered Nurse.
- HOPSON, BARBARA**, Adjunct Clinical Instructor in Nursing (1989). B.A., Columbus College, 1972; B.S.N., University of Arkansas, 1984. Registered Nurse.
- HORSTMANN, KATHERINE M.**, Senior Lecturer in Accounting (1970). B.B.A., University of Texas at Arlington, 1968; M.P.A., 1970. CPA.
- HOUSEHOLDER, JOHN S.**, Lieutenant Colonel, U.S. Air Force, Professor of Aerospace Studies (1994). B.S., U.S. Air Force Academy, 1974; M.A., Central Michigan University, 1982.
- HOWARD, IRIS A.**, Associate Professor of Physics (1990). S.B., Massachusetts Institute of Technology, 1975; Ph.D., 1981.
- HOWARD, JO ELLEN**, Specialist in Nursing (1994). B.S.N., Baylor University, 1976; M.S.N., Catholic University of America, 1980. Registered Nurse.
- HSIA, PEI**, Professor in Computer Science and Engineering (1982). B.S., National Taiwan University, 1966; M.S., Pennsylvania State University, 1972; Ph.D., University of Texas at Austin.
- HU, YI**, Assistant Professor of Mathematics (1996). B.S., 1982; M.S., 1985; Ph.D., Massachusetts Institute of Technology, 1991.
- HUANG, TSENG**, Professor of Civil and Environmental Engineering and Engineering Mechanics (1961). B.S., National Chiao Tung University, 1947; M.C.E., University of Oklahoma, 1955; Ph.D., University of Illinois, 1960. Professional Engineer.
- HUFF, BRIAN L.**, Assistant Professor in Industrial Engineering Department (1994). B.S., West Virginia University, 1985; M.S., University of Texas at Arlington, 1990; Ph.D., 1993.
- HULLENDER, DAVID A.**, Professor of Mechanical Engineering (1970). B.S., Oklahoma State University, 1966; M.S., 1967; Ph.D., Massachusetts Institute of Technology, 1969. Professional Engineer.
- HUNTER, MARY**, Professor of Social Work (1971). B.A., University of North Texas, 1958; M.S., 1960; M.S.W., San Diego State College, 1968; Ph.D., Ohio State University, 1972.
- HUQ, FAIZUL**, Associate Professor of Information Systems and Management Sciences (1987). B.A., Franklin College of Indiana, 1980; M.A., Indiana University, 1982; D.B.A., University of Kentucky, 1989.
- HUTTAR, GEORGE LEE**, Adjunct Professor of Linguistics (1973). B.A., Wheaton College, 1962; M.A., University of Michigan, 1964; Ph.D., 1967.
- HUTTAR, MARY L.**, Adjunct Assistant Professor of Linguistics (1985). B.S., Wheaton College, 1962; M.A., University of Texas at Arlington, 1983.
- HWANG, SHINJA**, Adjunct Assistant Professor of Linguistics (1984). B.A., Ewha Women's University (Seoul, Korea), 1965; M.L.S., University of Oklahoma, 1968; M.A., University of Texas at Arlington, 1974; Ph.D., 1981.
- ICKES, WILLIAM**, Professor of Psychology (1982). B.S., Brigham Young University, 1969; Ph.D., University of Texas at Austin, 1973.
- IGNAGNI, JOSEPH A.**, Associate Professor of Political Science (1989). B.S., Michigan State University, 1981; M.S., Purdue University, 1984; M.A., Michigan State University, 1986; Ph.D., 1989.
- IMRHAN, SHEIK N.**, Associate Professor of Industrial Engineering (1986). B.S., University of Guyana, 1973; M.S., University of Alabama, 1981; Ph.D., Texas Tech University, 1983. Professional Engineer.

- INGRAM, TOM L.**, Associate Professor of Communication (1982). B.B.A., University of Texas at Austin, 1975; M.B.A., West Texas State University, 1976; Ph.D., University of North Texas, 1982.
- ISRAEL-PELLETIER, AIMÉE**, Associate Professor of Foreign Languages (1993). B.A., Montclair College, 1970; M.A., Rutgers University, 1972; Ph.D., 1981.
- IYER, RAJA K.**, Associate Professor of Information Systems and Management Sciences (1984). B.S., R.E. College, Durgapur, India; M.S., University of Minnesota, 1972; M.B.A., 1975; Ph.D., 1984.
- JACKSON, CAROL D.**, Assistant Professor of Education (1995). B.A., Mount Holyoke College, 1978; M.Ed., University of Texas at Austin, 1979; Ph.D., Texas Woman's University, 1986.
- JACKSON, RAYMOND L.**, Associate Professor of Psychology (1979). A.B., Dartmouth College, 1972; M.A., University of Illinois, 1976; Ph.D., University of Colorado, 1979.
- JACOBSON, JOHN E.**, Associate Professor of Education (1990). B.S., Brigham Young University, 1975; M.Ed., 1978; Ed.S., 1983; Ed.D., 1990.
- JALLOH, ALUSINE**, Assistant Professor of History (1993). B.A., Fourah Bay College, University of Sierra Leone, 1986; M.A., Howard University, 1989; Ph.D., 1993.
- JAMES, G. TRUETT**, Senior Lecturer of Architecture (1982). B.S., University of Texas at Arlington, 1978; M.Arch., 1982.
- JARBOE, GLEN R.**, Associate Professor of Marketing (1982). B.B.A., University of Texas at Arlington, 1972; M.B.A., 1977; Ph.D., Purdue University, 1981.
- JASKA, PATRICK**, Lecturer in Information Systems and Management Sciences (1992). B.A., Baylor University, 1971; M.A., 1973; Ph.D., University of Texas at Arlington, 1991.
- JAY, HAZEL**, Professor Emeritus of Nursing (1983). B.S., Texas Wesleyan College, 1958; M.Ed., Texas Christian University, 1964; M.S., Texas Woman's University, 1969. Registered Nurse.
- JEAN, ROBERT F.**, Captain, U.S. Army, Assistant Professor of Military Science (1996). B.A., San Diego State University, 1988.
- JENKINS, NADINE F.**, Associate Professor of Education and Vice Provost for Administration (1993). B.S., Lamar University, 1967; M.Ed., 1970; Ed.D., University of North Texas, 1976.
- JERNIGAN, JOE (GERALD)**, Assistant Professor of Education (1996). B.S., Auburn University, 1977; M.Ed., 1979; Ed.D., Memphis State University, 1989.
- JESSUP, CAROL A.**, Associate Professor of Music (1978). B.M., Texas Tech University, 1969; B.A., University of Texas of the Permian Basin, 1977; M.M., Michigan State University, 1971; D.M.A., University of Michigan, 1987.
- JOHNSON, BARBARA**, Assistant Professor of Nursing (1990). B.S.N., Texas Woman's University, 1975; M.S., 1976; M.S., University of Texas at Dallas, 1983; Ph.D., Texas Woman's University, 1988. Registered Nurse.
- JOHNSON, ELIZABETH**, Adjunct Clinical Instructor in Nursing (1991). B.S.N., University of Texas at Arlington, 1978; M.S.N., 1989. Registered Nurse.
- JOHNSON, ERNEST**, Assistant Professor of Education (1995). B.A., Texas A&M University, 1971; M.Ed., University of Texas at Austin, 1978; Ed.D., Texas A&M University, 1992.
- JOHNSON, NORMAN A.**, Assistant Professor of Biology (1996). B.A., College of William and Mary, 1987; M.S., University of Rochester, 1989; Ph.D., 1992.
- JOHNSON, ROBERT M.**, Professor of Mechanical Engineering and Materials Science (1967). B.S., University of Oklahoma, 1962; M.S., 1965; Ph.D., 1967. Professional Engineer.
- JONES, ROBERTA**, Assistant Professor of Accounting (1997). B.B.A., Pacific Lutheran University, 1982; M.B.A., University of Houston, 1992; Ph.D., University of Illinois, 1996. CPA.
- JOHNNY, ANNE**, Adjunct Clinical Instructor in Nursing (1989). B.A., Columbus College, 1972; B.S.N., University of Minnesota, 1980. Registered Nurse.
- JONES, MARY ELAINE**, Professor of Nursing (1982). B.S.N., Incarnate Word College, 1963; M.A.N., New York University, 1965; M.A., Southern Methodist University, 1979; Ph.D., 1981. Registered Nurse.
- JONES, TERRY**, Adjunct Clinical Instructor in Nursing (1992). B.S.N., Marycrest College, 1985; M.S., Texas Woman's University, 1990. Registered Nurse.
- JORDAN, CATHELEEN**, Professor of Social Work (1985). B.A., University of Houston, 1973; M.S.S.W., University of Texas at Arlington, 1979; Ph.D., University of California at Berkeley, 1986.
- JOSHI, SHIV P.**, Professor in Aerospace Engineering (1988). B.S., Indian Institute of Technology, 1979; M.S., 1981; Ph.D., Purdue University, 1985.
- JUDKINS, SHARON**, Specialist in Nursing (1988). B.S.N., University of Oklahoma, 1973; M.S., 1977. Registered Nurse.
- KAMANGAR, FARHAD A.**, Associate Professor in Computer Science and Engineering (1983). B.S., University of Tehran, 1975; M.S., University of Texas at Arlington, 1977; Ph.D., 1980.
- KANNAN, R.**, Professor and Chair of the Department of Mathematics (1977). B.S., St. Xavier's College, Calcutta, 1963; M.S., Calcutta University, 1965; Ph.D., Purdue University, 1972.
- KARDONG-EDGREN, SUZAN**, Specialist in Nursing (1993). B.S.N., University of Nevada at Reno, 1976; M.S., Texas Woman's University, 1993. Registered Nurse.
- KAVI, KRISHNA M.**, Professor in Computer Science and Engineering (1982). B.E., Indian Institute of Science, 1975; M.S., Southern Methodist University, 1977; Ph.D., 1980.
- KEENS, DAVID W.**, Associate Professor of Art (1974). B.A., California State University at Long Beach, 1972; M.F.A., University of Washington, 1974.

- KEILSTRUP, DUANE V.**, Associate Professor of Foreign Languages (1960). B.A., University of Nebraska, 1957; M.A., 1959; Ph.D., 1973.
- KEIM, S.T., JR.**, Professor Emeritus of Economics (1960). B.A., Texas A&M University, 1938; M.S., 1940; I.A., Harvard University Graduate School of Business, 1943; Ph.D., University of California at Berkeley, 1954.
- KELLNER, HANS DODDS**, Professor of English (1991). A.B., Harvard College, 1966; Ph.D., University of Rochester, 1972.
- KELLY, KATHY A.**, Lecturer in Economics (1996). B.A., Texas A&M University, 1973; M.A., Southern Methodist University, 1989.
- KERR, HOMER L.**, Professor Emeritus of History (1957). B.A., East Texas State University, 1948; M.A., 1949; Ph.D., University of Texas at Austin, 1953.
- KEYSER, PATSY**, Adjunct Clinical Assistant Professor of Nursing (1985). B.S., Emory University, 1955; M.S., Texas Woman's University, 1973; Ph.D., University of Texas at Dallas, 1989. Registered Nurse.
- KIM, CHOONG-UN**, Assistant Professor in Materials Science and Engineering (1996). B.S., Seoul National University, 1985; M.S., 1987; Ph.D., University of California, Berkeley, 1993.
- KIM, SHANG HOON**, Adjunct Professor of Physics (1990). B.S., Seoul National University, 1964; M.S., 1966; Ph.D., Colorado State University, 1972.
- KINSEL, GARY R.**, Assistant Professor of Chemistry (1994). B.S., Western Illinois University, 1983; Ph.D., University of Colorado, 1989.
- KITCHEN, LOUANN**, Adjunct Clinical Instructor in Nursing (1991). B.S.N., University of Oklahoma, 1978; M.S., 1984. Registered Nurse.
- KLEISER, SUSAN B.**, Assistant Professor of Marketing (1996). B.B.A., University of Notre Dame, 1989; Ph.D., University of Cincinnati, 1996.
- KLEMER, DAVID P.**, Associate Professor in Electrical Engineering (1988). B.S., University of Michigan, 1977; M.S., 1978; Ph.D., 1982.
- KNERR, CHARLES R.**, Associate Professor of Political Science (1976). B.S., University of Maryland, 1972; M.P.A., Syracuse University, 1973; Ph.D., 1977.
- KOLKO, BETH E.**, Assistant Professor of English (1996). B.A., Oberlin College, 1989; M.A., University of Texas at Austin, 1991; Ph.D., 1994.
- KONDRASKE, GEORGE V.**, Professor in Electrical Engineering (1982). B.S., University of Rochester, 1978; M.S., University of Texas at Arlington and University of Texas Southwestern Medical Center at Dallas; Ph.D., 1982.
- KONGEVICK, JOSEPH T.**, Associate Professor and Acting Director of the Theatre Arts Program (1979). B.F.A., University of Wisconsin at Superior, 1974; M.F.A., Texas Christian University, 1976.
- KOPP, JAMES**, Associate Professor of Psychology (1970). B.A., Miami University, 1960; Ph.D., University of Michigan, 1967.
- KORZENIOWSKI, ANDRZEJ**, Associate Professor of Mathematics (1983). M.S., Wroclaw University, 1974; Ph.D., 1978.
- KOYMEN, ALI R.**, Associate Professor of Physics (1990). B.S., University of Hacettepe, Turkey, 1977; M.S., University of Michigan, 1980; Ph.D., 1984.
- KRENTZ, SHERRY**, Adjunct Clinical Instructor in Nursing (1994). B.S.N., University of Arizona, 1966; M.S., Texas Woman's University, 1993. Registered Nurse.
- KRUZIC, ANDREW P.**, Associate Professor of Civil and Environmental Engineering (1988). B.S., Loyola University of Los Angeles, 1975; M.S., University of California at Berkeley, 1976; Ph.D., University of California at Davis, 1984. Professional Engineer.
- KUENY, ANDREW**, Adjunct Professor of Physics (1996). B.S., University of North Carolina, 1978; M.S., Northwestern University, 1980; Ph.D., 1984.
- KUHNER, CRAIG**, Associate Professor of Architecture (1978). B.A., University of Pennsylvania, 1964; M.Arch., 1970. Registered Architect.
- KUNG, DAVID C.**, Professor in Computer Science and Engineering (1991). B.S., Peking University, 1977; M.S., Norwegian Institute of Technology; Ph.D., 1984.
- KYBA, FERNE**, Assistant Professor of Nursing (1990). B.S.N., Saskatchewan University, 1961; M.S.N., University of Texas at Austin, 1976; Ph.D., Texas A&M University, 1990. Registered Nurse.
- KYLE, DONALD G.**, Associate Professor of History (1984). B.A., York University, 1973; B.Ed., University of Toronto, 1977; M.A., McMaster University, 1974; Ph.D., 1981.
- LACKNER, BEDE KARL**, Professor of History (1969). B.Th., San Anselmo, Rome, 1958; M.A., Marquette University, 1959; Ph.D., Fordham University, 1968.
- LACY, DALLAS L.**, Associate Professor of English (1965). B.A., Hardin-Simmons University, 1957; M.A., University of North Texas, 1961; Ph.D., Louisiana State University, 1968.
- LADDE, GANGARAM S.**, Professor of Mathematics (1980). B.S., People's College, Nanded, India, 1963; M.S., Marathwada University, Aurangabad, India, 1965; Ph.D., University of Rhode Island, 1972.
- LANE, LYNDA**, Adjunct Clinical Instructor in Nursing (1989). B.S., Texas Woman's University, 1978; M.S., 1987. Registered Nurse.
- LANZ, CHRISTOPHER C.**, Assistant Professor of Music (1994). B.A., Stanford University, 1976; M.M., Cincinnati College, 1980; D.M.A., Stanford University, 1988.
- LARSON, MILDRED L.**, Adjunct Assistant Professor of Linguistics (1980). B.A., Wheaton College, 1947; M.A., University of Michigan, 1958; Ph.D., University of Texas at Austin, 1978.
- LAWLEY, TOMMY J.**, Professor of Mechanical Engineering (1971). B.A., Rice University, 1960; B.S., 1961; M.S., Southern Methodist University, 1966; Ph.D., 1970. Professional Engineer.

- LAWRENCE, KENT L.**, Professor of Mechanical Engineering and Engineering Mechanics (1961). B.S., Texas Tech University, 1959; M.S., 1960; Ph.D., Arizona State University, 1965. Professional Engineer.
- LAWSON, STEPHEN E.**, Senior Lecturer in Architecture (1983). A.B., Harvard University, 1975; M.Arch., Ohio State University, 1981.
- LEADERS, MARLIN**, Adjunct Assistant Professor of Linguistics (1991). B.A., Westmar College, 1973; M.A., University of Texas at Arlington, 1983.
- LEE, WEI-JEN**, Associate Professor in Electrical Engineering Department (1986). B.S., National Taiwan University, 1978; M.S., 1980; Ph.D., University of Texas at Arlington, 1985.
- LEEPER, BARBARA**, Adjunct Clinical Instructor in Nursing (1993). B.S.N., Avila College, 1982; M.N., University of Kansas, 1988. Registered Nurse.
- LEFFINGWELL, R. JON**, Associate Professor of Education (1971). B.S., University of North Texas, 1963; M.Ed., 1966; Ph.D., 1971.
- LEHMANN, PETER J.**, Assistant Professor of Social Work (1995). B.S.W., University of Windsor, 1979; M.S.W., Wilfrid Laurier University, 1982; D.S.W., 1995.
- LEIPHEIMER, SANDRA**, Specialist in Nursing (1992). B.S.N., Indiana University of Pennsylvania, 1982; M.S.N., University of Texas at Arlington, 1986. Registered Nurse.
- LEVINE, DANIEL S.**, Associate Professor of Psychology (1983). B.A., Harvard University, 1967; M.S., University of Chicago, 1968; Ph.D., Massachusetts Institute of Technology, 1975.
- LEWIS, FRANK L.**, Professor in Electrical Engineering and Moncrief-O'Donnell Chair for Automation and Robotics (1990). B.S., Rice University, 1971; M.S., University of West Florida, 1977; Ph.D., Georgia Institute of Technology, 1981.
- LIAO, GUOJUN**, Associate Professor of Mathematics (1989). M.A., University of California at Berkeley, 1981; Ph.D., 1985.
- LICHTENWALTER, RAY C.**, Professor of Music and Director of Bands (1967). B.S., Lebanon Valley College, 1962; M.M., University of Michigan, 1963.
- LIGGETT, RONALD W.**, Lecturer in Economics (1989). B.B.A., Lamar University, 1981; M.B.A., University of Texas at Arlington, 1989.
- LILES, DONALD H.**, Professor of Industrial Engineering (1979). B.S., University of Texas at Arlington, 1970; M.S., 1974; Ph.D., 1978. Professional Engineer.
- LINDSAY, CHRISTINE**, Adjunct Clinical Assistant Professor of Nursing (1996). B.S., University of British Columbia, 1987; D.Ph., State University of New York at Buffalo, 1990.
- LITTLE, THOMAS D.**, Assistant Professor of Mathematics (1996). B.S., University of Texas at Austin, 1986; M.S., Texas A&M University, 1988; Ph.D., University of Texas at Austin, 1993.
- LITTLE, THOMAS H.**, Assistant Professor of Political Science (1992). B.A., University of North Carolina at Greensboro, 1986; M.A., Ohio State University, 1989; Ph.D., 1991.
- LIU, HANLI**, Assistant Professor in Biomedical Engineering Program (1996). B.S., Beijing Normal University, 1983; M.S., Wake Forest University, 1990; Ph.D., 1992.
- LOFTIS, PAULA**, Adjunct Clinical Instructor in Nursing (1989). B.S., Baylor University, 1973; M.S., Texas Woman's University, 1982. Registered Nurse.
- LONGACRE, ROBERT E.**, Professor Emeritus of Linguistics (1972). B.A., Houghton College, 1943; M.A., University of Pennsylvania, 1953; Ph.D., 1955.
- LORD, JACQUELINE**, Adjunct Clinical Instructor in Nursing (1980). B.S.N., Texas Christian University, 1956. Registered Nurse.
- LOVELY, CARL J.**, Assistant Professor of Chemistry (1996). B.S., University of Birmingham, 1987; Ph.D., 1990.
- LOWY, MENAHEM**, Associate Professor in Electrical Engineering Department (1992). B.S., Israel Institute of Technology, 1964; M.S., 1975; Ph.D., University of California at Berkeley, 1983.
- LU, FRANK K.**, Associate Professor of Aerospace Engineering (1987). B.A., Cambridge University, 1976; M.A., 1980; M.S., Princeton University, 1983; Ph.D., Pennsylvania State University, 1988. Professional Engineer.
- LUO, TIE**, Associate Professor of Mathematics (1990). B.A., China University of Science and Technology, 1982; M.A., Institute of System Sciences (China), 1984; Ph.D., Brandeis University, 1987.
- LYNCH, DINAH**, Assistant Professor of Theatre Arts (1993). B.F.A., Wayne State University, 1985; M.F.A., 1988.
- MacDONNELL, FREDERICK M.**, Assistant Professor of Chemistry (1994). B.S., University of Vermont, 1986; Ph.D., Northwestern University, 1993.
- MacKENNA, DAVID W.**, Adjunct Associate Professor of Criminology and Criminal Justice (1972). B.A., University of North Texas, 1960; M.A., 1967; Ph.D., 1972.
- MAGNUSSON, ROBERT**, Professor of Electrical Engineering (1984). B.S., University of Central Florida, 1971; M.S., Georgia Institute of Technology, 1973; Ph.D., 1976. Professional Engineer.
- MAHER, DENNIS M.**, Associate Professor of Theatre Arts (1982). B.A., St. Louis University, 1972; M.A., Memphis State University, 1974; Ph.D., University of Wisconsin, 1980.
- MAHONEY, TIMOTHY A.**, Assistant Professor of Philosophy (1991). A.B., Dartmouth College, 1975; M.A., Northwestern University, 1979; Ph.D., University of Pennsylvania, 1991.
- MAIZLISH, STEPHEN**, Associate Professor of History (1979). B.A., University of California at Berkeley, 1967; M.A., University of Michigan, 1968; Ph.D., University of California at Berkeley, 1978.
- MALDONADO, THERESA A.**, Associate Professor in Electrical Engineering Department (1990). B.S., Georgia Institute of Technology, 1981; M.S., 1982; Ph.D., 1990.
- MANCHAPORA, GOUTHAM**, Assistant Professor of Social Work (1996). B.A., University of Madras, Loyola College, 1985; M.A., University of Madras, 1988.



- MANCINI, MARY E.**, Adjunct Clinical Instructor in Nursing (1987). B.S.N., Rhode Island College, 1976; M.S.N., University of Rhode Island, 1982. Registered Nurse.
- MANN, MARTHA A.**, Associate Professor of Psychology (1983). B.A., Anna Maria College, 1975; M.A., 1977; Ph.D., State University of New York at Albany, 1983.
- MANRY, MICHAEL T.**, Professor in Electrical Engineering (1982). B.S., University of Texas at Austin, 1971; M.S., 1973; Ph.D., 1976.
- MARCONTEL, MARILYN**, Adjunct Clinical Instructor in Nursing (1996). B.S.N., Baylor University, 1956; M.H., Texas Woman's University, 1975. Registered Nurse.
- MARK, RICHARD S.**, Associate Professor of Accounting (1985). B.S., University of Colorado, 1971; J.D., 1994; L.L.M., University of Denver, 1977.
- MARKAUSKAS, IRENA**, Adjunct Clinical Instructor in Nursing (1995). B.S.N., McGill University, 1977; M.S., Texas Woman's University, 1993. Registered Nurse.
- MARKHAM SHAW, CHARLA**, Assistant Professor of Communication (1993). B.A., Angelo State University, 1986; M.A., Baylor University, 1987; Ph.D., Louisiana State University, 1993.
- MARKS, LINDA**, Associate Professor of Nursing (1976). B.S.N., Texas Christian University, 1961; M.S., Texas Woman's University, 1969; Ed.D., Nova University, 1979. Registered Nurse.
- MARONEY, DALTON**, Associate Professor of Art (1979). B.S., East Texas State University, 1969; M.F.A., University of Oklahoma, 1972.
- MARSHALL, CAROL SUE**, Assistant Professor of Education (1995). B.A., University of North Texas, 1966; MS.Ed., University of Kansas, 1967; Ph.D., Texas Woman's University, 1992.
- MARSHALL, THOMAS R.**, Professor of Political Science (1976). B.A., Miami University, 1971; Ph.D., University of Minnesota, 1976.
- MARTIN, DONALD R.**, Professor Emeritus of Chemistry (1969). A.B., Otterbein College, 1937; M.S., Case Western Reserve University, 1940; Ph.D., 1941.
- MARTIN, JAMES I.**, Assistant Professor of Social Work (1992). B.A., University of Michigan, 1973; M.S.W., 1979; Ph.D., University of Illinois at Chicago, 1991.
- MARTIN, MARGARET**, Adjunct Clinical Instructor in Nursing (1997). B.S.N., Texas Christian University, 1969; M.S.N., University of Texas at Arlington, 1979. Registered Nurse.
- MARTIN, MARK D.**, Major, U.S. Army, Professor of Military Science (1997). B.S., University of Texas at Austin, 1981; M.A., Texas Christian University, 1993.
- MARTIN DE SANTANA, MARY**, Adjunct Clinical Instructor in Nursing (1990). B.S.N., University of Florida, 1988; M.N., 1993.
- MARUSZCZAK, JOHN P.**, Associate Professor of Architecture (1982). B.Arch., The Cooper Union, 1975; M.Arch., Princeton University, 1980.
- MARYNICK, DENNIS S.**, Jenkins Garrett Professor of Chemistry (1978). B.S., California State University at Los Angeles, 1969; M.A., Harvard University, 1971; Ph.D., 1973.
- MARYOL, GLADYS**, Adjunct Clinical Instructor in Nursing (1978). B.S.N., Texas Christian University, 1966; M.S., Trinity University, 1988. Registered Nurse.
- MASHBURN, MINDY**, Adjunct Clinical Instructor in Nursing (1995). B.S.N., Texas Woman's University, 1981; M.S.N., University of Texas at Arlington, 1989. Registered Nurse, Family Nurse Practitioner.
- MATTHYS, JOHN H.**, Professor of Civil and Environmental Engineering (1974). B.S., University of Texas at Austin, 1964; M.S., 1967; Ph.D., 1972. Professional Engineer.
- MAXWELL, PAULINE T.**, Assistant Professor of Exercise, Sport and Health Studies (1970). B.S., University of Texas at Austin, 1961; M.Ed., 1970.
- MAYADAS, NAZNEEN S.**, Professor of Social Work (1972). B.A., Isabella Thoburn College, 1954; M.A., Allahabad University, 1956; M.S.S.A., Case Western Reserve University, 1961; D.S.W., Washington University, 1970.
- McBRIDE, RICHARD D.**, Associate Professor of Architecture (1973). B.Arch., University of Oregon, 1962; M.Arch., Cornell University, 1965. Registered Architect.
- McCAIN, GARVIN M.**, Professor Emeritus of Psychology (1960). B.A., Washburn University of Topeka, 1958; Ph.D., University of Texas at Austin, 1960.
- McCALL, JOHN B.**, Associate Professor of Economics (1964). B.S., Texas Tech University, 1960; M.B.A., 1961; Ph.D., Oklahoma State University, 1968.
- McCALLUM, KARIN**, Professor and Chair of the Department of Communication (1973). B.S., Sam Houston State University, 1957; M.A.T., Texas Christian University, 1972; Ph.D., University of North Texas, 1980.
- McCONNELL, DONALD K., JR.**, Associate Professor of Accounting (1978). B.S., Oklahoma State University, 1970; M.S., 1971; Ph.D., University of North Texas, 1981. CPA.
- McCRADY, WILLIAM B.**, Professor of Biology (1962). B.S., East Texas State University, 1954; M.S., 1958; Ph.D., University of Nebraska, 1961.
- McCRAW, JESSICA J.**, Lecturer in Economics (1990). B.A., University of Illinois, 1971; M.A., DePaul University, 1978.
- McCULLAR-SAMPSON, NANCY**, Adjunct Clinical Instructor in Nursing (1993). B.S., Texas Woman's University, 1973; M.S., 1984. Registered Nurse.
- McDANIEL, CARL D., JR.**, Professor and Chair of the Department of Marketing (1970). B.S., Little Rock University, 1963; M.S., Arizona State University, 1964; Ph.D., 1970.
- McDERMOTT, JOHN**, Professor of Architecture (1982). B.Arch., University of Notre Dame, 1966; M.Art, 1976. Registered Architect.
- McDONALD, LINDA**, Lecturer in Mathematics (1988). B.S., Texas Christian University, 1964; M.A., University of Texas at Arlington, 1988.

## FACULTY

- McDOWELL, CHARLES T.**, Professor of Foreign Languages (1966). B.S., Texas A&M University, 1943; M.A., Columbia University, 1953; Ph.B., 1955.
- McDOWELL, H. KEITH**, Professor of Chemistry (1991). B.S., Wake Forest University, 1966; Ph.D., Harvard University, 1972.
- McDOWELL, JUDITH**, Professor Emeritus of English (1978). B.A., University of Oregon, 1953; M.A., University of Minnesota, 1957; Ph.D., University of Denver, 1961.
- McDOWELL, ROBERT E.**, Professor Emeritus of English (1966). B.S., Drake University, 1952; M.A., University of Minnesota, 1956; Ph.D., University of Denver, 1966.
- McELHANON, KENNETH A.**, Adjunct Assistant Professor of Linguistics (1977). B.A., Wheaton College, 1961; Ph.D., Australian National University, 1970.
- McELROY, JOHN H.**, Professor of Electrical Engineering and Vice Provost for Research and Dean of Graduate Studies (1987). B.S., University of Texas at Austin, 1966; M.S., Catholic University of America, 1973; Ph.D., 1978.
- JEFFREY, McGEE**, Assistant Professor of Management (1995). B.B.A., Southwestern College, 1985; M.B.A., Emporia State University, 1986; Ph.D., University of Georgia, 1992.
- McGEHEE, FRANK**, Adjunct Clinical Instructor in Nursing (1991). B.A., University of Arkansas, 1975; M.D., Emory University School of Medicine, 1977.
- McHANEY, JOE P.**, Senior Lecturer in Finance and Real Estate (1987). B.S., Hardin-Simmons University, 1955; M.Ed., University of North Texas, 1966.
- McHUGH-BURTON, KATHLEEN**, Adjunct Clinical Instructor in Nursing (1994). B.S.N., Creighton University, 1978; M.S., Texas Woman's University, 1984. Registered Nurse, Pediatric Nurse Practitioner.
- McKEOWN, BARRY**, Professor and Chair of the Department of Exercise, Sport and Health Studies (1983). B.S., South Dakota State University, 1966; M.S., 1967; Ph.D., University of Illinois at Urbana-Champaign, 1979.
- McKINNEY, CAROL V.**, Adjunct Assistant Professor of Linguistics (1986). B.A., University of California at Los Angeles, 1968; M.A., University of Michigan, 1961; M.A., Southern Methodist University, 1985; Ph.D., 1985.
- McKINNEY, NORRIS P.**, Adjunct Assistant Professor of Linguistics (1977). B.S., Purdue University, 1953; M.S., 1956; M.S., University of Michigan, 1962; Ph.D., 1965.
- McKINNEY, TIMOTHY R.**, Associate Professor of Music (1989). B.S., William Jewell College, 1978; M.M., Southwestern Baptist Theological Seminary, 1981; Ph.D., University of North Texas, 1989.
- McLAUGHLIN, MARY E.**, Senior Lecturer in Management (1990). B.A., University of Arizona, 1983; M.A., 1986; Ph.D., University of Illinois at Urbana-Champaign, 1988.
- McMAHAN, GARY**, Assistant Professor of Management (1996). B.S., Oakland University, 1981; M.B.A., George Washington University, 1983; Ph.D., Texas A&M University, 1993.
- McMAHON, ROBERT F.**, Professor of Biology (1972). B.A., Cornell University, 1966; Ph.D., Syracuse University, 1972.
- McNULTY, CHARLES L., JR.**, Professor Emeritus of Geology (1946). B.S., Southern Methodist University, 1940; M.S., Syracuse University, 1948; Ph.D., University of Oklahoma, 1955.
- MEACHAM, WILLIAM R.**, Professor Emeritus of Biology (1950). B.S., Texas A&M University, 1948; M.S., University of North Texas, 1950; Ph.D., University of Texas at Austin, 1958.
- MEHTA, MADAN**, Professor of Architecture (1985). B.Arch., University of Roorkee, India, 1961; M.Bldg.S., University of Sydney, 1967; Ph.D., University of Liverpool, 1974. Registered Architect.
- MEIER, FRANCE A.**, Professor in Industrial Engineering (1965). B.S., Texas Tech University, 1951; M.S., University of Houston, 1959; D.Sc., Washington University, 1966.
- MEINERS, ROGER E.**, Professor of Economics (1993). B.A., Washington State University, 1970; M.A., University of Arizona, 1972; Ph.D., Virginia Polytechnic Institute and State University, 1976; J.D., University of Miami, 1978.
- MELDE, SHARI B.**, Assistant Professor of Theatre Arts (1991). B.A., University of Texas at Dallas, 1982; M.F.A., Southern Methodist University, 1987.
- MELLGREN, ROGER**, Professor and Chair of the Department of Psychology (1988). B.A., University of Kansas, 1966; Ph.D., Indiana University, 1970.
- MERRIFIELD, WILLIAM R.**, Adjunct Professor of Linguistics (1974). B.A., Wheaton College, 1954; M.A., Cornell University, 1963; Ph.D., 1965.
- MILES, SUZANNE**, Specialist in Nursing (1991). B.S.N., University of Texas at Arlington, 1977; M.S.N., 1979. Registered Nurse.
- MILLER, PEGGY**, Adjunct Clinical Instructor in Nursing (1983). B.A., University of Texas at Austin, 1969; B.S.N., 1976; M.S.N., 1980. Registered Nurse.
- MILLICAN, MARIAN**, Adjunct Associate Professor and Acting Director of the Interior Design Program (1996). B.S., Pennsylvania State, 1971; M.A., Michigan State, 1974. Registered Interior Designer.
- MILLIKEN, STUART RANKIN**, Adjunct Associate Professor of Linguistics (1996). B.A., Nyack College, 1980; M.A., Cornell University, 1984; Ph.D., 1988.
- MILLS, JOHN J.**, Professor in Mechanical Engineering and Director of the Automation and Robotics Research Institute (1990). B.S., Glasgow University, Scotland, 1961; Ph.D., University of Durham, England, 1965.
- MIMS, BARBARA CLARK**, Adjunct Clinical Instructor in Nursing (1987). B.S.N., Texas Woman's University, 1973; M.S.N., University of Texas at Arlington, 1982. Registered Nurse.
- MINDEL, CHARLES H.**, Professor of Social Work (1976). A.B., State University of New York at Stony Brook, 1964; A.M., University of Illinois, 1967; Ph.D., 1971.

- MIZE, CAROLYN**, Adjunct Clinical Instructor in Nursing (1996). B.S., Texas Woman's University, 1960; M.S., 1974. Registered Nurse.
- MOFFETT, JAMES M.**, Associate Professor of English (1965). B.S., Appalachian State University, 1954; M.A., University of Arkansas, 1956; Ph.D., 1968.
- MOLIDOR, CHRISTIAN E.**, Assistant Professor of Social Work (1993). B.A., University of Dallas, 1982; M.S.W., Loyola University of Chicago, 1988; Ph.D., University of Illinois, 1993.
- MOLL, JANET**, Adjunct Clinical Assistant Professor of Nursing (1987). B.S.N., University of Missouri, 1972; M.S., Texas Woman's University, 1979. Registered Nurse.
- MONOSTORY, DENES**, Professor Emeritus of Foreign Languages (1958). B.A., St. Olaf College, 1951; M.A., University of Texas at Austin, 1953; Ph.D., 1963.
- MOODY, SARAH**, Adjunct Clinical Instructor in Nursing (1990). B.S., University of North Texas, 1971; B.S., Texas Woman's University, 1975; M.S., 1988. Registered Nurse.
- MOON, JHANG S.**, Associate Professor of Political Science (1968). B.A., Southern Methodist University, 1959; M.A., Tulane University, 1961; Ph.D., 1963.
- MOORE, HAROLD E.**, Senior Lecturer in Management (1989). L.L.B., J.D., University of Texas at Austin, 1957.
- MOORE, MARION E.**, Associate Professor of Mathematics (1966). B.S., West Texas State University, 1957; M.S., Texas Tech University, 1960; Ph.D., University of New Mexico, 1968.
- MOORE, MICHAEL K.**, Assistant Professor of Political Science (1992). B.A., Washburn University at Topeka, 1987; M.A., University of Nebraska, 1989; Ph.D., 1993.
- MOORE, WAYNE E.**, Adjunct Professor of Geology (1997). B.S., University of Illinois, 1946; M.S., Cornell University, 1948; Ph.D., 1950.
- MOORER, ZOE W.**, Associate Professor of Music and Vice Provost for Research and Planning (1966). B.M., Louisiana State University, 1964; M.M., University of Texas at Austin, 1966.
- MORGAN, BOBBETTE M.**, Assistant Professor of Education (1995). B.S., Ferris State University, 1972; M.A., Central Michigan University, 1981; Ed.D., University of Southern California, 1987.
- MORGAN, MARY M.**, Adjunct Assistant Professor of Linguistics (1985). B.A., University of North Carolina, 1959; M.S., Georgetown University, 1977; Ph.D., 1980.
- MORREN, RONALD C.**, Adjunct Assistant Professor of Linguistics (1985). B.S., Bryan College, 1964; M.A., Michigan State University, 1967; M.A.T., New Mexico State University, 1969; Ed.D., 1977.
- MORRIS, CHRISTOPHER**, Associate Professor of History (1992). B.A., University of Western Ontario, 1981; M.A., 1985; Ph.D., University of Florida, 1991.
- MORRIS, TIMOTHY**, Associate Professor of English (1990). B.A., Michigan State University, 1979; Ph.D., Princeton University, 1983.
- MORRISON, VIRGINIA**, Adjunct Clinical Instructor in Nursing (1988). B.S.N., Texas Woman's University, 1970; M.S., 1975. Registered Nurse.
- MORROW, ELIZABETH N.**, Associate Professor of Music (1991). Diploma, Conservatory of Music, Freiburg, Germany, 1980; M.F.A., California State University at Fresno, 1988; D.M.A., University of Southern California, 1993.
- MOSLEY-MATCHETT, J.D.**, Assistant Professor of Marketing (1997). B.S., Old Dominion University, 1980; J.D., Southern Methodist University, 1984; M.B.A., University of Texas at Arlington, 1986.
- MOUNTAIN, KAREN**, Adjunct Clinical Instructor in Nursing (1989). B.S., University of Texas at Austin, 1977; M.S., 1980. Registered Nurse.
- MULLENDORE, WALTER E.**, Professor of Economics (1968). B.S., Oklahoma State University, 1961; M.S., 1963; Ph.D., Iowa State University, 1968.
- MUNCH, JAMES M.**, Associate Professor of Marketing (1993). B.S., St. Bonaventure University, 1973; M.B.A., Syracuse University, 1975; Ph.D., Pennsylvania State University, 1983.
- MUNN, YVONNE**, Adjunct Assistant Professor of Nursing (1996). B.S.N., University of Alberta, 1951; M.S.N., University of California, 1969. Registered Nurse.
- MURPHY, ELLEN M.**, Specialist in Social Work (1996). B.S.W., University of Texas at Arlington, 1988; M.S.S.W., 1989.
- MWAKIKOTI, ALEX**, Assistant Professor of Communication (1997). B.A., Columbia Union College, 1981; M.A., Andrews University, 1983; M.A., Michigan State University, 1986; Ph.D., 1992.
- MYERS, BEATRICE J.**, Adjunct Assistant Professor of Linguistics (1972). B.A., McMaster University, 1959; M.A., University of North Dakota, 1970.
- MYKYTYN, PETER P., JR.**, Professor of Information Systems and Management Sciences (1985). B.S., John Carroll University, 1963; M.B.A., Arizona State University, 1981; Ph.D., 1985.
- NACE, DIONA**, Instructor in Communication (1994). B.S., Kansas State University, 1985; M.S., 1988.
- NARRETT, DAVID E.**, Associate Professor of History (1984). B.A., Columbia University, 1973; M.A., Cornell University, 1976; Ph.D., 1981.
- NEDDERMAN, WENDELL H.**, Professor of Civil and Environmental Engineering and President Emeritus of the University (1959). B.S., Iowa State University, 1943; M.E., Texas A&M University, 1949; Ph.D., Iowa State University, 1951. Professional Engineer. FASCE.
- NEHMAN, GERALD I.**, Associate Professor of Economics (1992). B.S., Rutgers University, 1964; M.S., University of Rhode Island, 1966; Ph.D., Ohio State University, 1973.
- NEILL, ROBERT L.**, Associate Professor of Biology (1970). B.S., Kansas State Teachers College, 1963; M.S., 1968; Ph.D., University of Oklahoma, 1970.

FACULTY

**NELSON, KEVIN D.**, Assistant Professor in Biomedical Engineering Program (1996). B.S., Brigham Young University, 1985; M.S., 1986; Ph.D., University of Texas Southwestern Medical Center at Dallas, 1995.

**NELSON, WALLACE B.**, Professor Emeritus of Economics (1961). B.S., Southern Illinois University, 1947; M.A., Iowa State University, 1948; Ph.D., 1950.

**NESTELL, MERLYND K.**, Professor of Mathematics and Geology (1969). B.A., Andrews University, 1957; M.A., University of Wisconsin, 1959; Ph.D., Oregon State University, 1966.

**NEWCOMB, PATRICIA**, Adjunct Clinical Instructor in Nursing (1995). B.A., University of Dallas, 1977; B.S.N., Texas Christian University, 1983; M.S.N., University of Texas at Arlington, 1989. Registered Nurse, Pediatric Nurse Practitioner.

**NEWELL, THOMAS D.**, Adjunct Clinical Instructor in Nursing (1995). B.S.N., University of Texas at Galveston, 1982; M.S.N., University of Texas at Arlington, 1983; N.D., Rush University, 1992. Registered Nurse, Family Nurse Practitioner.

**NICKELL, BRANT D.**, Adjunct Assistant Professor in Aerospace Studies (1996). B.S., University of the State of New York, 1991; M.A.S., University of Montana, 1995.

**NIELSEN, RICHARD D.**, Adjunct Clinical Assistant Professor of Nursing (1983). B.S., Bethany Nazarene College, 1970; M.S., Washington University, 1972.

**NOMURA, SEIICHI**, Professor in Mechanical Engineering (1982). B.S., University of Tokyo, 1974; M.S., 1977; Ph.D., University of Delaware, 1980; D. Eng., University of Tokyo, 1982.

**NORTH, KENDA**, Associate Professor and Chair of the Department of Art and Art History (1989). B.A., Colorado College, 1972; M.F.A., State University of New York at Buffalo, 1976.

**NUSSBAUM, CHARLES**, Associate Professor of Philosophy (1991). B.S., Julliard School of Music, 1969; M.S., 1970; M.A., New York University, 1980; Ph.D., Emory University, 1988.

**O'NEAL, COTHURN M.**, Professor Emeritus of English (1938). B.A., Trinity University, 1927; M.A., University of Texas at Austin, 1934; Ph.D., 1940.

**O'QUINN, JOSIE LU**, Associate Professor of Nursing (1988). B.S.N., Texas Christian University, 1960; M.S.N., University of Texas at Austin, 1976; Ph.D., 1989. Registered Nurse.

**OKELLO, PAUL F.**, Lecturer in Economics (1990). B.B.A. University of Texas at Arlington, 1985; M.A., 1989.

**OKIMI, PATRICIA**, Associate Professor and Acting Assistant Dean of the School of Nursing (1980). B.S.N., Walla Walla College, 1957; M.S.N., Loma Linda University, 1961; Ph.D., University of North Texas, 1983. Registered Nurse.

**OLSEN, SUZANNE**, Adjunct Clinical Instructor in Nursing (1993). B.S.N., Duquesne University, 1975; M.S.N., 1981. Registered Nurse.

**ORDÓÑEZ, ELIZABETH**, Professor of Foreign Languages (1979). M.A., University of California at Los Angeles, 1969; Ph.D., University of California at Irvine, 1976.

**PALANGIAN, RIMMA FEDOROVNA**, Assistant Professor of Foreign Languages (1969). Diploma of First State Pedagogical Institute of Foreign Languages of Moscow, 1955.

**PALMER, ELLEN L.**, Assistant Professor of Nursing (1990). B.S.N., University of Texas at Arlington, 1978; M.S.N., 1981; Ph.D., Walden University, 1990. Registered Nurse.

**PALMER, STANLEY H.**, Professor of History (1973). A.B., Brown University, 1966; Ph.D., Harvard University, 1973.

**PALMERI, NANCY**, Assistant Professor of Art and Art History (1996). B.F.A., Southern Illinois University, 1989; M.F.A., University of Nebraska, Lincoln, 1993.

**PANTON, DON B.**, Professor of Finance and Real Estate (1989). B.S., Purdue University, 1965; M.S., 1966; Ph.D., University of Arizona, 1972.

**PAOLILLO, JOHN C.**, Assistant Professor of Linguistics (1993). B.A., Cornell University, 1986; Ph.D., Stanford University, 1992.

**PAPE, ELINOR S.**, Professor of Industrial Engineering (1972). B.S., Southern Methodist University, 1960; M.S., 1969; Ph.D., 1971. Professional Engineer.

**PARKER, ALISON M.**, Assistant Professor of History (1996). B.A., University of California at Berkeley, 1988; M.A., Johns Hopkins University, 1990; Ph.D., 1993.

**PARKER, CLINTON E.**, Professor and Chair of the Department of Civil and Environmental Engineering (1982). B.S., Virginia Military Institute, 1957; M.S., University of Arizona, 1964; Ph.D., 1966. Professional Engineer. FASCE.

**PARKER, PATTI**, Specialist in Nursing (1995). B.S.N., Baylor University, 1989; M.S.N., University of Texas at Arlington, 1991. Registered Nurse.

**PARPIA, IJAZ H.**, Associate Professor in Aerospace Engineering Department (1987). B.S., Indian Institute of Technology, 1980; M.S., Purdue University, 1982; Ph.D., 1986.

**PATRICK, NORMAN**, Specialist in Nursing (1981). B.S.N., Texas Christian University, 1972; M.S., Texas Woman's University, 1979. Registered Nurse.

**PATRICK, VICKI C.**, Specialist in Nursing (1981). B.S.N., Texas Christian University, 1972; M.S., University of Colorado, 1976. Registered Nurse.

**PAULUS, PAUL**, Professor of Psychology (1970). B.A., Otterbein College, 1966; M.A., University of Iowa, 1970; Ph.D., 1971.

**PAYNE, FRED R.**, Professor of Aerospace and Mechanical Engineering (1969). B.S., University of Kentucky, 1952; M.S., Pennsylvania State University, 1964; Ph.D., 1966. Professional Engineer.

**PAYNE, SUSAN L.**, Assistant Professor of Biology (1996). B.S., Southeastern Massachusetts University, 1978; Ph.D., Louisiana State University, 1983.

**PENNINGTON, ROBERT**, Assistant Professor of Communication (1992). B.A., University of Wisconsin-Whitewater, 1981; M.S., 1984; Ph.D., University of Wisconsin-Madison, 1991.

- PERLEY, MARY JO**, Adjunct Assistant Professor of Nursing (1994). B.S.N., Texas Christian University, 1972; M.S.N., Ohio State University, 1981; Ph.D., 1986. Registered Nurse.
- PESCHEL, MARGIE B.**, Adjunct Clinical Associate Professor of Nursing (1976). B.S., Southwestern University, 1952; M.D., University of Texas Southwestern Medical Center at Dallas, 1959.
- PETERSEN, RUSSELL J.**, Professor of Accounting (1994). B.S., Oregon State University, 1963; M.S., University of Oregon, 1964; Ph.D., University of Washington, 1971.
- PETERSON, LYNN L.**, Professor in Computer Science and Engineering Department and Associate Dean of the College of Engineering (1982). B.A., Wittenberg University, 1962; M.A., Duke University, 1963; M.S., University of Michigan, 1966; Ph.D., University of Texas Southwestern Medical Center at Dallas, 1978.
- PETERSON, MARK**, Assistant Professor of Marketing (1996). B.A., University of Virginia, 1989; M.S., Georgia Institute of Technology, 1989; Ph.D., 1994.
- PETRUSO, KARL M.**, Associate Professor of Anthropology and Associate Vice Provost for Research and Graduate Studies (1990). A.B., Villanova University, 1971; M.A., Indiana University, 1975; Ph.D., 1978.
- PEYTON, DEAN**, Adjunct Assistant Professor of Nursing (1994). B.S.Pharm., University of New Mexico, 1968; D.O., Michigan State University College of Osteopathic Medicine, 1975.
- PHILLIPS, PATRICK C.**, Assistant Professor of Biology (1991). B.A., Reed College, 1986; M.S., University of Chicago, 1988; Ph.D., 1991.
- PHILLIPS, BURR C.**, Assistant Professor of Music (1995). B.M., University of North Texas, 1982; M.M., Texas Christian University, 1994.
- PHILP, KENNETH R.**, Professor and Chair of the Department of History (1968). B.A., Michigan State University, 1963; M.A., University of Michigan, 1964; Ph.D., Michigan State University, 1968.
- PICKARD, MYRNA R.**, Hazel M. Jay Professor of Nursing (1976). B.S., Texas Wesleyan College, 1957; M.Ed., 1964; M.S., Texas Woman's University, 1974; Ed.D., Nova University, 1976. Registered Nurse.
- PIKE, KENNETH**, Adjunct Professor of Linguistics (1979). Th.B., Gordon College, 1933; Ph.D., University of Michigan, 1942.
- PINKERTON, JO-ALYN**, Specialist in Nursing (1982). B.S.N., University of Texas at Arlington, 1978; M.S.N., 1981. Registered Nurse.
- PINNEY, WILLIAM E.**, Associate Professor of Information Systems and Management Sciences (1969). B.S., University of Florida, 1964; M.B.A., 1965; Ph.D., 1967.
- PINNO, ANDRZEJ**, Associate Professor of Architecture (1977). M.Arch., Warsaw Polytechnic Institute, 1952; B.A., Warsaw Academy of Fine Arts, 1963; M.Arch., Harvard University, 1966. Registered Architect.
- PLONIEN, CINDY**, Adjunct Clinical Instructor in Nursing (1996). B.S.N., University of Arlington, 1978; M.S.N., 1984. Registered Nurse.
- PLUMMER, JACK W.**, Associate Professor of Art (1970). B.F.A., Texas Christian University, 1965; M.F.A., 1970.
- POMERANTZ, MARTIN**, Professor of Chemistry (1976). B.S., City College of New York, 1959; M.S., Yale University, 1961; Ph.D., 1964.
- PORTER, LAURIN ROLAND**, Associate Professor of English (1990). B.A., University of Missouri, 1967; M.A.T., Harvard University, 1968; Ph.D., University of Detroit, 1976.
- PORTER, PEGGY**, Adjunct Clinical Instructor in Nursing (1987). B.S.N., Indiana State University, 1975; M.S.N., University of Texas at Arlington, 1983. Registered Nurse.
- PORTER, THOMAS E.**, Professor of English (1978). A.B., Loyola University of Chicago, 1949; Ph.L., West Baden Pontifical Institute, 1952; M.A., Loyola University of Chicago, 1954; Th.L., West Baden Pontifical Institute, 1959; M.A., Catholic University of America, 1960; Ph.D., University of North Carolina, 1965.
- POSTER, ELIZABETH C.**, Professor and Dean of the School of Nursing (1995). B.S., Boston University, 1968; M.S.N., 1970; Ph.D., Boston College, 1981.
- POSTLEWATE, CHARLES W.**, Associate Professor of Music (1978). B.M., Wayne State University, 1969; M.M., 1973.
- POTTS, HOLLIE**, Adjunct Clinical Instructor in Nursing (1995). B.S.N., Belmont University, 1993; M.S.N., Vanderbilt University, 1994. Registered Nurse.
- POWELL, LINTON**, Professor of Music (1976). B.M., Florida State University, 1966; M.F.A., University of Georgia, 1969; Ph.D., University of North Carolina, 1974.
- PRABHU, VASANT K.**, Professor in Electrical Engineering (1991). B.S., Karnatak University, 1958; B.E., Indian Institute of Science, 1962; M.S., Massachusetts Institute of Technology, 1963; D.Sc., 1966.
- PREWITT, AUDRA L.**, Assistant Professor of History (1964). B.A., Lamar University, 1960; M.A., Northwestern University, 1962; Ph.D., 1973.
- PRICE, KENNETH H.**, Associate Professor of Management (1973). B.A., Fairleigh Dickinson University, 1966; M.A., Michigan State University, 1969; Ph.D., 1973.
- PRICE, MARTIN**, Professor of Architecture (1977). B.Arch., University of Pennsylvania, 1955. Registered Architect.
- PRIEM, RICHARD L.**, Associate Professor of Management (1990). B.A., Saint Olaf College, 1971; M.S., University of Arkansas, 1980; Ph.D., University of Texas at Arlington, 1990.
- PRIEST, JOHN W.**, Professor of Industrial Engineering (1982). B.S., General Motors Institute, 1973; M.S., University of Texas at Arlington, 1975; Ph.D., 1980. Professional Engineer.
- PROCK, STEPHANIE**, Adjunct Clinical Instructor in Nursing (1994). B.S.N., University of Oklahoma, 1987; M.S.N., Baylor University, 1993. Registered Nurse.

- PUPPALA, ANAND J.**, Assistant Professor of Civil and Environmental Engineering (1996). B.S., Andhra University, Visakhapatnam, India, 1985; M.S., Indian Institute of Technology, Madras, India, 1987; Ph.D., Louisiana State University, 1993. Professional Engineer.
- PYBURN, WILLIAM F.**, Professor Emeritus of Biology (1956). B.A., University of Texas at Austin, 1951; M.A., 1953; Ph.D., 1956.
- QASIM, SYED, R.**, Professor of Civil and Environmental Engineering (1973). B.S., Muslim University, Aligarh, India, 1957; M.S., 1962; Ph.D., West Virginia University, 1965. Professional Engineer.
- QUDAH, FAIGAH**, Adjunct Assistant Professor of Nursing (1991). B.S.N., St. Luke's College of Nursing, 1973; M.S., Texas Woman's University, 1979; Ph.D., 1987. Registered Nurse.
- QUICK, JAMES C.**, Professor of Management (1977). A.B., Colgate University, 1968; M.B.A., University of Houston, 1975; Ph.D., 1977.
- QUINN, PEGGY**, Associate Professor of Social Work (1990). B.A., University of Texas at Arlington, 1978; M.S.S.W., 1980; Ph.D., Texas Woman's University, 1986.
- RAINES, MARY S.**, Specialist in Nursing (1989). B.S.N., George Mason University, 1981; M.S.N., University of Texas at Arlington, 1986. Registered Nurse.
- RAJA, M.K.**, Professor of Information Systems and Management Sciences (1981). B.E., University of Madras, 1966; M.E., Indian Institute of Technology, 1968; M.S., University of Houston, 1978; Ph.D., Texas Tech University, 1971.
- RAJESHWAR, KRISHNAN**, Professor of Chemistry (1983). B.S., University College, Trivandrum, India, 1969; M.S., Indian Institute of Technology, 1971; Ph.D., Indian Institute of Science, 1974.
- RAMSEY, CHARLES E.**, Professor Emeritus of Sociology (1977). B.S., Indiana State Teachers College, 1947; M.S., University of Wisconsin, 1950; Ph.D., 1952.
- RAO, K. R.**, Professor in Electrical Engineering (1966). B.E., University of Madras, 1952; M.S., University of Florida, 1959; M.S., 1960; Ph.D., University of New Mexico, 1966.
- RASHEED, ABDUL**, Associate Professor and Acting Chair of the Department of Management (1988). B.S., Kerala University, India, 1972; P.G.D.M., Indian Institute of Management, 1981; Ph.D., University of Pittsburgh, 1988.
- RAY, ASOK K.**, Professor of Physics (1984). B.S., Calcutta University, 1967; B.Tech., 1969; M.S., Oklahoma State University, 1973; M.S., Texas Tech University, 1975; Ph.D., 1977.
- REASER, DONALD F.**, Professor of Geology (1961). B.S., Southern Methodist University, 1953; M.S., 1958; Ph.D., University of Texas at Austin, 1974.
- REDDICK, ROBERT J.**, Associate Professor of English (1975). B.S., University of Minnesota, 1966; M.A., 1969; Ph.D., 1975.
- REED, JOHN C.**, Associate Professor in Nursing (1980). B.S., Stephen F. Austin State University, 1966; M.S., East Texas State University, 1967; Ed.D., University of North Texas, 1971.
- REED, ROBERT B.**, Adjunct Associate Professor of Linguistics (1996). B.A., Columbia International University, 1974; M.A., University of Texas at Arlington, 1977; M.S., 1987; Ph.D., 1986.
- REED, SHERMAN**, Senior Lecturer in Electrical Engineering (1989). B.S., University of Oklahoma, 1956; M.S., Newark College of Engineering, 1958.
- REED-DANAHAY, DEBORAH**, Assistant Professor of Anthropology (1994). B.A., University of Delaware, 1976; Ph.D., Brandeis University, 1986.
- REEDER, HARRY P.**, Associate Professor of Philosophy (1982). B.A., University of Illinois, 1968; M.A., University of Waterloo, 1974; Ph.D., 1977.
- REEVES, WILLIAM E.**, Associate Professor of Exercise, Sport and Health Studies (1966). B.A., University of Texas at Arlington, 1962; M.Ed., Southwest Texas State University, 1964; Ph.D., University of North Texas, 1973.
- REIMANN, MICHAEL D.**, Lecturer in Information Systems and Management Sciences (1995). B.S., California Polytechnic State University at San Luis Obispo, 1975; M.S., Southern Methodist University, 1979; M.B.A., University of Dallas, 1981; Ph.D., University of Texas at Arlington, 1995.
- REIMER, CALVIN L.**, Specialist in Exercise, Sport and Health Studies (1974). B.S., Kansas State Teachers College, 1953; M.S., 1957.
- REINHARDT, STEVEN G.**, Associate Professor of History (1987). B.A., Southern Illinois University, 1971; M.A., University of Wisconsin, 1973; Ph.D., Northern Illinois University, 1982.
- REINHARTZ, DENNIS**, Associate Professor of History (1973). A.B., Rutgers University, 1966; A.M., 1967; Ph.D., New York University, 1970.
- REINHARTZ, JUDY**, Professor of Education (1973). A.B., Rutgers University, 1966; M.A., Seton Hall University, 1970; Ph.D., University of New Mexico, 1977.
- RENSCH, CALVIN R.**, Adjunct Professor of Linguistics (1975). B.A., Wheaton College, 1954; M.A., University of Pennsylvania, 1963; Ph.D., 1966.
- RICHMOND, DOUGLAS W.**, Professor of History (1976). B.A., University of Washington, 1968; M.A., 1971; Ph.D., 1976.
- RIDGWAY, MARY E.**, Professor of Exercise, Sport and Health Studies and Vice Provost for Academic Affairs (1976). B.S., University of North Texas, 1966; M.A., Texas Woman's University, 1971; Ph.D., 1974.
- RIGGSBY, LINDA**, Adjunct Clinical Instructor in Nursing (1994). B.A., Ladycliff College, 1970; M.S., East Texas State University, 1991. L.P.C.
- RINGS, LANA**, Associate Professor of Foreign Languages (1985). B.A., Washburn University of Topeka, 1970; M.A., University of Missouri, 1973; Ph.D., University of Southern California, 1985.
- ROBBINS, FRANK E.**, Adjunct Professor of Linguistics (1990). B.A., Houghton College, 1949; M.A., Cornell University, 1960; Ph.D., 1965.

- ROBERSON, ANN RUTH**, Adjunct Clinical Instructor in Nursing (1989). Nursing Diploma, Parkland Memorial School of Nursing, 1986. Registered Nurse.
- ROBERSON, JANICE**, Adjunct Assistant Professor of Nursing (1989). B.S.N., University of Texas at Austin, 1971; M.S.N., Texas Woman's University, 1976. Registered Nurse.
- ROBERTS, MARY K.**, Adjunct Clinical Instructor in Nursing (1991). B.A., Michigan State University, 1975; B.S.N., 1984; M.S.N., University of Texas at Arlington, 1990. Registered Nurse.
- ROBINETTE, GARY O.**, Associate Professor of Landscape Architecture (1988). B.S.L.A., Michigan State University, 1962; M.L.A., 1963. Registered Landscape Architect.
- ROBINSON, JAMES V.**, Professor of Biology (1978). B.S., Polytechnic Institute of Brooklyn, 1967; M.S., 1971; Ph.D., Utah State University, 1978.
- RODNITZKY, JEROME L.**, Professor of History (1966). B.A., University of Chicago, 1959; M.A.T., 1962; Ph.D., University of Illinois, 1967.
- RODRIGUEZ, WYVEDA**, Adjunct Assistant Professor of Nursing (1991). B.S.N., Medical College of Georgia, 1975; M.S.N., 1976. Registered Nurse.
- ROEMER, KENNETH M.**, Professor of English (1971). B.A., Harvard University, 1967; M.A., University of Pennsylvania, 1968; Ph.D., 1971.
- ROGERS, JIMMY R.**, Lecturer in Chemistry (1996). B.S., Oklahoma Christian University, 1979; Ph.D., University of Texas at Arlington, 1992.
- ROGERS, KATHERINE J.**, Assistant Professor of Industrial Engineering (1994). B.S., University of Missouri, 1979; M.S., University of Texas at Arlington, 1982; Ph.D., 1985. Professional Engineer.
- ROME, RICHARD**, Assistant Professor of Landscape Architecture (1989). B.L.A., Louisiana State University, 1968; M.L.A., University of Texas at Arlington, 1989.
- ROOT, ODDETH**, Adjunct Clinical Instructor in Nursing (1995). B.S.N., University of Wisconsin-Eau Claire, 1978; M.S.N., University of Texas at Arlington, 1986. Registered Nurse, Gerontological Nurse Practitioner.
- ROSS, DAVID A.**, Adjunct Associate Professor of Linguistics (1996). B.E., University of Auckland, 1972; M.E., 1974; M.A., University of Texas at Arlington, 1987; Ph.D., Lehigh University, 1978.
- ROUSE, LINDA P.**, Associate Professor of Sociology (1985). B.S., Cornell University, 1968; M.A., Adelphi University, 1972; Ph.D., Florida State University, 1979.
- ROYES, ALEAN**, Adjunct Clinical Instructor in Nursing (1990). B.S.N., University of Texas at Arlington, 1987; M.S.N., 1990. Registered Nurse.
- RUBINS, R.S.**, Professor of Physics (1969). B.A., St. Catherine's College, Oxford University, 1957; Ph.D., 1961.
- RUNZHEIMER, JAN**, Specialist in Nursing (1996). B.S., College of William and Mary, 1973; B.S.N., Medical College of Virginia, 1975; M.S.N., Boston University, 1980. Registered Nurse.
- RUSSELL, ANDREW**, Associate Professor of Music (1979). B.M., University of Houston, 1973; M.M., Indiana University, 1975.
- RYAN, THOMAS A.**, Assistant Professor of English (1970). A.B., University of Notre Dame, 1966; A.M., Brown University, 1968; Ph.D., 1971.
- RYCRAFT, JOAN R.**, Assistant Professor of Social Work (1995). B.A., California State University at Chico, 1968; M.S.W., California State University at Fresno, 1973; Ph.D., University of Denver, 1990.
- SALAZAR, GUISETTE M.**, Assistant Professor of Urban Affairs (1994). B.A., Saint Leo College, 1981; M.S., Florida State University, 1984; M.A., 1987; Ph.D., 1992.
- SAMPSON, NANCY**, Adjunct Clinical Instructor in Nursing (1993). B.S. Texas Woman's University, 1973; M.S., 1984. Registered Nurse.
- SÁNCHEZ, JOSE G.**, Associate Professor of Foreign Languages (1975). B.A., New Mexico Highlands University, 1958; M.A., University of Illinois, 1960; Ph.D., University of Colorado, 1970.
- SAXE, ALLAN A.**, Associate Professor of Political Science (1965). B.A., University of Oklahoma, 1961; M.A., 1963; Ph.D., 1969.
- SAXON, GERALD D.**, Adjunct Associate Professor of History and Assistant Director of Libraries for Special Collections and Library Development (1987). B.A., Lamar University, 1973; M.A., 1975; Ph.D., University of North Texas, 1979.
- SCANNAPIECO, MARIA**, Associate Professor of Social Work (1996). B.S.W., California State University, 1980; M.S.W., Temple University, 1984; Ph.D., University of Minnesota at Minneapolis, 1991.
- SCHACHAR, RONALD A.**, Adjunct Professor of Physics (1979). B.S., City University of New York, 1963; M.D., State University of New York, 1967; Ph.D., University of Chicago, 1975.
- SCHELLY, ZOLTAN A.**, Professor of Chemistry (1977). B.S., Vienna Technical University, 1962; D.Sc., 1967.
- SCHIEBER, JUERGEN**, Associate Professor of Geology (1986). B.S., University of Tuebingen, 1978; Ph.D., University of Oregon, 1985.
- SCHIRA, MARY**, Specialist in Nursing (1992). B.S.N., Ohio State University, 1974; M.S.N., Duke University, 1980. Registered Nurse.
- SCHKADE, LAWRENCE L.**, Jenkins Garrett Professor of Information Systems and Management Sciences (1969). B.B.A., Lamar University, 1956; M.B.A., Louisiana State University, 1957; Ph.D., 1961.
- SCHMELZER, MARILEE**, Adjunct Assistant Professor of Nursing (1988). B.S.N., Northern Michigan University, 1975; M.S.N., University of North Carolina, 1981; Ph.D., Texas Woman's University, 1987. Registered Nurse.
- SCHMIDT, HUNTER JR.**, Assistant Professor of Political Science (1968). B.A., Lamar University, 1958; M.A., Southern Methodist University, 1966.

FACULTY

**SCHOECH, RICHARD J.**, Professor of Social Work (1979). B.A., University of Texas at Austin, 1968; M.S.W., University of Texas at Arlington, 1973; Ph.D., 1978.

**SCHRINER, PEGGIE**, Adjunct Clinical Instructor in Nursing (1993). B.S.N., University of Texas at Tyler, 1984; M.S., Texas Woman's University, 1989. Registered Nurse.

**SCHROEDER, MARY ANN**, Adjunct Associate Professor of Nursing (1992). B.S., Rutgers University, 1972; M.S., University of Colorado, 1973; Ph.D., University of Arizona, 1981. Registered Nurse.

**SCOTSE, CHRISTOPHER R.**, Associate Professor of Geology (1990). B.S., University of Illinois at Chicago, 1976; Ph.D., University of Chicago, 1985.

**SCOTT, HARLEY JUDD**, Associate Professor of Art and Associate Dean of the College of Liberal Arts (1970). B.F.A., University of Kansas, 1966; M.F.A., 1969.

**SCRUGGS, ADDIE ZULEIKA**, Professor Emeritus of Exercise, Sport and Health Studies (1940). B.S., Sam Houston State College, 1926; M.A., Columbia University, 1936.

**SEATH, DONALD D.**, Professor of Aerospace Engineering (1965). B.S., Iowa State University, 1954; M.S., 1959; Ph.D., 1963. Professional Engineer.

**SELF, WILLIAM B.**, Professor Emeritus of Physics (1960). B.S., Baylor University, 1954; M.S., 1955; Ph.D., Texas Christian University, 1968.

**SEMPLE, JOHN**, Assistant Professor of Information Systems and Management Sciences (1992). B.S., McGill University, 1983; M.S., 1985; Ph.D., University of Texas at Austin, 1990.

**SHANNON, MARY COLEEN**, Associate Professor of Social Work (1970). B.A., Texas Christian University, 1962; M.S.W., Tulane University, 1965; Ph.D., Texas Woman's University, 1978.

**SHARMA, SURESH C.**, Professor of Physics (1977). B.S., Agra University, India, 1965; M.S., Meerut University, India, 1967; Ph.D., Brandeis University, 1976.

**SHARP, KEN**, Adjunct Assistant Professor of Nursing (1989). B.S., Texas Tech University, 1978; M.S., Texas Woman's University, 1983.

**SHELTON, BETH ANNE**, Professor of Sociology (1994). B.S., Southern Methodist University, 1977; M.A., University of Texas at Austin, 1980; Ph.D., 1984.

**SHIAKOLAS, PANAYIOTIS**, Assistant Professor in Mechanical Engineering (1996). B.S., University of Texas at Austin, 1986; M.S., 1988; Ph.D., University of Texas at Arlington, 1992.

**SHILLING, LEE G., JR.**, Assistant Professor of Mathematics (1960). B.S., Texas Christian University, 1958; M.A., 1960.

**SHIRAZI, BEHROOZ A.**, Professor in Computer Science and Engineering Department (1990). B.S., Tehran College of Sciences and Business, 1976; M.S., University of Oklahoma, 1980; Ph.D., 1985.

**SHOULTS, RAYMOND R.**, Professor in Electrical Engineering Department (1975). B.S., New Mexico State University, 1963; M.S., 1969; Ph.D., University of Texas at Arlington, 1974.

**SHUFORD, THOMAS E.**, Assistant Professor of Communication (1974). B.A., University of North Texas, 1966; M.A., University of Texas at Austin, 1968; Ph.D., 1979.

**SHUPEE, GEORGE W.**, Professor Emeritus of Architecture (1941). B. Arch., University of Texas at Austin, 1949. Registered Architect. FAIA.

**SILVA, DAVID**, Assistant Professor of Linguistics (1993). B.A., Harvard University, 1986; M.A., Cornell University, 1989; Ph.D., 1992.

**SIMON, CASSANDRA E.**, Assistant Professor of Social Work (1993). B.A., University of New Orleans, 1982; M.S.W., Louisiana State University, 1986; Ph.D., University of Texas at Arlington, 1992.

**SIMONS, GARY F.**, Adjunct Assistant Professor of Linguistics (1985). B.A., Seattle Pacific College, 1974; M.A., Cornell University, 1976; Ph.D., 1979.

**SIMONS, MARY DIANE**, Specialist of Theatre Arts (1995). B.A., Texas Christian University, 1966; M.F.A., 1973.

**SIMOWITZ, ROSLYN**, Associate Professor of Political Science (1986). B.A., Brooklyn College, 1971; M.A., Indiana University, 1973; Ph.D., 1979.

**SINGER, SHANNON**, Specialist in Nursing (1976). B.S.N., St. Louis University, 1962; M.S., Texas Woman's University, 1973; Ph.D., University of North Texas, 1990. Registered Nurse.

**SIRCAR, SUMIT**, Professor of Information Systems and Management Sciences (1980). B.M.E., Jadavpur University, 1967; M.B.A., Kent State University, 1973; D.B.A., Harvard University, 1976.

**SLINKMAN, CRAIG**, Associate Professor of Information Systems and Management Sciences (1979). B.S., Bowling Green University, 1974; M.B.A., 1975; Ph.D., University of Minnesota, 1984.

**SMATRESK, NEAL J.**, Professor and Chair of the Department of Biology (1982). B.A., Gettysburg College, 1973; M.A., State University of New York at Buffalo, 1978; Ph.D., University of Texas at Austin, Port Aransas Marine Laboratory, 1980.

**SMITH, ANDREA BURDGE**, Assistant Professor of Nursing (1985). B.S.N., West Virginia University, 1970; M.S.N., University of Texas at Austin, 1976; Ph.D., Texas Woman's University, 1989. Registered Nurse.

**SMITH, CHARLES I.**, Professor Emeritus of Geology (1977). B.S., Baylor University, 1952; M.S., Louisiana State University, 1955; Ph.D., University of Michigan, 1966.

**SMITH, CHARLES V., JR.**, Professor of Electrical Engineering (1969). B.S., University of Texas at Arlington, 1962; M.S., Oklahoma State University, 1964; Ph.D., Massachusetts Institute of Technology, 1968. Professional Engineer.

**SMITH, JOHANNA M.**, Associate Professor of English (1988). B.A., University of San Francisco, 1969; M.A., Claremont Graduate School, 1971; Ph.D., 1985.

**SMITH, RONALD L.**, Assistant Professor of Biology (1997). B.S., Texas Tech University, 1985; Ph.D., 1991.



- SMITH, SAMUEL P.**, Specialist in Foreign Languages (1992). B.A., Pennsylvania State University, 1983; B.S., 1985; M.A., University of Texas at Austin, 1988; Ph.D., 1992.
- SMITH, SHELLEY L.**, Associate Professor of Anthropology (1991). B.S., B.A., Southern Methodist University, 1984; A.M., University of Michigan, 1985; Ph.D., 1990.
- SMITH, VIRGINIA**, Assistant Professor of Nursing (1991). B.S.N., Armstrong State College, 1976; M.S.N., Medical College of Georgia, 1977; Ph.D., University of North Texas, 1983. Registered Nurse.
- SNODGRASS, BILL**, Associate Professor of Music (1976). B.M.E., Texas Tech University, 1973; M.M.E., 1976.
- SNOW, DIANE**, Specialist in Nursing (1980). B.S.N., Duke University, 1967; M.S.N., University of Texas at Arlington, 1979; Ph.D., Texas Woman's University, 1992. Registered Nurse.
- SOL, ANTOINETTE**, Assistant Professor of Foreign Languages (1995). B.A., Loyola-Marymount University, 1975; M.A., University of California at Los Angeles, 1990; Ph.D., 1994.
- SOLOMON, LANNY M.**, Professor of Accounting (1978). B.S., Miami University, 1968; M.B.A., Case Western Reserve University, 1970; Ph.D., 1973. CMA.
- SOUFLÉE, FEDERICO, JR.**, Associate Professor of Social Work (1980). B.A., University of Texas at El Paso, 1957; M.S.S.W., University of Texas at Austin, 1964; Ph.D., University of Texas at Arlington, 1988.
- SPEARS, J. DANIEL**, Associate Professor of Architecture (1965). B. Arch., University of Texas at Austin, 1960; M.S. Arch., Columbia University, 1963. Registered Architect.
- SPEER, KATHLEEN MORGAN**, Adjunct Assistant Professor of Nursing (1988). B.S.N., Marymount College, 1976; M.S.N., Medical College of Virginia, 1981; Ph.D., Texas Woman's University, 1987. Registered Nurse.
- SPINDLER, MAX**, Associate Professor of Civil and Environmental Engineering (1970). B.S., Cooper Union, 1961; M.S., Northwestern University, 1963; Ph.D., 1968. Professional Engineer.
- SPRADLIN, JOE D.**, Professor Emeritus of Electrical Engineering (1962). B.S., University of Texas at Austin, 1943; M.S., Southern Methodist University, 1960. Professional Engineer.
- SPURLOCK, WILLIAM H.**, Associate Professor of Art (1982). B.A., Trinity University, 1970; M.A., University of New Mexico, 1974; Ph.D., Union Institute for Advanced Studies, 1977.
- ST. CLAIR, CLAIRE**, Associate Professor of Nursing (1979). B.S., Simmons College, 1947; M.A., University of Nevada, 1973; Ed.D., Brigham Young University, 1977. Registered Nurse.
- STACEY, WILLIAM A.**, Associate Professor of Sociology (1970). B.A., Mississippi State University, 1960; M.A., 1961; Ph.D., Florida State University, 1970.
- STAM, MARY ALICE**, Specialist in Nursing (1994). B.S.N., Texas Christian University, 1981; M.S., Texas Woman's University, 1989. Registered Nurse.
- STEGALL, WILLIAM M.**, Associate Professor of Art (1964). B.F.A., University of Texas at Austin, 1951; M.F.A., 1962.
- STEINECKE, ALAN Q.**, Professor Emeritus of Foreign Languages (1953). B.S., University of Vermont, 1949; M.A., 1950.
- STEPHENS, RANSOM**, Assistant Professor of Physics (1993). B.A., University of California at San Diego, 1984; Ph.D., University of California at Santa Barbara, 1990.
- STETSON, RANAE**, Assistant Professor of Education (1990). B.S., University of Nevada at Las Vegas, 1982; M.Ed., 1987; Ed.D., University of Houston, 1991.
- STEVENS, GLADSTONE T., JR.**, Professor and Chair of the Department of Industrial and Manufacturing Systems Engineering (1975). B.S., University of Oklahoma, 1956; M.S., Case Institute of Technology, 1962; Ph.D., Oklahoma State University, 1966. Professional Engineer.
- STEVENS, JAMES W.**, Professor of Criminology and Criminal Justice (1969). B.A., Florida State University, 1962; M.A., 1964; Ph.D., 1966.
- STEWART, GEORGE L.**, Professor of Biology (1977). B.S., Tulane University, 1969; Ph.D., Rice University, 1973.
- STONE, WILLIAM J., JR.**, Associate Professor of Communication (1972). B.J., University of Texas at Austin, 1952; M.J., 1958; Ph.D., 1974.
- STORY, DALE**, Professor and Chair of the Department of Political Science (1978). B.A., Southern Methodist University, 1972; M.A., Indiana University, 1974; Ph.D., 1978.
- STORY, JAY**, Adjunct Clinical Instructor in Nursing (1989). B.S., University of Minnesota, 1978; M.D., University of Minnesota Medical School, 1982.
- STRICKLAND, SUE**, Senior Lecturer in Accounting (1972). B.S., Southwest Oklahoma State University, 1966; M.B.A., University of Arkansas, 1967. CPA.
- STUDERUS, LENARD H.**, Associate Professor of Foreign Languages (1974). B.A., University of Washington, 1964; M.A., San Diego State College, 1967; Ph.D., University of Colorado, 1974.
- STUPPY, DOROTHY**, Assistant Professor of Nursing (1990). B.S.N., University of Miami, 1973; M.S.N., Florida International University, 1976; Ph.D., University of Texas at Austin, 1982. Registered Nurse.
- SU, JIANZHONG**, Associate Professor of Mathematics (1990). B.S., Shanghai Jiaotong University, 1984; Ph.D., University of Minnesota, 1990.
- SUDAN, RAJANI**, Assistant Professor of English (1994). A.B., Cornell University, 1981; A.M., 1991; Ph.D., 1991.
- SUMMERLIN, EDITH**, Senior Lecturer in Nursing (1989). B.S.N., Ohio State University, 1957; M.S.N., Catholic University of America, 1967; Ph.D., American University, 1976. Registered Nurse.
- SUMMERS, JOHNNY D.**, Captain, U.S. Air Force, Adjunct Assistant Professor of Aerospace Studies (1995). B.S., Embry-Riddle Aeronautical University, 1987; M.A., University of Colorado, 1994.

FACULTY

**SWANSON, PEGGY E.**, Professor of Finance and Real Estate (1978). B.B.A., University of North Texas, 1957; M.B.E., 1965; M.A., Southern Methodist University, 1967; Ph.D., 1978.

**SWEARINGEN, C. JAN**, Professor of English (1986). B.A., University of Texas at Austin, 1971; M.A., 1974; Ph.D., 1978.

**SWIDLER, STEVEN**, Associate Professor of Finance and Real Estate (1988). B.A., Oberlin College, 1975; M.S., Brown University, 1976; Ph.D., 1981.

**TABEL, DELBERT A.**, Professor of Urban Affairs and Associate Dean of the School of Urban and Public Affairs (1970). B.A., Ripon College, 1956; M.A., San Jose State College, 1965; Ph.D., University of Texas at Austin, 1971.

**TALIAFERRO, LLOYD C.**, Professor Emeritus of Music (1957). B.Mus., University of North Texas, 1949; M.Mus., 1951; Ph.D., 1956.

**TAM, JING L.**, Associate Professor of Music (1989). B.M., New England Conservatory of Music, 1975; M.M., 1976.

**TAMASY, MARGUERITE**, Specialist in Nursing (1996). B.S.N., Duquesne University, 1974; M.S.N., University of Pittsburgh, 1979. Registered Nurse.

**TATUM, MICHAEL D.**, Professor of Interior Design (1988). B.P.A., Art Center College of Design, Los Angeles, 1960. Registered Interior Designer.

**TAYLOR, MARTIN E.**, Professor of Accounting (1988). B.Comm., University of Cape Town, 1966; M.B.A., University of Texas at Austin, 1970; Ph.D., 1974. CPA.

**TAYLOR, PAT D.**, Associate Professor of Landscape Architecture and Director of the Landscape Architecture Program (1992). B.S., Texas Tech University, 1967; M.S., 1969; Ph.D., University of Texas at Austin, 1983.

**TEES, DAVID W.**, Associate Professor of Urban Affairs and Director for Training and Services, School of Urban and Public Affairs (1969). A.B., University of Texas at Austin, 1956; M.A., 1965.

**TERNAY, ANDREW L., JR.**, Professor of Chemistry (1969). B.S., College of the City of New York, 1959; M.S., New York University, 1962; Ph.D., 1963.

**TERNAY, MARILYN**, Adjunct Assistant Professor of Nursing (1990). B.A., Queens College, 1964; M.A., Texas Woman's University, 1975; Ph.D., University of North Texas, 1980.

**TERRELL, GLEN**, Associate Professor of Physics (1966). B.S., University of Texas at Austin, 1962; M.A., 1964; Ph.D., 1966.

**THOMAS, CASSANDRA O.**, Captain, U.S. Air Force, Adjunct Assistant Professor of Aerospace Studies (1995). B.A., University of North Carolina, 1982; M.A., Golden State University, 1989.

**THOMPSON, B. CECIL**, Associate Professor of Physics (1965). B.A., University of North Texas, 1957; M.A., 1958; Ph.D., University of Texas at Austin, 1965.

**THURMAN, CLIFFORD V.**, Captain, U.S. Army, Assistant Professor of Military Science (1997). B.A., East Central University, 1988.

**TIMMONS, RICHARD B.**, Professor of Chemistry (1977). B.S., St. Francis Xavier University, Canada, 1958; Ph.D., The Catholic University of America, 1962.

**TJUATJA, SAIBUN**, Assistant Professor in Electrical Engineering (1993). B.S., University of Texas at Arlington, 1987; M.S., Purdue University, 1988; Ph.D., University of Texas at Arlington, 1992.

**TOLENTINO, REMY**, Adjunct Clinical Instructor in Nursing (1988). B.S.N., Texas Woman's University, 1971; M.S.N., University of Texas at Arlington, 1985. Registered Nurse.

**TONG, ALBERT Y.**, Associate Professor in Mechanical Engineering (1983). B.S., University of Hawaii, 1977; M.S., California Institute of Technology, 1978; Ph.D., Carnegie-Mellon University, 1983.

**TORTI, RUSSELL G.**, Adjunct Assistant Professor of Physics (1990). B.S., University of Texas at Arlington, 1978; M.A., 1981; D. Sc., 1987.

**TOTO, KATHLEEN H.**, Adjunct Clinical Instructor in Nursing (1988). B.S.N., University of Texas Health Science Center at San Antonio, 1980; M.S.N., University of Texas at Arlington, 1987. Registered Nurse.

**TOWNSEND, DABNEY W., JR.**, Professor and Chair of the Department of Philosophy and Humanities (1973). B.S., Duke University, 1963; B.D., Drew University, 1966; Ph.D., Emory University, 1970.

**TRAVIS, LARRY**, Associate Professor of Art (1979). B.S., Southwest Missouri State University, 1974; B.F.A., 1976; M.F.A., University of Florida, 1978.

**TROY, PEGGY**, Adjunct Clinical Instructor in Nursing (1982). B.S.A., Marquette University, 1974; M.S.N., DePaul University, 1981. Registered Nurse.

**TSAY, JEFFREY JING-HUEI**, Associate Professor of Accounting (1974). B.B.A., National Chengchi University, 1966; M.A., University of Missouri, 1969; Ph.D., 1973. CPA, CMA.

**TUCK, TERRI L.**, Specialist in Social Work (1996). B.S.W., University of Texas at Arlington, 1990.

**TUCKER, JOANNE**, Lecturer in Information Systems and Management Sciences (1976). B.B.A., University of North Texas, 1971; M.B.A., 1976.

**TUCKNESS, DAN G.**, Associate Professor in Aerospace Engineering (1991). B.S., Southeastern Oklahoma State University, 1981; M.S., University of Texas at Austin, 1985; Ph.D., 1988.

**TURBEVILLE, DAVID F.**, Adjunct Clinical Associate Professor of Nursing (1984). B.A., Birmingham Southern College, 1967; M.D., University of Alabama, 1971.

**TURBEVILLE, F. SIMONE**, Associate Professor of English (1961). Ph.D., Bocconi University, Milan, Italy, 1951; Ph.D., Indiana University, 1960.

**TURNBULL, BRUCE**, Adjunct Assistant Professor of Linguistics (1990). B.S., Case Western Reserve University, 1950; B.D., 1954; M.S., 1955; Ph.D., 1963.

- TURNER, JERE D.**, Lecturer in Finance and Real Estate (1989). B.A., Yale University, 1953; LL.B., Southern Methodist University, 1957.
- TURPIN, DOROTHY**, Specialist in Nursing (1976). B.S.N., Texas Christian University, 1963; M.A., Texas Woman's University, 1984. Registered Nurse.
- UMBAUGH, L. DAVID**, Senior Lecturer in Computer Science and Engineering (1983). B.S., United States Military Academy, 1958; M.S., Ohio State University, 1979; Ph.D., 1983.
- UNDERWOOD, KATHLEEN**, Associate Professor of History (1981). B.A., University of Colorado, 1969; M.A., University of California at Los Angeles, 1976; Ph.D., 1982.
- URISTA, CARRIE**, Adjunct Clinical Instructor in Nursing (1996). B.S., College of St. Teresa, 1975. Registered Nurse.
- VACCARO, MARY**, Assistant Professor of Art (1994). B.A., Williams College, 1986; M.A., Columbia University, 1988; Ph.D., 1994.
- VanNOORT, KIMBERLY**, Assistant Professor of Foreign Languages (1995). B.A., University of Nebraska, 1983; M.A., 1986; Ph.D., Boston University, 1995.
- VARDELL, SYLVIA M.**, Associate Professor of Education (1990). B.S., University of Texas at Austin, 1976; Ph.D., University of Minnesota, 1983.
- VARNER, MICHAEL L.**, Associate Professor of Music (1981). B.M.E., Bowling Green State University, 1976; M.M., University of Michigan, 1977.
- VESTAL, KATHERINE**, Adjunct Professor of Nursing (1994). B.S.N., Texas Christian University, 1970; M.S.N., Texas Woman's University, 1975; Ph.D., Texas A&M University, 1984. Registered Nurse.
- VIÑA, FREDERICK**, Associate Professor of Foreign Languages (1963). B.A., Colorado State College, 1957; M.A., University of New Mexico, 1960.
- VISH, NANCY**, Adjunct Clinical Instructor in Nursing (1990). B.S.N., Indiana University of Pennsylvania, 1983; M.S.N., Vanderbilt University, 1987. Registered Nurse.
- VITANZA, VICTOR**, Professor of English (1981). B.A., University of Houston, 1967; M.A., 1970; Ph.D., Northern Illinois University, 1975.
- WAGNER, JUDY**, Assistant Professor of Marketing (1994). B.S., Northern Illinois University, 1967; M.B.A., University of Texas at Arlington, 1987; Ph.D., Virginia Polytechnic Institute and State University, 1995.
- WALKER, BURLEY, JR.**, Associate Professor of Management (1960). B.B.A., University of Oklahoma, 1954; M.B.A., 1960.
- WALKER, ROGER S.**, Professor of Computer Science and Engineering (1973). B.S., University of Texas at Austin, 1963; M.S., 1970; Ph.D., 1972. Professional Engineer.
- WALKER, ROLAND**, Adjunct Assistant Professor of Linguistics (1991). B.A., Biola University, 1974; M.A., California State University at Long Beach, 1977; Ph.D., University of California at Los Angeles, 1987.
- WALLER, DAVID**, Assistant Professor of Sociology (1993). B.A., University of Florida, 1985; M.A., University of California at Riverside, 1989; Ph.D., 1993.
- WALTER, STEPHEN L.**, Adjunct Associate Professor of Linguistics (1989). B.A., Washington Bible College, 1969; M.A., University of Texas at Arlington, 1976; Ph.D., 1980.
- WALTHER, JAMES E.**, Lecturer in Management (1986). B.B.A., University of Arkansas, 1976; M.B.A., University of Texas at Arlington, 1983.
- WALTHER, LARRY**, Associate Professor and Acting Chair of the Department of Accounting (1980). B.B.A., University of Texas at Arlington, 1976; M.P.A., 1977; Ph.D., Oklahoma State University, 1980. CPA, CMA.
- WALTON, CHARLES**, Adjunct Assistant Professor of Linguistics (1995). A.B., Wheaton College, 1957; M.A., Temple University, 1984.
- WALTS, REBECCA A.**, Specialist in Exercise, Sport and Health Studies (1989). B.S., University of Wisconsin at Lacrosse, 1978; B.A., University of Texas at Arlington, 1988; M.S., University of North Texas, 1989.
- WANG, BO PING**, Professor in Mechanical Engineering (1983). B.S., National Taiwan University, 1967; M.S., University of Missouri, 1970; Ph.D., University of Virginia, 1974.
- WARREN, EDDIE N.**, Associate Professor of Mathematics (1963). B.S., Sam Houston State University, 1960; M.A., 1962; Ph.D., University of North Texas, 1988.
- WATKINS, TED R.**, Associate Professor of Social Work (1979). B.A., University of North Texas, 1961; M.S.W., Louisiana State University, 1963; D.S.W., University of Pennsylvania, 1976.
- WATTS, THOMAS D.**, Professor of Social Work (1974). B.A., Wichita State University, 1963; M.S.W., Arizona State University, 1970; D.S.W., Tulane University, 1976.
- WEED, FRANK**, Professor of Sociology (1975). B.A., Hanover College, 1965; M.A., University of Illinois, 1967; Ph.D., University of Missouri, 1974.
- WEEMS, BOB P.**, Associate Professor in Computer Science and Engineering (1985). B.A., Lewis University, Illinois, 1980; M.S., Northwestern University, 1982; Ph.D., 1984.
- WEGNER, ROBERT L.**, Associate Professor of City and Regional Planning (1982). B.C.P., Harvard University, 1950; M.R.P., M.P.A., 1952.
- WEISS, ALEXANDER**, Professor of Physics (1984). B.S., City College of New York, 1976; Ph.D., Brandeis University, 1983.
- WELCH, LONNIE R.**, Associate Professor in Computer Science and Engineering Department (1996). B.S., Ohio State University, 1985; M.S., 1987; Ph.D., 1990.
- WERTH, RONALD N.**, Professor of Foreign Languages (1977). B.A., Fordham University, 1961; Ph.D., Cornell University, 1965.

## FACULTY

- WEST, R.N.**, Professor and Chair of the Department of Physics (1987). B.S., University of London, England, 1961; Ph.D., University of London, England, 1966.
- WHEELER, KENNETH G.**, Associate Professor of Management (1979). B.A., University of California at Berkeley, 1965; M.B.A., California State University, 1967; Ph.D., University of Minnesota, 1978.
- WHITE, ANDREW P.**, Professor of Physics (1991). B.Sc., University of Southampton, 1969; Ph.D., Westfield College, University of London, 1972.
- WHITESIDE, MARY M.**, Professor and Chair of the Department of Information Systems and Management Sciences (1984). B.A., University of Texas at Austin, 1965; M.S., Texas Tech University, 1966; Ph.D., 1974.
- WHITMORE, DONALD H.**, Professor of Biology (1973). B.A., Indiana University, 1966; Ph.D., Northwestern University, 1971.
- WICKHAM, JOHN S.**, Professor and Chair of the Department of Geology (1992). B.A., Pomona College, 1960; Ph.D., Johns Hopkins University, 1969.
- WIGINTON, KRISTIN L.**, Assistant Professor of Exercise, Sport and Health Studies (1995). B.S., Baylor University, 1988; M.S., 1989; Ph.D., Texas Woman's University, 1995.
- WILCOX, TERESA G.**, Assistant Professor of Psychology (1995). B.A., Bethel College, 1983; M.S., University of California-Davis, 1988; Ph.D., University of Arizona, 1993.
- WILEY, LARRY D.**, Associate Professor of Music (1977). B.M., University of North Texas, 1965; M.M., 1968; D.M.A., Louisiana State University, 1985.
- WILKINSON-FAULK, DEBBIE**, Adjunct Clinical Instructor in Nursing (1988). B.S., East Texas State University, 1975; B.S.N., University of Texas at Arlington, 1976; M.S.N., Northwestern State University of Louisiana, 1982; Ph.D., Texas Woman's University, 1989. Registered Nurse.
- WILLIAMS, JAMES C.**, Associate Professor in Civil and Environmental Engineering Department (1986). B.S., University of New Mexico, 1976; M.S., 1977; Ph.D., University of Texas at Austin, 1986. Professional Engineer.
- WILLIS, BERNICE**, Adjunct Clinical Instructor in Nursing (1995). B.S., Texas Woman's University, 1981; M.S., 1992. Registered Nurse.
- WILLOUGHBY, SARAH MARGARET C.**, Professor Emeritus of Chemistry (1954). B.S., Western Kentucky University, 1938; Ph.D., Purdue University, 1950. Professional Engineer.
- WILMORE, ELAINE L.**, Assistant Professor of Education (1994). B.S., Lamar University, 1972; M.Ed., 1974; Ph.D., Texas A&M University, 1988.
- WILSON, DONALD R.**, Professor of Aerospace Engineering and Director of Aerospace Engineering Program (1968). B.S., Georgia Institute of Technology, 1961; M.S., University of Tennessee, 1965; Ph.D., University of Texas at Arlington, 1973. Professional Engineer.
- WILSON, LINDA L.**, Lecturer of Economics (1993). B.S., Texas A&M University, 1979; M.S., University of North Texas, 1992.
- WILSON, RICHARD C.**, Assistant Professor of Economics (1966). B.B.A., University of Georgia, 1963; M.A., 1966.
- WINSLOW, ELIZABETH H.**, Adjunct Associate Professor of Nursing (1984). B.S., Columbia University, 1965; M.S.N., University of Pennsylvania, 1972; Ph.D., Texas Woman's University, 1982. Registered Nurse.
- WISEMAN, CARL T.**, Professor Emeritus of Mechanical Engineering and Materials Science (1964). B.S., Southern Methodist University, 1950; M.S., University of California at Berkeley, 1955; Ph.D., 1957. Professional Engineer.
- WITT, ROBERT E.**, President of the University (1995). B.A., Bates College, 1962; M.B.A., Dartmouth College, 1964; Ph.D., Pennsylvania State University, 1968.
- WITT, TERRY J.**, Associate Professor of Accounting (1968). B.B.A., University of Texas at Austin, 1962; M.A., University of Oklahoma, 1968. CPA.
- WOFFORD, JERRY C.**, Professor of Management (1966). B.A., Baylor University, 1959; Ph.D., 1962.
- WOOD, NANCY V.**, Professor of English (1989). B.A., University of Oregon, 1956; M.A., Cornell University, 1963; Ph.D., Rutgers University, 1972.
- WOOD, NICHOLAS W.**, Associate Professor of Art (1977). B.A., San Francisco State University, 1972; M.F.A., New York State College of Ceramics at Alfred, 1977.
- WOODS, MARILYN**, Assistant Professor of Communication (1994). B.A., University of North Texas, 1984; M.S., Texas A&M University at Commerce, 1990; Ph.D., University of Oklahoma, 1994.
- WOODS, ROBERT L.**, Associate Professor in Mechanical Engineering (1974). B.S., Southern Methodist University, 1968; M.S., Oklahoma State University, 1970; Ph.D., 1971.
- WOOLF, JACK R.**, Professor Emeritus of Mechanical Engineering and President Emeritus of the University (1957). B.S., Texas A&M University, 1948; M.S., 1948; Ph.D., Purdue University, 1951. Professional Engineer.
- WOOTEN, JASON G.**, Specialist in Exercise, Sport and Health Studies (1995). B.A., University of Texas at Arlington, 1992; M.S. Texas Christian University, 1994.
- WORRELL, DAN L.**, Professor and Interim Dean of the College of Business Administration (1993). B.S., Louisiana State University, 1971; M.S., 1974; Ph.D., 1978.
- WRIGHT, BETH S.**, Associate Professor of Art (1984). A.B., Brandeis University, 1970; M.A., University of California at Berkeley, 1972; Ph.D., 1978.
- WRIGHT, CARROLL LEE, JR.**, Associate Professor and Assistant Dean of the School of Architecture (1968). B.Arch., University of Texas at Austin, 1963; M.Arch., 1968. Registered Architect.
- WRIGHT, GEORGE C.**, Professor of History, Provost and Vice President for Academic Affairs (1995). B.A., University of Kentucky, 1972; M.A., 1974; Ph.D., Duke University, 1977.

**WRIGHT, GEORGE S.**, Dean Emeritus of the School of Architecture (1971). B.A., Williams College, 1940; M.Arch., Harvard University, 1949; M.Arch., 1952. Registered Architect.

**WRIGHT, KAREN**, Specialist in Nursing (1996). B.S.N., Niagara University, 1986; M.S.N., University of Texas at Arlington, 1994. Registered Nurse.

**WRIGHT, KATHY BAKER**, Specialist in Nursing (1990). B.S.N., Baylor University, 1977; M.S., Texas Woman's University, 1988. Registered Nurse.

**WYERS, MARY ELLEN**, Professor of Nursing (1976). B.S.N., University of Virginia, 1959; M.Ed., Texas Christian University, 1971; Ed.D., Nova University, 1976; M.S.N., University of Texas at Austin, 1981. Registered Nurse.

**WYMAN, SHERMAN M.**, Associate Professor of Urban Affairs (1972). A.B., Stanford University, 1957; M.P.A., Syracuse University, 1959; Ph.D., University of Southern California, 1969.

**WYSZYNSKI, MATTHEW**, Assistant Professor of Foreign Languages (1996). B.A., University of Akron, 1990; M.A., University of Michigan, 1993; Ph.D., 1996.

**YANG, SHU**, Adjunct Professor of Physics (1994). B.S., Fudan University, 1982; M.S., Rutgers University, 1990; Ph.D., 1992.

**YARDLEY, MICHAEL**, Associate Professor of Architecture (1979). A.B., Washington University, 1959; M.A., New York University, 1965.

**YASSO, BARBARA**, Adjunct Clinical Instructor in Nursing (1995). B.A., University of Dallas, 1982; B.S.N., University of Texas at Arlington, 1987; M.S.N., 1989. Registered Nurse.

**YE, YUN-GANG**, Assistant Professor of Mathematics (1993). Ph.D., Duke University, 1991.

**YEUNG, KAI-SHING**, Professor of Electrical Engineering (1983). B.S., Hong Kong University, 1970; Dipl. -Ing., 1974; Dr. -Ing., University of Karlsruhe, West Germany, 1977. Professional Engineer.

**YILLA, ABU**, Assistant Professor of Exercise, Sport and Health Studies (1996). B.A., University of Nottingham, 1978; B.A., University of Texas at Arlington, 1987; M.S., Texas Woman's University, 1993.

**YOU, SEUNG MUN**, Associate Professor in Mechanical Engineering (1990). B.S., Seoul National University, 1982; M.S., University of Minnesota at Minneapolis, 1986; Ph.D., 1990.

**YOUN, HEE YONG**, Associate Professor in Computer Science and Engineering (1991). B.S., Seoul National University, 1977; M.S., 1979; Ph.D., University of Massachusetts, 1988.

**YOUNG, ROBERT L.**, Associate Professor of Sociology (1991). B.A., Auburn University, 1972; M.A., University of Kentucky, 1977; Ph.D., University of Michigan, 1982.

**YOUSSEFZADEH, BIJAN**, Assistant Professor of Architecture (1989). B.S., University of Texas at Arlington, 1981; M.Arch., Cornell University, 1984.

**YU, MURIEL M.**, Associate Professor of Social Work (1989). L.L.B., Soochow University, 1958; M.R.E., New Orleans Baptist Theological Seminary, 1962; M.S.W., University of Oklahoma, 1971; Ph.D., 1981.

**YUAN, ROBERT L.**, Professor of Civil and Environmental Engineering and Engineering Mechanics (1968). B.S., National Chen-Kung University, 1960; M.S., University of Illinois, 1964; Ph.D., 1968. Professional Engineer.

**ZAPATA, TONY**, Adjunct Clinical Instructor in Nursing (1995). B.S., University of California-San Francisco, 1982; M.S., 1985. Registered Nurse.

**ZHANG, QIMING**, Assistant Professor of Physics (1996). B.S., Sichuan University, 1982; M.S., Beijing University of Science and Technology, 1984; Ph.D., International School for Advanced Studies, 1989.

# Staff

**ABBE, M. ANN**, Vice President for Development. B.A., M.A., Texas A&M University.

**ALEXANDER, JULIE S.**, Associate Director for Library Services. B.S., Sam Houston State University; M.L.S., University of North Texas.

**ANDERSON, NOEL W.**, Librarian. B.A., West Texas State University; M.L.S., University of North Texas.

**BEAL, CRAIG**, Director of Telecommunications.

**BELL, ALLAN**, Librarian. B.A., Queen's University at Kingston; M.L.I.S., McGill University.

**BINDER, SHIRLEY F.**, Vice President for Student Enrollment Services. B.S., M.Ed., Washington State University.

**BLESSING, LAURA**, Librarian. B.A., New Mexico State University; M.L.I.S., University of Texas at Austin.

**BOBADILLA, A. MICHELE**, Director of Admissions. B.A., Stephen F. Austin State University; M.E., East Texas State University.

**BROCK, RUTH E.**, Librarian. B.A., Marycrest College; M.L.S., University of North Texas.

**BUTTRAM, WILLIAM O.**, Assistant Controller, Office of Accounting and Business Services. B.B.A., M.B.A., University of Texas at Arlington.

**CARLON, PETE**, Director of Intercollegiate Athletics. B.S., Iowa State University; M.S., Northwest Missouri State University.

**CASTLE, MARY K.**, Librarian. B.A., McNeese State University; M.L.S., University of North Texas.

**CONNER, DIANA**, Director of Educational Opportunity Center. B.A., M.A., University of Texas at Arlington.

**CRISWELL, LINDA M.**, Assistant Controller, Office of Accounting and Business Services. B.B.A., University of Texas at Arlington.

**DAROVICH, DONNA**, Director of Public Affairs. B.A., University of Texas at Arlington.

**deGOEDE, GEERTRUIDA**, Librarian. B.A., University of Victoria; M.L.S., University of British Columbia.

**DILLARD, JOHN J.**, Librarian. B.A., M.A., University of Texas at Arlington; M.L.S., University of North Texas.

**DISHON, NEIL H.**, Chief of Staff, Student Health Services. B.S., M.D., Ohio State University College of Medicine.

**DORAN, MICHAEL D.**, Librarian. B.S., University of Florida; M.A., University of Chicago.

**EYRES, GLORIA**, Assistant Vice Provost for Graduate Studies. B.S., University of Texas at El Paso; M.A., Texas Christian University.

**GARDNER, KENT L.**, Associate Vice President for Student Affairs. B.A., Oklahoma City University; M.S., Oklahoma State University; Ed.D., University of North Texas.

**GAULT, FRANK M.**, Assistant Vice President for Student Affairs and Director of Counseling and Career Development. B.A., M.Ed., Ed.D., University of North Texas.

**GAY, WAYNE G.**, Chief of Police. B.S., New Mexico State University; M.P.A., University of Arizona.

**GONZALES, CASEY**, Program Coordinator, Provost's Office. B.A., New Mexico Highlands University.

**GOODMAN, LLOYD E.**, Director of Student Publications. B.A., University of Missouri; M.A., University of West Florida.

**GOODWIN, KATHERINE**, Archivist. B.A., M.A., University of Texas at Arlington.

**GORDON, LARITA**, Acting Director of Human Resources. B.S., Louisiana State University.

**GROSS, SALLY S.**, Librarian. B.A., Baldwin-Wallace College; M.S.L.S., Case Western Reserve University.

**HALL, JOHN**, Associate Vice President for Finance and Administration and Acting Director of the Physical Plant. B.B.A., University of North Texas.

**HAYES, JIM**, Director of Office for Students with Disabilities. B.A., University of Texas at Arlington.

**HAYNES, LYNDIA L.**, Assistant to the Director, Center for Professional Teacher Education. B.A., M.Ed., Sam Houston State University; Ph.D., Texas A&M University.

**HEAD, KATHRYN A.**, Director of Student Support Services. B.A., University of Texas at Austin; M.L.A., Southern Methodist University.

**HENDERSON, BURL**, Vice Provost for Computing and Information Technology. B.A., University of Texas at Austin; M.S., Southern Methodist University; Ph.D., University of Texas Health Science Center at San Antonio.

**HODGES, ANN E.**, Librarian. B.A., University of Texas at Austin; M.S., M.S.L.S., University of North Texas.

**HOPKINS, KAREN L.**, Librarian. B.A., M.A., M.L.S., University of North Texas.

**HORD, LEVETA J.**, Librarian. B.A., M.S.L.S., University of North Texas.

**HOUGH, HELEN**, Librarian. B.A., M.S., M.L.S., Syracuse University.

**HOWSER, BARBARA Y. RISER**, Librarian. B.A., University of North Texas; M.L.S., Texas Woman's University.

**IRWIN, MARIE**, Librarian. B.A., Baylor University; M.L.I.S., University of North Carolina at Greensboro.

**JACKSON, CHANDLER C.**, Librarian. B.A., Northwest Bible College; B.M., University of Texas at Arlington; M.S.L.S., University of North Texas.

- JOHNSON, BOBBIE STEVENS**, Librarian. B.A., East Texas State University; M.A., University of Mississippi; M.L.S., University of North Texas.
- JONES, SARAH ANN**, Librarian. B.G.S., University of Iowa; M.A., Indiana University; M.S.L.S., University of North Texas.
- KELLEY, ANN CHARLOTTE**, Librarian. B.A., M.A., M.L.S., University of Iowa.
- KINSEY, NANCY**, Director of Continuing Education. B.A., M.A., University of Texas at Arlington.
- KOERBLE, BARBARA**, Professional Slide Librarian, Department of Art. B.F.A., Northwestern Missouri State University; M.A., University of North Texas.
- KUYKENDALL, DOUG**, Director of Recreational Sports. B.A., University of Texas at Arlington; M.S., University of North Texas.
- LINDSEY, THOMAS K.**, Librarian. B.A., Brown University; M.L.S., University of Pittsburgh.
- LIVELY, DONNA PADGETT**, Librarian. B.A., University of Montana; M.L.S., University of North Texas.
- MARTINEK, JOSEPHINE A.**, Librarian. B.S., B.A., Texas Woman's University; M.A., M.L.S., University of Texas at Austin.
- MASSIE, RICHARD**, Director of Multicultural Services. B.A., Lewis University; M.S.T., University of Wisconsin.
- McKEE, SUSAN M.**, Attorney for the Students. B.S., Texas Wesleyan University; M.Ed., University of North Texas; J.D., St. Mary's University.
- MILLER, CHARLES P., JR.**, Director of Budgets and Financial Planning. B.B.A., M.P.A., University of Texas at Arlington.
- MINOR, LARRY D.**, Director of University Bookstore. B.S., Abilene Christian University.
- MORTON, EDWARD T.**, Health Professions Advisor and Assistant Dean of the College of Science. B.S., M.S., Indiana University.
- MOXLEY, LINDA S.**, Assistant Vice President for Student Affairs. B.S., Mount Union College; M.A., Michigan State University; Ph.D., University of Michigan.
- O'NEILL, PATRICIA**, Director of Special Projects. B.A., M.A., C.W. Post College.
- PARKER, WYLVAN**, Director of Housing and University Center. B.S., M.A., Bradley University.
- PATRICK, DIANE P.**, Director CREST. B.A., Baylor University; M.Ed., University of North Texas.
- PERMENTER, J. MARK**, Director of University Publications. B.A., Baylor University.
- PREISS, ELWOOD J.**, Executive Director of Administrative Services. B.S., M.A., University of Texas at Austin.
- PREJEAN, DAWN**, Executive Director of the Alumni Association. B.A., University of Texas at Arlington.
- PRINCE, R. ZACK**, Registrar. B.B.A., M.A., University of Texas at Arlington.
- RICHARDSON, EMANDA**, Head Slide Librarian, Department of Art. B.A., Southern Methodist University.
- ROBBINS, RACHEL H.**, Librarian. B.A., Stephen F. Austin State University; M.L.S., University of North Texas.
- RODNITZKY, SHIRLEY**, Archivist. B.A., University of Illinois; M.S.L.S., University of North Texas.
- RUZICKA, WILLIAM T.**, Professional Slide Librarian, School of Architecture. B.A., University of Missouri; M.A., Ph.D., University of Dallas.
- SAMSON, ROBERT CHARLES**, Assistant Director of Libraries for Information Technologies. B.S., M.S.L.S., University of Illinois.
- SCHNEIDER, JUDY**, Director of Financial Aid. B.S., M.B.A., Texas Christian University.
- SCHRAG, DWAYNE**, Librarian. B.A., Bethel College; M.A.L., Kansas State Teachers College.
- SHUPE, BILL E.**, Director of Internal Audit. B.B.A., University of Texas at Arlington. CPA.
- SMITH, JUDITH STOUT**, Executive Assistant to the President. B.S., Texas Woman's University.
- SMITH, LISA**, Librarian. B.A., Texas Tech University; M.L.S., University of North Texas.
- SORENSEN, JEFF**, Director of Student Governance and Organizations. B.S., M.Ed., University of Wisconsin at LaCrosse.
- SORENSEN, MARDIE TRASK**, Director of Student Activities. B.S., University of Vermont; M.Ed., Texas Woman's University.
- STAPLETON, MICHAEL**, Librarian. B.A., Messiah College; M.L.S., University of North Texas.
- STEPANOVICH, MITCH M.**, Librarian. B.S., M.L.S., M.S., University of Oregon.
- STERN, WILLIAM E.**, Associate Vice President for Budgeting and Financial Planning. B.B.A., University of Texas at Austin.
- STEVENSON, BILL L.**, Director of Environmental Health and Safety. B.S., Texas Wesleyan University; M.S., University of Oklahoma; Ph.D., University of Oklahoma School of Medicine.
- TEAGUE, JOSEPH F.**, Executive Director of Development. B.A., University of Texas at Arlington.
- THOMPSON, LISA M.**, Director of Upward Bound. B.A., M.A., Kansas State University.
- WALKER, DIANE L.**, Interim Director of Equal Opportunity/Affirmative Action.
- WANG, TERESA C.**, Librarian. B.A., National Taiwan University; M.L.S., Northern Illinois University.
- WARD, CUBIE**, Director of University Advising Center. B.A., M.A., Ph.D., University of Texas at Arlington.
- WARD, RUSTY**, Assistant Vice President for Finance and Controller. B.A., M.S., University of Texas at Arlington.

STAFF

**WEAVER, NORMAN L.**, Interim Director of Computer Operations and Network Services.

**WELLVANG, JAMES K.**, Librarian. B.A., M.A., University of Minnesota.

**WILDING, THOMAS L.**, Director of Libraries. A.B., Georgetown University; M.L.S., Simmons College.

**WILLIAMS, M. DAN**, Senior Vice President for Finance and Administration. B.B.A., M.B.A., M.Ed., Texas A&M University.

**WINGFIELD, TOMMIE J.**, Librarian. B.A., M.L.S., George Peabody College.

**WYATT, JACKIE**, Director of Sponsored Projects.

**YOUNG, JUDY C.**, Director of International Office. B.A., M.A., Texas Christian University; Ph.D., University of Texas at Austin.



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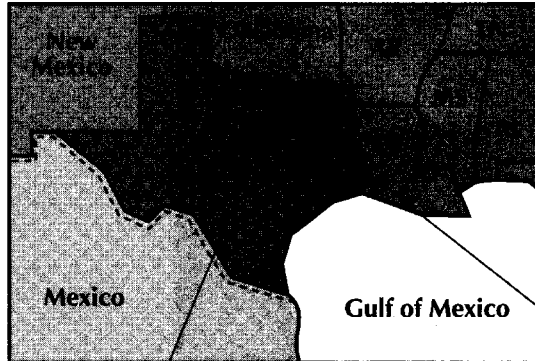
## Alma Mater

Dear School We Love,  
You Are Our Alma Mater,  
And Through The Years  
Our Faith We Shall Proclaim.

We Are Each One,  
A Loyal Son Or Daughter,  
Our Song Of Praise  
Shall Glorify Your Name.

Dear School We Love,  
Forever, Arlington.

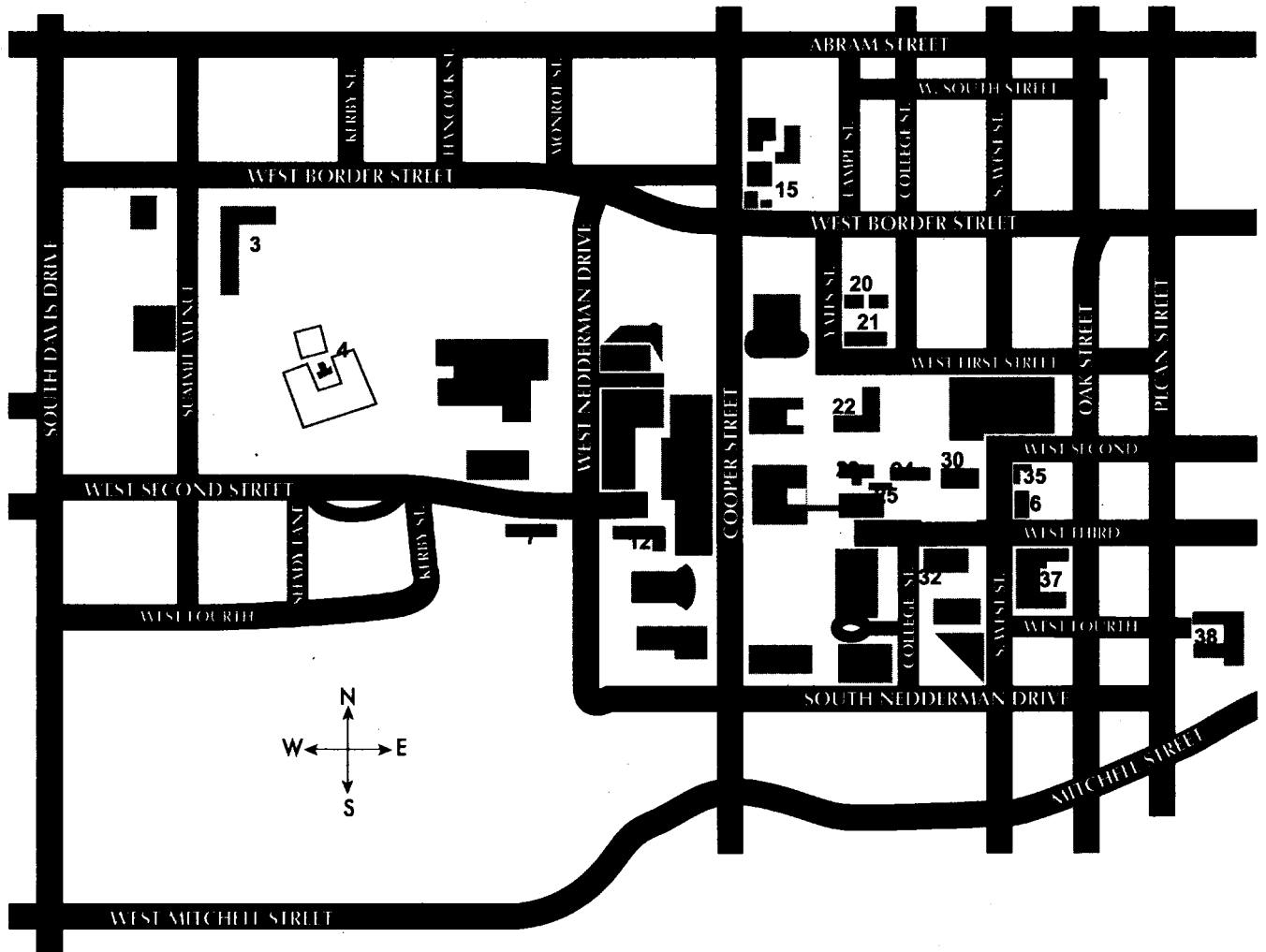
**Texas and Surrounding States**



**Dallas/Fort Worth Metroplex Area**



# Campus Map



## Legend

- |   |                                    |
|---|------------------------------------|
| 1 SWEET (Southwest Environmental Education Training) Center | 20 Engineering Annex               |
| 2 Human Resources Office                                    | 21 Engineering Lab Building        |
| 3 Swift Center  | 22 Woolf Hall                      |
| 4 Tennis Center   | 23 Preston Hall                    |
| 5 Activities Building                                       | 24 Ransom Hall                     |
| 6 Physical Education Building                               | 25 Carlisle Hall                   |
| 7 Trinity House (co-ed)                                     | 26 Chemistry Research Building     |
| 8 UTA Bookstore   | 27 Central Library                 |
| 9 Campus Center   | 28 Life Science Building           |
| 10 Architecture Building                                    | 29 E.H. Hereford University Center |
| 11 Fine Arts Building                                       | 30 College Hall                    |
| 12 Pahl Hall (men)  | 31 Trimble Hall                    |
| 13 Texas Hall   | 32 Hammond Hall                    |
| 14 Davis Hall   | 33 Maverick Parking Garage         |
| 15 Social Work Complex                                      | 34 Pickard Hall                    |
| 16 Nedderman Hall   | 35 Brazos House (co-ed)            |
| 17 Geoscience Building                                      | 36 Health Center                   |
| 18 Science Hall   | 37 Business Building               |
| 19 University Hall  | 38 Lipscomb Hall                   |
- (south: women, north: co-ed)

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